

| J |
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| <p>► $B.m_1, \dots, B.m_l$ $(sk, pk) := \text{gen}(1^k)$ for $i = 1 \dots l$: $\sigma_i := \text{sgn}(sk, B.m_i)$</p> <p>► $B.m, B.\sigma$ return $\text{vrf}(pk, B.m, B.\sigma)$ $\wedge (\forall i \in [l], B.m \neq B.m_i)$</p> |

| B | virtual A |
|--|--|
| ► m_1, \dots, m_l | select m_1, \dots, m_l |
| ► $J.pk$ ► $J.\sigma_1, \dots, J.\sigma_l$ sample $a \in \{0, 1\}^k$ sample $b \in \{0, 1\}^k \setminus \{a\}$ $pk' := J.pk \ a \ b$ for $i = 1 \dots l$: if $m_i = a$ then fail else $\sigma'_i := \sigma_i \ 0$ | |
| | ► pk' ► $\sigma'_1, \dots, \sigma'_l$ |
| ► (m, σ') unpack $\sigma' =: \sigma \ \eta$ | forge (m, σ') |