

Event category	Tight leptons (μ, e)	Additional selection criteria
$W^- qq$	1 with $p_T > 30$ GeV negative charge	1 or 2 selected anti-b-tagged jets leading $p_T > 200$ GeV 1 selected forward jet $p_T(W \rightarrow \ell\nu) > 150$ GeV $\Delta R(\ell, \nu) < 1.5$ $E_T^{\text{miss}} > 60$ GeV, $M_T > 40$ GeV
Zqq	2 opposite-sign same-flavor leading $p_T > 30$ GeV subleading $p_T > 20$ GeV	1 or 2 selected anti-b-tagged jets leading $p_T > 200$ GeV 1 selected forward jet $ m_{\ell\ell} - m_Z < 7.5$ GeV $p_T(Z \rightarrow \ell\ell) > 150$ GeV