

Category	Target	Selection criteria
Leptonic		≥ 1 lepton passing muon or electron trigger
$Z\ell\ell$	ZH	Same-flavor $\ell^+\ell^-$, $80 < m(\ell\ell) < 100$ GeV, $p_T(\ell\ell) > 150$ GeV
$t\bar{t}\ell\ell$	$t\bar{t}H$	Any flavor $\ell^+\ell^-$, no $Z\ell\ell$ candidate, $m(\ell\ell) > 12$ GeV, ≥ 1 AK4(b)
$t\bar{t}\ell\nu$	$t\bar{t}H$	Single ℓ , ≥ 1 AK4(b)
$W\ell\nu$	WH	Single ℓ , no AK4(b), $\Delta\phi(\text{AK8}(H), \ell + E_T^{\text{miss}}) > 3\pi/4$
Hadronic		Jet or E_T^{miss} trigger (0 leptons passing muon or electron trigger)
$Z\nu\nu$	ZH	$E_T^{\text{miss}} > 200$ GeV
$t\bar{t}0\ell$	$t\bar{t}H$	≥ 1 top-quark-tagged AK8 jet (mass-correlated PARTICLENET)
Vjj	WH/ZH	≥ 1 W/Z-boson-tagged AK8 jet (mass-correlated PARTICLENET)
$\text{VBF}jj$	VBFH	≥ 2 AK4 jets, no AK4(b), $m(j_1j_2) > 900$ GeV, $ \Delta\eta(j_1j_2) > 3.0$
$gg0\ell$	ggH	Remaining hadronic events