

Quantity	Requirement	Target Backgrounds
N_ℓ	=2 with additional lepton veto	WZ, VVV
p_T^ℓ	>25/20 GeV for leading/subleading	multijet
dilepton mass	$ m_{\ell\ell} - m_Z < 15$ GeV	WW, top quark
number of jets	≤ 1 jet with $p_T^j > 30$ GeV	DY, top quark, VVV
$p_T^{\ell\ell}$	>60 GeV	DY
b tagging veto	DeepCSV Medium WP	Top quark, VVV
τ lepton veto	0 τ_h cand. with $p_T^\tau > 18$ GeV	WZ
$\Delta\phi(\vec{p}_T^j, \vec{p}_T^{\text{miss}})$	>0.5	DY, WZ
$\Delta\phi(\vec{p}_T^{\ell\ell}, \vec{p}_T^{\text{miss}})$	>2.6	DY
$ p_T^{\text{miss}} - p_T^{\ell\ell} /p_T^{\ell\ell}$	<0.4	DY
$\Delta R_{\ell\ell}$	<1.8	WW, top quark
p_T^{miss} (all but 2HDM+a)	>100 GeV	DY, WW, top quark
p_T^{miss} (2HDM+a only)	>80 GeV	DY, WW, top quark
m_T (2HDM+a only)	>200 GeV	DY, WW, ZZ top quark