

Category	SR subcategorization	SR fit variable	Contributing CRs	$N_{\text{subcategories}}$
ggH DF	$(0j, 1j) \times (p_{T2} \lesssim 20 \text{ GeV}) \times$ $\times (\ell^\pm \ell^\mp), (\geq 2j)$	$(m_{\ell\ell}, m_T^H)$	Top quark, $\tau\tau$	15
ggH SF	$(0j, 1j, \geq 2j) \times (ee, \mu\mu)$	$N_{\text{events}}$	Top quark, WW	12
VBF DF	$\max_j C_j$	DNN output	Top quark, $\tau\tau$	6
VBF SF	$(ee, \mu\mu)$	$N_{\text{events}}$	Top quark, WW	4
WHSS	$(\text{DF}, \text{SF}) \times (1j, 2j)$	$\tilde{m}_H$	WZ	4
WH3 $\ell$	SF lepton pair with opposite or same sign	BDT output	WZ, $Z\gamma$	4
ZH3 $\ell$	$(1j, 2j)$	$m_T^H$	WZ	4
ZH4 $\ell$	$(\text{DF}, \text{SF})$	BDT output	ZZ	3
VH2j DF	—	$m_{\ell\ell}$	Top quark, $\tau\tau$	3
VH2j SF	$(ee, \mu\mu)$	$N_{\text{events}}$	Top quark, WW	4