

Category	Subcategory	Requirements
Preselection	—	$m_{\ell\ell} > 12 \text{ GeV}$ , $p_{T1} > 25 \text{ GeV}$ , $p_{T2} > 13 \text{ (10) GeV}$ for e ( $\mu$ ), $p_T^{\text{miss}} > 20 \text{ GeV}$ , $p_T^{\ell\ell} > 30 \text{ GeV}$ no additional leptons with $p_T > 10 \text{ GeV}$ electron and muon with opposite charges
0-jet ggH-tagged	$\left. \begin{array}{l} e^+ \mu^- \\ e^- \mu^+ \\ \mu^+ e^- \\ \mu^- e^+ \end{array} \right\} p_{T2} > 20 \text{ GeV}$	$m_T > 60 \text{ GeV}$ , $m_T^{\ell 2, p_T^{\text{miss}}} > 30 \text{ GeV}$ subleading lepton $p_T > 20 \text{ GeV}$ no jets with $p_T > 30 \text{ GeV}$ no b-tagged jets with $p_T$ between 20 and 30 GeV
	$\left. \begin{array}{l} e^+ \mu^- \\ e^- \mu^+ \\ \mu^+ e^- \\ \mu^- e^+ \end{array} \right\} p_{T2} < 20 \text{ GeV}$	$m_T > 60 \text{ GeV}$ , $m_T^{\ell 2, p_T^{\text{miss}}} > 30 \text{ GeV}$ subleading lepton $p_T < 20 \text{ GeV}$ no jets with $p_T > 30 \text{ GeV}$ no b-tagged jets with $p_T$ between 20 and 30 GeV
1-jet ggH-tagged	$\left. \begin{array}{l} e^+ \mu^- \\ e^- \mu^+ \\ \mu^+ e^- \\ \mu^- e^+ \end{array} \right\} p_{T2} > 20 \text{ GeV}$	$m_T > 60 \text{ GeV}$ , $m_T^{\ell 2, p_T^{\text{miss}}} > 30 \text{ GeV}$ subleading lepton $p_T > 20 \text{ GeV}$ exactly one jet with $p_T > 30 \text{ GeV}$ no b-tagged jets with $p_T > 20 \text{ GeV}$
	$\left. \begin{array}{l} e^+ \mu^- \\ e^- \mu^+ \\ \mu^+ e^- \\ \mu^- e^+ \end{array} \right\} p_{T2} < 20 \text{ GeV}$	$m_T > 60 \text{ GeV}$ , $m_T^{\ell 2, p_T^{\text{miss}}} > 30 \text{ GeV}$ subleading lepton $p_T < 20 \text{ GeV}$ exactly one jet with $p_T > 30 \text{ GeV}$ no b-tagged jets with $p_T > 20 \text{ GeV}$
2-jet ggH-tagged	$e\mu$	at least two jets with $p_T > 30 \text{ GeV}$ $m_T^{\ell 2, p_T^{\text{miss}}} > 30 \text{ GeV}$ and $m_T > 60 \text{ GeV}$ no b-tagged jets with $p_T > 20 \text{ GeV}$ $m_{jj} < 65 \text{ GeV}$ or $105 < m_{jj} < 400 \text{ GeV}$