

Analysis	Decay tags	Production tags
Single Higgs boson production		
H → $\gamma\gamma$ [42]	$\gamma\gamma$	ggH, $p_T(H) \times N_j$ bins VBF/VH hadronic, $p_T(Hjj)$ bins WH leptonic, $p_T(V)$ bins ZH leptonic ttH $p_T(H)$ bins, tH
H → ZZ → 4 ℓ [43]	4 μ , 2e2 μ , 4e $\mu\mu/ee/\mu\mu$ $\mu\mu+jj/ee+jj/e\mu+jj$	ggH, $p_T(H) \times N_j$ bins VBF, m_{jj} bins VH hadronic VH leptonic, $p_T(V)$ bins ttH ggH \leq 2-jets VBF
H → WW → $\ell\nu\ell\nu$ [44]	3 ℓ 4 ℓ	VH hadronic WH leptonic ZH leptonic ggH
H → Z γ [45]	$Z\gamma$	VBF ggH, $p_T(H) \times N_j$ bins VH hadronic VBF
H → $\tau\tau$ [46]	$e\mu, e\tau_h, \mu\tau_h, \tau_h\tau_h$	VBF ggH, $p_T(H) \times N_j$ bins VH hadronic VBF VH, high- $p_T(V)$
H → bb [47–51]	Z($\nu\nu$)H(bb), Z($\ell\ell$)H(bb) bb	WH leptonic ZH leptonic ttH, → 0, 1, 2 ℓ + jets ggH, high- $p_T(H)$ bins
H → $\mu\mu$ [52]	$\mu\mu$	ggH VBF
ttH production with H → leptons [53]	2 ℓ SS, 3 ℓ , 4 ℓ , 1 ℓ + τ_h , 2 ℓ SS+1 τ_h , 3 ℓ + 1 τ_h	ttH
H → Inv. [71, 72]	p_T^{miss}	ggH VBF VH hadronic ZH leptonic

Higgs boson pair production

HH → bbbb [57, 58]	H(bb)H(bb)	ggHH, VBFHH (resolved, boosted)
HH → bb $\tau\tau$ [59]	H(bb)H($\tau\tau$)	ggHH, VBFHH
HH → leptons [60]	H(WW)H(WW), H(WW)H($\tau\tau$), H($\tau\tau$)H($\tau\tau$)	ggHH, VBFHH
HH → bb $\gamma\gamma$ [61]	H(bb)H($\gamma\gamma$)	ggHH, VBFHH
HH → bbZZ [62]	H(bb)H(ZZ)	ggHH