

Generator setup	Process/ME order	Generator/Shower	Tune	PDF set	h_{damp}	Scales
POWHEG+P8 $t\bar{t}$ 5FS	$t\bar{t}$ / NLO	POWHEG v2/ PYTHIA 8.240	CP5	5FS NNPDF3.1 NNLO	$1.379m_t$	$\mu_F = \mu_R = m_{T,t}$
POWHEG+H7 $t\bar{t}$ 5FS	$t\bar{t}$ / NLO	POWHEG v2/ HERWIG 7.13	CH3	5FS NNPDF3.1 NNLO	$1.379m_t$	$\mu_F = \mu_R = m_{T,t}$
POWHEG+OL+P8 $t\bar{t}b\bar{b}$ 4FS	$t\bar{t}b\bar{b}$ / NLO	POWHEG-BOX-RES/ PYTHIA 8.240	CP5	4FS NNPDF3.1 NNLO as 0118	$1.379m_t$	$\mu_R = \frac{1}{2} \prod_{i=t,\bar{t},b,\bar{b}} m_{T,i}^{1/4}$, $\mu_F = H_T/4$
SHERPA+OL $t\bar{t}b\bar{b}$ 4FS	$t\bar{t}b\bar{b}$ / NLO	SHERPA 2.2.4	SHERPA	4FS NNPDF3.0 NNLO as 0118	—	$\mu_R = \prod_{i=t,\bar{t},b,\bar{b}} m_{T,i}^{1/4}$, $\mu_F = H_T/2$
MG5_aMC+P8 $t\bar{t}b\bar{b}$ 4FS	$t\bar{t}b\bar{b}$ / NLO	MADGRAPH5_aMC@NLO v2.4.2/ PYTHIA 8.230	CP5	4FS NNPDF3.1 NNLO as 0118	—	$\mu_F = \mu_R = \sum m_T$
MG5_aMC+P8 $t\bar{t}$ +jets FxFx 5FS	$t\bar{t}$ +jets FxFx/ NLO [≤ 2 jets]	MADGRAPH5_aMC@NLO v2.6.1/ PYTHIA 8.240	CP5	5FS NNPDF3.1 NNLO	—	$\mu_F = \mu_R = \sum m_T$, qCut = 40 GeV, qCutME = 20 GeV