

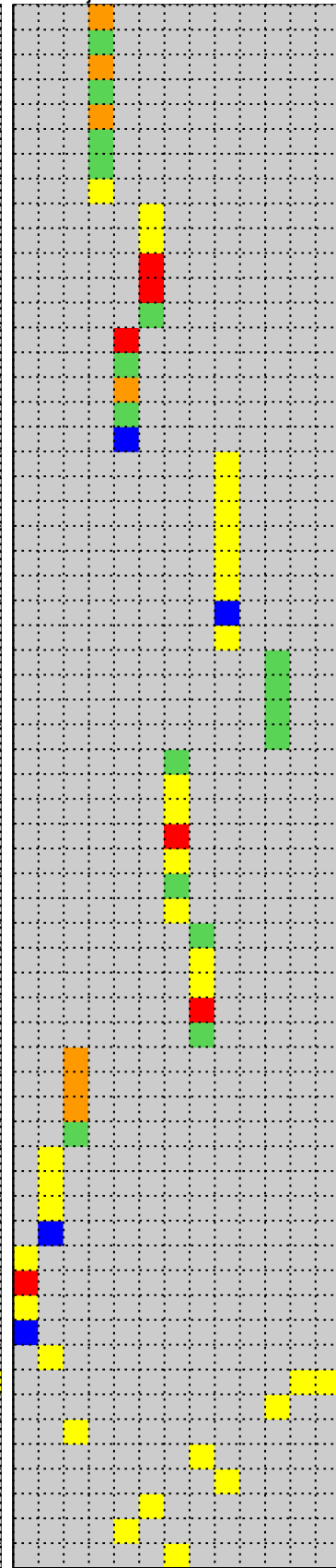
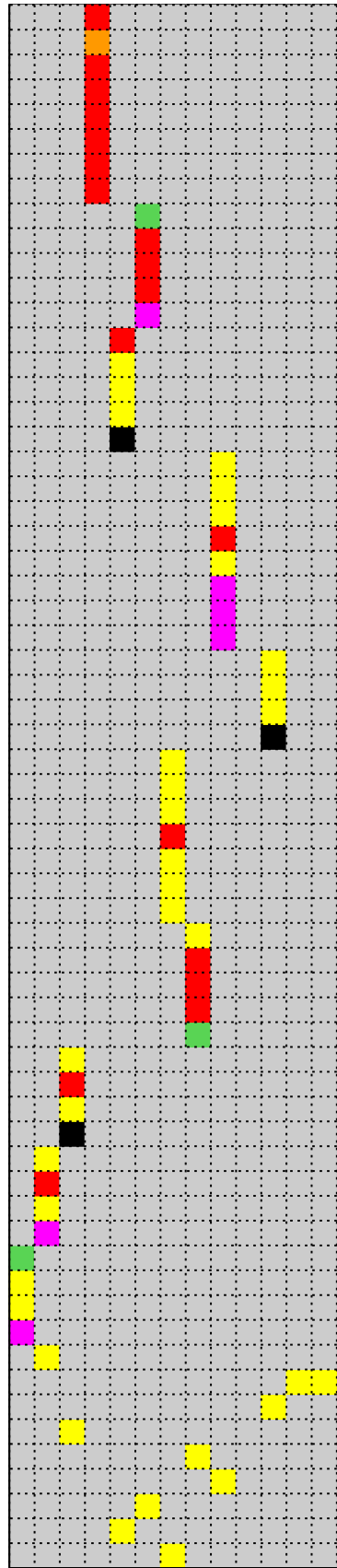
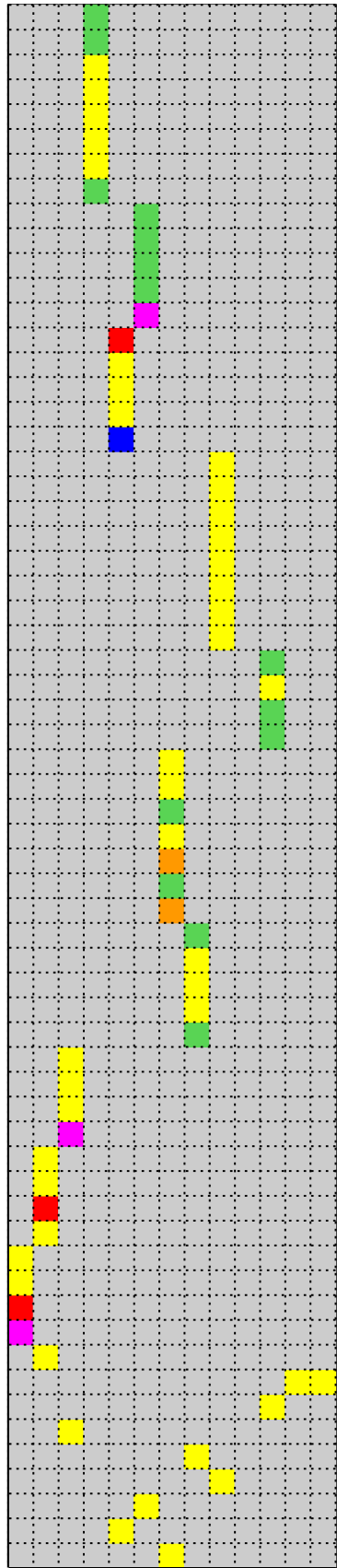
tHq(2IOS+1 τ)

SR

CR $t\bar{t}$

CR Z+jets

$t\bar{t}$ hdamp=3mtop
 $t\bar{t}$ FSR
 $t\bar{t}$ ISR
 $t\bar{t}$ $\mu_R \mu_F$ scale
 $t\bar{t}$ μ_F scale
 $t\bar{t}$ μ_R scale
 $t\bar{t}$ PS + had.
 $t\bar{t}$ NLO gen.
 $t\bar{t}Z$ ISR
 $t\bar{t}Z$ $\mu_R \mu_F$ scale
 $t\bar{t}Z$ μ_F scale
 $t\bar{t}Z$ μ_R scale
 $t\bar{t}Z$ NLO gen. + PS + had.
 $t\bar{t}W$ ISR
 $t\bar{t}W$ $\mu_R \mu_F$ scale
 $t\bar{t}W$ μ_F scale
 $t\bar{t}W$ μ_R scale
 $t\bar{t}W$ NLO gen. + PS + had.
 tW FSR
 tW ISR
 tW $\mu_R \mu_F$ scale
 tW μ_F scale
 tW μ_R scale
 tW PS + had.
 tW NLO gen.
 tW (DR vs. DS)
Diboson $\mu_R \mu_F$ scale
Diboson μ_F scale
Diboson μ_R scale
Diboson NLO gen. + PS + had.
 $t\bar{t}H$ FSR
 $t\bar{t}H$ ISR
 $t\bar{t}H$ $\mu_R \mu_F$ scale
 $t\bar{t}H$ μ_F scale
 $t\bar{t}H$ μ_R scale
 $t\bar{t}H$ PS + had.
 $t\bar{t}H$ NLO gen.
 tZq ISR
 tZq $\mu_R \mu_F$ scale
 tZq μ_F scale
 tZq μ_R scale
 tZq PS + had.
 tWZ $\mu_R \mu_F$ scale
 tWZ μ_F scale
 tWZ μ_R scale
 tWZ (alt. DR)
 tWH $\mu_R \mu_F$ scale
 tWH μ_F scale
 tWH μ_R scale
 tWH PS + had.
 tHq $\mu_R \mu_F$ scale
 tHq μ_F scale
 tHq μ_R scale
 tHq PS + had.
 tWH XS
Minor bkg. XS
Diboson XS
 tWZ XS
 tZq XS
 tW XS
 $t\bar{t}Z$ XS
 $t\bar{t}W$ XS
 $t\bar{t}H$ XS



Not present
 Kept
 Shape dropped
 Norm. dropped
 Dropped
 Norm >99% (dropped)
 Bad shape (dropped)
 Bad shape & norm. (dropped)

tHq
 tWH
 tWZ
 $t\bar{t}$
 $t\bar{t}W$
 $t\bar{t}Z$
 $t\bar{t}H$
 tZq
 tW
 Z+jets
 Diboson
 minor bkg.
 minor bkg.

tHq
 tWH
 tWZ
 $t\bar{t}$
 $t\bar{t}W$
 $t\bar{t}Z$
 $t\bar{t}H$
 tZq
 tW
 Z+jets
 Diboson
 minor bkg.
 minor bkg.

tHq
 tWH
 tWZ
 $t\bar{t}$
 $t\bar{t}W$
 $t\bar{t}Z$
 $t\bar{t}H$
 tZq
 tW
 Z+jets
 Diboson
 minor bkg.
 minor bkg.