

X^3

$\mathcal{Q}_G = f^{abc} G_{\mu}^{av} G_{\nu}^{bp} G_{\rho}^{c\mu}$	$\mathcal{Q}_W = \varepsilon^{ijk} W_{\mu}^{iv} W_{\nu}^{jp} W_{\rho}^{k\mu}$	
---	---	--

 $H^4 D^2$

$\mathcal{Q}_{H\Box} = (H^\dagger H)\Box(H^\dagger H)$	$\mathcal{Q}_{HD} = (D^\mu H^\dagger H)(H^\dagger D_\mu H)$	
--	---	--

 $X^2 H^2$

$\mathcal{Q}_{HG} = H^\dagger H G_{\mu\nu}^a G^{a\mu\nu}$	$\mathcal{Q}_{HW} = H^\dagger H W_{\mu\nu}^i W^{i\mu\nu}$	$\mathcal{Q}_{HB} = H^\dagger H B_{\mu\nu} B^{\mu\nu}$
$\mathcal{Q}_{HWB} = H^\dagger H W_{\mu\nu}^i B^{\mu\nu}$		

 $\psi^2 H^3$

$\mathcal{Q}_{tH} = (H^\dagger H)(\overline{Q}\tilde{H}t)$	$\mathcal{Q}_{bH} = (H^\dagger H)(\overline{Q}Hb)$	
--	--	--

 $\psi^2 XH$

$\mathcal{Q}_{tW} = (\overline{Q}\sigma^{\mu\nu}t)\sigma^i \tilde{H}W_{\mu\nu}^i$	$\mathcal{Q}_{tB} = (\overline{Q}\sigma^{\mu\nu}t)\tilde{H}B_{\mu\nu}$	$\mathcal{Q}_{tG} = (\overline{Q}\sigma^{\mu\nu}T^a t)\tilde{H}G_{\mu\nu}^a$
---	--	--

 $\psi^2 H^2 D$

$\mathcal{Q}_{Hl}^{(1)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{l}_p \gamma^\mu l_r)$	$\mathcal{Q}_{Hl}^{(3)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{l}_p \sigma^i \gamma^\mu l_r)$	$\mathcal{Q}_{He} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{e}_p \gamma^\mu e_r)$
$\mathcal{Q}_{Hq}^{(1)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{q}\gamma^\mu q)$	$\mathcal{Q}_{Hq}^{(3)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{q}\sigma^i \gamma^\mu q)$	$\mathcal{Q}_{Hu} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{u}\gamma^\mu u)$
$\mathcal{Q}_{Hd} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{d}\gamma^\mu d)$	$\mathcal{Q}_{HQ}^{(1)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\overline{Q}\gamma^\mu Q)$	$\mathcal{Q}_{HQ}^{(3)} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\overline{Q}\sigma^i \gamma^\mu Q)$
$\mathcal{Q}_{Ht} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{t}\gamma^\mu t)$	$\mathcal{Q}_{Hb} = (H^\dagger i\overleftrightarrow{D}_\mu H)(\bar{b}\gamma^\mu b)$	

 $\psi^4, (\overline{LL})(\overline{LL})$

$\mathcal{Q}_{lq}^{(1)} = (\bar{l}_p \gamma_\mu l_r)(\bar{q}\gamma^\mu q)$	$\mathcal{Q}_{lq}^{(3)} = (\bar{l}_p \sigma^i \gamma_\mu l_r)(\bar{q}\sigma^i \gamma^\mu q)$	$\mathcal{Q}_{lQ}^{(1)} = (\bar{l}_p \gamma_\mu l_r)(\overline{Q}\gamma^\mu Q)$
$\mathcal{Q}_{lQ}^{(3)} = (\bar{l}_p \sigma^i \gamma_\mu l_r)(\overline{Q}\sigma^i \gamma^\mu Q)$	$\mathcal{Q}_{QQ}^{(1)} = (\overline{Q}\gamma_\mu Q)(\overline{Q}\gamma^\mu Q)$	$\mathcal{Q}_{ll} = (\bar{l}_p \gamma_\mu l_r)(\bar{l}_s \gamma^\mu l_t)$
$\mathcal{Q}_{qq}^{(1,1)} = (\bar{q}\gamma_\mu q)(\bar{q}\gamma^\mu q)$	$\mathcal{Q}_{qq}^{(1,8)} = (\bar{q}T^a \gamma_\mu q)(\bar{q}T^a \gamma^\mu q)$	$\mathcal{Q}_{qq}^{(3,1)} = (\bar{q}\sigma^i \gamma_\mu q)(\bar{q}\sigma^i \gamma^\mu q)$
$\mathcal{Q}_{qq}^{(3,8)} = (\bar{q}\sigma^i T^a \gamma_\mu q)(\bar{q}\sigma^i T^a \gamma^\mu q)$	$\mathcal{Q}_{Qq}^{(1,1)} = (\overline{Q}\gamma_\mu Q)(\bar{q}\gamma^\mu q)$	$\mathcal{Q}_{Qq}^{(1,8)} = (\overline{Q}T^a \gamma_\mu Q)(\bar{q}T^a \gamma^\mu q)$
$\mathcal{Q}_{Qq}^{(3,1)} = (\overline{Q}\sigma^i \gamma_\mu Q)(\bar{q}\sigma^i \gamma^\mu q)$	$\mathcal{Q}_{Qq}^{(3,8)} = (\overline{Q}\sigma^i T^a \gamma_\mu Q)(\bar{q}\sigma^i T^a \gamma^\mu q)$	

 $\psi^4, (\overline{RR})(\overline{RR})$

$\mathcal{Q}_{et} = (\bar{e}_p \gamma_\mu e_r)(\bar{t}\gamma^\mu t)$	$\mathcal{Q}_{tt} = (\bar{t}\gamma_\mu t)(\bar{t}\gamma^\mu t)$	$\mathcal{Q}_{uu}^{(1)} = (\bar{u}\gamma_\mu u)(\bar{u}\gamma^\mu u)$
$\mathcal{Q}_{uu}^{(8)} = (\bar{u}T^a \gamma_\mu u)(\bar{u}T^a \gamma^\mu u)$	$\mathcal{Q}_{tu}^{(1)} = (\bar{t}\gamma_\mu t)(\bar{u}\gamma^\mu u)$	$\mathcal{Q}_{tu}^{(8)} = (\bar{t}T^a \gamma_\mu t)(\bar{u}T^a \gamma^\mu u)$
$\mathcal{Q}_{dd}^{(1)} = (\bar{d}\gamma_\mu d)(\bar{d}\gamma^\mu d)$	$\mathcal{Q}_{dd}^{(8)} = (\bar{d}T^a \gamma_\mu d)(\bar{d}T^a \gamma^\mu d)$	$\mathcal{Q}_{ud}^{(1)} = (\bar{u}\gamma_\mu u)(\bar{d}\gamma^\mu d)$
$\mathcal{Q}_{ud}^{(8)} = (\bar{u}T^a \gamma_\mu u)(\bar{d}T^a \gamma^\mu d)$	$\mathcal{Q}_{td}^{(1)} = (\bar{t}\gamma_\mu t)(\bar{d}\gamma^\mu d)$	$\mathcal{Q}_{td}^{(8)} = (\bar{t}T^a \gamma_\mu t)(\bar{d}T^a \gamma^\mu d)$

 $\psi^4, (\overline{LL})(\overline{RR})$

$\mathcal{Q}_{lu} = (\bar{l}_p \gamma_\mu l_r)(\bar{u}\gamma^\mu u)$	$\mathcal{Q}_{lt} = (\bar{l}_p \gamma_\mu l_r)(\bar{t}\gamma^\mu t)$	$\mathcal{Q}_{qu}^{(1)} = (\bar{q}\gamma_\mu q)(\bar{u}\gamma^\mu u)$
$\mathcal{Q}_{qu}^{(8)} = (\bar{q}T^a \gamma_\mu q)(\bar{u}T^a \gamma^\mu u)$	$\mathcal{Q}_{Qu}^{(1)} = (\overline{Q}\gamma_\mu Q)(\bar{u}\gamma^\mu u)$	$\mathcal{Q}_{Qu}^{(8)} = (\overline{Q}T^a \gamma_\mu Q)(\bar{u}T^a \gamma^\mu u)$
$\mathcal{Q}_{qt}^{(1)} = (\bar{q}\gamma_\mu q)(\bar{t}\gamma^\mu t)$	$\mathcal{Q}_{qt}^{(8)} = (\bar{q}T^a \gamma_\mu q)(\bar{t}T^a \gamma^\mu t)$	$\mathcal{Q}_{Qt}^{(1)} = (\overline{Q}\gamma_\mu Q)(\bar{t}\gamma^\mu t)$
$\mathcal{Q}_{Qt}^{(8)} = (\overline{Q}T^a \gamma_\mu Q)(\bar{t}T^a \gamma^\mu t)$	$\mathcal{Q}_{qd}^{(1)} = (\bar{q}\gamma_\mu q)(\bar{d}\gamma^\mu d)$	$\mathcal{Q}_{qd}^{(8)} = (\bar{q}T^a \gamma_\mu q)(\bar{d}T^a \gamma^\mu d)$
$\mathcal{Q}_{Qd}^{(1)} = (\overline{Q}\gamma_\mu Q)(\bar{d}\gamma^\mu d)$	$\mathcal{Q}_{Qd}^{(8)} = (\overline{Q}T^a \gamma_\mu Q)(\bar{d}T^a \gamma^\mu d)$	