## Basis SMEFTsim\_top (EFT SMEFT)

Basis used in the SMEFTsim\_top UFO models, version 3.0.0 or later. Implements Warsaw basis with  $U(2)^3$  flavor symmetry in the quarks sector and  $U(1)^3$  in the leptons sector. Q,t,b are left- and right-handed 3rd gen quarks, q,u,d are the left- and right-handed quark fields containing only the first two generations, and transforming as U(2)-flavor doublets.  $\ell,e$  are left- and right-handed lepton fields.  $Y_u,Y_d$  are the 2x2 Yukawas of up and down quarks in the first two generations, defined by  $L_{SM} \supset \bar{d}Y_dH^\dagger q$  and analogously for the others. Spurions connecting the first two generations with the 3rd are absent. In the UFO models, both  $Y_u$  and  $Y_d$  are assumed diagonal at the scale of evaluation, and the CKM is taken to be the unit matrix. Flavor indices are indicated with p,r,s,t with Einstein conventions on repeated indices. They run over 1,2 for quarks. This basis definition corresponds to a fixed LambdaSMEFT=1e+3 in the UFO models. Notation and conventions can vary compared to the Warsaw basis paper, see arXiv:2012.11343 for all definitions.

## Sectors

The effective Lagrangian is defined as

$$\mathcal{L}_{\text{eff}} = -\mathcal{H}_{\text{eff}} = \sum_{O_i = O_i^{\dagger}} C_i O_i + \sum_{O_i \neq O_i^{\dagger}} \left( C_i O_i + C_i^* O_i^{\dagger} \right).$$

dB=dL=0

WC name	Operator	Type
cG	$f^{ABC}G^{A\nu}_{\mu}G^{B\rho}_{\nu}G^{C\mu}_{\rho}/\mathrm{TeV}^2$	R
cGtil	$f^{ABC}\widetilde{G}^{A u}_{\mu}G^{B ho}_{ u}G^{C\mu}_{ ho}/{ m TeV}^2$	R
cW	$\varepsilon^{IJK}W_{\mu}^{I u}W_{ u}^{J ho}W_{ ho}^{K\mu}/{ m TeV}^2$	R
cWtil	$\varepsilon^{IJK}\widetilde{W}_{\mu}^{I u}W_{ u}^{J ho}W_{ ho}^{K\mu}/{ m TeV}^2$	R
сН	$(H^\dagger H)^3/{ m TeV}^2$	R
cHbox	$(H^{\dagger}H)\Box(H^{\dagger}H)/\mathrm{TeV}^2$	R
cHDD	$(D_{\mu}H^{\dagger}H)(H^{\dagger}D^{\mu}H)/\text{TeV}^2$	R
cHG	$G^{A}_{\mu u}G^{A\mu u}H^{\dagger}H/\mathrm{TeV}^{2}$	R
cHGtil	$\widetilde{G}_{\mu u}^{A}G^{A\mu u}H^{\dagger}H/\mathrm{TeV}^{2}$	R
cHW	$W^{I}_{\mu\nu}W^{I\mu\nu}H^{\dagger}H/\text{TeV}^2$	R
cHWtil	$\widetilde{W}^{I}_{\mu u}W^{I\mu u}H^{\dagger}H/\mathrm{TeV}^{2}$	R
сНВ	$B_{\mu u}^{\phantom{\mu u}}B^{\mu u}H^{\dagger}H/\mathrm{TeV}^2$	R
cHBtil	$\widetilde{B}_{\mu u}B^{\mu u}H^{\dagger}H/\mathrm{TeV}^{2}$	R
cHWB	$B_{\mu\nu}W^{I\mu\nu}H^{\dagger}\sigma^{I}H/\text{TeV}^{2}$	R
cHWBtil	$B_{\mu\nu}\widetilde{W}^{I\mu\nu}H^{\dagger}\sigma^{I}H/\text{TeV}^{2}$	R
ceHRe11	$(\bar{\ell}_1 H e_1)(H^{\dagger} H)/\text{TeV}^2 + \text{h.c.}$	R
ceHRe22	$(\bar{\ell}_2 H e_2)(H^{\dagger} H)/\text{TeV}^2 + \text{h.c.}$	R

WC name	Operator	Type
ceHRe33	$(\bar{\ell}_3 H e_3)(H^\dagger H)/\text{TeV}^2 + \text{h.c.}$	R
ceHIm11	$i(\bar{\ell}_1 H e_1)(H^\dagger H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceHIm22	$i(\bar{\ell}_2 H e_2)(H^{\dagger} H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceHIm33	$i(\bar{\ell}_3 H e_3)(H^{\dagger} H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cuHRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\tilde{H}u_r)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cuHIm	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\tilde{H}u_r)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ctHRe	$(\bar{Q}\tilde{H}t)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ctHIm	$i(\bar{Q}\tilde{H}t)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cdHRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p H d_r)(H^{\dagger} H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cdHIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_pHd_r)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	R
cbHRe	$(\bar{Q}Hb)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	R
cbHIm	$i(\bar{Q}Hb)(H^{\dagger}H)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceWRe11	$(\bar{\ell}_1 \sigma^I H \sigma^{\mu\nu} e_1) W^I_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceWRe22	$(\bar{\ell}_2 \sigma^I H \sigma^{\mu\nu} e_2) W_{\mu\nu}^{I} / \text{TeV}^2 + \text{h.c.}$ $(\bar{\ell}_3 \sigma^I H \sigma^{\mu\nu} e_3) W_{\mu\nu}^{I} / \text{TeV}^2 + \text{h.c.}$	R
ceWRe33	$(\bar{\ell}_3 \sigma^I H \sigma^{\mu\nu} e_3) W_{\mu\nu}^I / \text{TeV}^2 + \text{h.c.}$	R
ceWIm11	$i(\bar{\ell}_1 \sigma^I H \sigma^{\mu\nu} e_1) W_{\mu\nu}^I / \text{TeV}^2 + \text{h.c.}$	R
ceWIm22	$i(\bar{\ell}_2\sigma^I H \sigma^{\mu\nu} e_2) W_{\mu\nu}^{II} / \text{TeV}^2 + \text{h.c.}$	R
ceWIm33	$i(\bar{\ell}_3\sigma^I H \sigma^{\mu\nu} e_3) W_{\mu\nu}^{I}/\text{TeV}^2 + \text{h.c.}$	R
ceBRe11	$(\bar{\ell}_1 H \sigma^{\mu\nu} e_1) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	R
ceBRe22	$(\bar{\ell}_2 H \sigma^{\mu\nu} e_2) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceBRe33	$(\bar{\ell}_3 H \sigma^{\mu\nu} e_3) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	R
ceBIm11	$i(\bar{\ell}_1 H \sigma^{\mu\nu} e_1) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceBIm22	$i(\bar{\ell}_2 H \sigma^{\mu\nu} e_2) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ceBIm33	$i(\bar{\ell}_3 H \sigma^{\mu\nu} e_3) B_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cuGRe	$(Y_{\mu}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}\sigma^{\mu\nu}T^{A}u_{r})G_{\mu\nu}^{A}/\text{TeV}^{2}+\text{h.c.}$	R
cuGIm	$(Y_{u}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}\sigma^{\mu\nu}T^{A}u_{r})G_{\mu\nu}^{A}/\text{TeV}^{2} + \text{h.c.}$ $i(Y_{u}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}\sigma^{\mu\nu}T^{A}u_{r})G_{\mu\nu}^{A}/\text{TeV}^{2} + \text{h.c.}$	R
ctGRe	$(\bar{Q}\tilde{H}\sigma^{\mu\nu}T^At)G^A_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
ctGIm	$i(\bar{Q}\tilde{H}\sigma^{\mu\nu}T^At)G^A_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
cuWRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\sigma^I\tilde{H}\sigma^{\mu\nu}u_r)W_{\mu\nu}^I/\text{TeV}^2 + \text{h.c.}$	R
cuWIm	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\sigma^I\tilde{H}\sigma^{\mu\nu}u_r)W_{\mu\nu}^I/\text{TeV}^2 + \text{h.c.}$	R
ctWRe	$(\bar{Q}\sigma^I \tilde{H}\sigma^{\mu\nu} t) W^I_{\mu\nu}/{\rm TeV}^2 + {\rm h.c.}$	R
ctWIm	$i(\bar{Q}\sigma^I \tilde{H}\sigma^{\mu\nu}t)W_{\mu\nu}^I/\text{TeV}^2 + \text{h.c.}$	R
cuBRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\tilde{H}\sigma^{\mu\nu}u_r)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cuBIm	$i(Y_u^{\dagger})_{nr}(\bar{q}_n\tilde{H}\sigma^{\mu\nu}u_r)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
ctBRe	$(\bar{Q}\tilde{H}\sigma^{\mu\nu}t)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
ctBIm	$i(QH\sigma^{\mu\nu}t)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
cdGRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} T^A d_r) G_{\mu\nu}^A / \text{TeV}^2 + \text{h.c.}$	R
cdGIm	$i(Y_d^{\dagger})_{nr}(\bar{q}_n H \sigma^{\mu\nu} T^A d_r) G_{}^{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
cbGRe	$i(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} T^A d_r) G_{\mu\nu}^A / \text{TeV}^2 + \text{h.c.}$ $(\bar{Q} H \sigma^{\mu\nu} T^A b) G_{\mu\nu}^A / \text{TeV}^2 + \text{h.c.}$	R
cbGIm	$i(\bar{Q}H\sigma^{\mu\nu}T^Ab)G^A_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
cdWRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p\sigma^I H \sigma^{\mu\nu} d_r)W_{\mu\nu}^I/\text{TeV}^2 + \text{h.c.}$	R

WC name	Operator	Type
cdWIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_p\sigma^I H \sigma^{\mu\nu} d_r) W_{\mu\nu}^I / \text{TeV}^2 + \text{h.c.}$ $(\bar{Q}\sigma^I H \sigma^{\mu\nu} b) W_{\mu\nu}^I / \text{TeV}^2 + \text{h.c.}$ $i(\bar{Q}\sigma^I H \sigma^{\mu\nu} b) W_{\mu\nu}^I / \text{TeV}^2 + \text{h.c.}$	R
cbWRe	$(\bar{Q}\sigma^I H \sigma^{\mu\nu} b) W^I_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cbWIm	$i(\bar{Q}\sigma^I H \sigma^{\mu\nu} b) \dot{W}^I_{\mu\nu} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cdBRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} d_r) B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cdBIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} d_r) B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cbBRe	$(\bar{Q}H\sigma^{\mu\nu}b)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	R
cbBIm	$i(\bar{Q}H\sigma^{\mu\nu}b)B_{\mu\nu}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cH1111	$(H^{\dagger}i\overrightarrow{D}_{\mu}H)(\bar{\ell}_{1}\gamma^{\mu}\ell_{1})/\text{TeV}^{2}$	$\mathbf{R}$
cH1122	$(H^\dagger i \overrightarrow{D}_{\mu} H) (\overline{\ell}_2 \gamma^{\mu} \ell_2) / \text{TeV}^2$	$\mathbf{R}$
cH1133	$(H^{\dagger}i\overrightarrow{D}_{_{1}}\mu H)(\bar{\ell}_{3}\gamma^{\mu}\ell_{3})/\mathrm{TeV}^{2}$	$\mathbf{R}$
cH1311	$(H^{\dagger}i\overleftarrow{D}_{\mu}^{I}H)(\bar{\ell}_{1}\gamma^{\mu}\sigma^{I}\ell_{1})/\text{TeV}^{2}$	$\mathbf{R}$
cH1322	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}^{I}H)(\bar{\ell}_{2}\gamma^{\mu}\sigma^{I}\ell_{2})/\text{TeV}^{2}$	$\mathbf{R}$
cH1333	$(H^{\dagger}i\overrightarrow{D}_{\mu}^{I}H)(\bar{\ell}_{3}\gamma^{\mu}\sigma^{I}\ell_{3})/\text{TeV}^{2}$	$\mathbf{R}$
cHj1	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}H)(\bar{q}_{p}\gamma^{\mu}q_{p})/\mathrm{TeV}^{2}$	$\mathbf{R}$
сНјЗ	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}^{I}H)(\bar{q}_{p}\gamma^{\mu}\sigma^{I}q_{p})/\text{TeV}^{2}$	$\mathbf{R}$
cHQ1	$(H^{\dagger}iD_{\mu}H)(\bar{Q}\gamma^{\mu}Q)/\text{TeV}^2$	$\mathbf{R}$
cHQ3	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}^{I}H)(\bar{Q}\gamma^{\mu}\sigma^{I}Q)/\text{TeV}^{2}$	$\mathbf{R}$
cHe11	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}H)(\bar{e}_{1}\gamma^{\mu}e_{1})/\mathrm{TeV}^{2}$	$\mathbf{R}$
cHe22	$(H^\dagger i \overrightarrow{D}_{\mu} H) (\overline{e}_2 \gamma^{\mu} e_2) / \text{TeV}^2$	$\mathbf{R}$
cHe33	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}H)(\bar{e}_{3}\gamma^{\mu}e_{3})/\text{TeV}^{2}$	$\mathbf{R}$
сНu	$(H^{\dagger}i\overline{D}_{\mu}H)(\bar{u}_{p}\gamma^{\mu}u_{p})/\text{TeV}^{2}$	$\mathbf{R}$
cHt	$(H^\dagger i \overrightarrow{D}_\mu^I H) (\bar{t} \gamma^\mu t) / \text{TeV}^2$	$\mathbf{R}$
cHd	$(H^\dagger i \overrightarrow{D}_\mu H) (\overline{d}_p \gamma^\mu d_p) / \text{TeV}^2$	$\mathbf{R}$
cHbq	$(H^\dagger i \overleftrightarrow{D}_\mu H) (\bar{b} \gamma^\mu b) / \text{TeV}^2$	$\mathbf{R}$
cHudRe	$(Y_u Y_d^{\dagger})_{pr} (\tilde{H}^{\dagger} i D_{\mu} H) (\bar{u}_p \gamma^{\mu} d_r) / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cHudIm	$i(Y_u Y_d^{\dagger})_{pr}(\tilde{H}^{\dagger} i D_{\mu} H)(\bar{u}_p \gamma^{\mu} d_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cHtbRe	$(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cHtbIm	$i(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/\text{TeV}^{2} + \text{h.c.}$	$\mathbf{R}$
cll1111	$(ar{\ell}_1\gamma_\mu\ell_1)(ar{\ell}_1\gamma^\mu\ell_1)/{ m TeV}^2$	$\mathbf{R}$
c112222	$(\bar{\ell}_2\gamma_\mu\ell_2)(\bar{\ell}_2\gamma^\mu\ell_2)/{ m TeV}^2$	R
c113333	$(\bar{\ell}_3\gamma_\mu\ell_3)(\bar{\ell}_3\gamma^\mu\ell_3)/\mathrm{TeV}^2$	R
cll1122	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{\ell}_2\gamma^\mu\ell_2)/{ m TeV}^2$	R
cll1133	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{\ell}_3\gamma^\mu\ell_3)/\mathrm{TeV}^2$	R
c112233	$(ar{\ell}_2\gamma_\mu\ell_2)(ar{\ell}_3\gamma^\mu\ell_3)/\mathrm{TeV}^2$	R
cll1221	$\begin{array}{l} (\bar{\ell}_1\gamma_\mu\ell_2)(\bar{\ell}_2\gamma^\mu\ell_1)/\mathrm{TeV}^2\\ (\bar{\ell}_1\gamma_\mu\ell_3)(\bar{\ell}_3\gamma^\mu\ell_1)/\mathrm{TeV}^2 \end{array}$	R R
cll1331 cll2332	$rac{(\ell_1\gamma_\mu\ell_3)(\ell_3\gamma^\mu\ell_1)}{(ar\ell_2\gamma_\mu\ell_3)(ar\ell_3\gamma^\mu\ell_2)/{ m TeV}^2}$	R R
clj111	$rac{(\ell_2\gamma_\mu\ell_3)(\ell_3\gamma^\mu\ell_2)}{(ar\ell_1\gamma_\mu\ell_1)(ar q_r\gamma^\mu q_r)/{ m TeV}^2}$	R R
clj111 clj122	$rac{(ar{e}_1\gamma_\mu ar{e}_1)(q_r\gamma^*q_r)}{(ar{\ell}_2\gamma_\mu \ell_2)(ar{q}_r\gamma^\mu q_r)/{ m TeV}^2}$	R
V-J-22	$(^{\circ}2/\mu^{\circ}2)(4r/4r)/10$	10

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	WC name	Operator	Type
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj133	$(\bar{\ell}_3 \gamma_\mu \ell_3)(\bar{q}_r \gamma^\mu q_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj311	$(\bar{\ell}_1 \gamma_\mu \sigma^I \ell_1) (\bar{q}_r \gamma^\mu \sigma^I q_r) / \text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj322	$(ar{\ell}_2\gamma_\mu\sigma^I\ell_2)(ar{q}_r\gamma^\mu\sigma^Iq_r)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj333	$(\bar{\ell}_3 \gamma_\mu \sigma^I \ell_3) (\bar{q}_r \gamma^\mu \sigma^I q_r) / \text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1111	$(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{1}\gamma^{\mu}\ell_{1})/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1122	$(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{2}\gamma^{\mu}\ell_{2})/\mathrm{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1133	$(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{3}\gamma^{\mu}\ell_{3})/\mathrm{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1311	$(\bar{Q}\gamma_{\mu}\sigma^{I}Q)(\bar{\ell}_{1}\gamma^{\mu}\sigma^{I}\ell_{1})/\mathrm{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1322		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ1333		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cjj11	$(\bar{q}_p\gamma_\mu q_p)(\bar{q}_r\gamma^\mu q_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cjj18	$(\bar{q}_p\gamma_\mu T^Aq_p)(\bar{q}_r\gamma^\mu T^Aq_r)/{\rm TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cjj31	$(\bar{q}_p \gamma_\mu \sigma^I q_p)(\bar{q}_r \gamma^\mu \sigma^I q_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cjj38	$(\bar{q}_p \gamma_\mu \sigma^I T^A q_p)(\bar{q}_r \gamma^\mu \sigma^I T^A q_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQQ1	$(\bar{Q}\gamma_{\mu}Q)(\bar{Q}\gamma^{\mu}Q)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQQ8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{Q}\gamma^{\mu}T^{A}Q)/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQj11	$(\bar{Q}\gamma_{\mu}Q)(\bar{q}_{p}\gamma^{\mu}q_{p})/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQj18		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQj31	$(\bar{Q}\gamma_{\mu}\sigma^IQ)(\bar{q}_p\gamma^{\mu}\sigma^Iq_p)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQj38	$(\bar{Q}\gamma_{\mu}\sigma^{I}T^{A}Q)(\bar{q}_{p}\gamma^{\mu}\sigma^{I}T^{A}q_{p})/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee1111	$(\bar{e}_1\gamma_\mu e_1)(\bar{e}_1\gamma^\mu e_1)/{\rm TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee2222	$(\bar{e}_2\gamma_\mu e_2)(\bar{e}_2\gamma^\mu e_2)/{\rm TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee3333	$(\bar{e}_3\gamma_\mu e_3)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee1122	$(\bar{e}_1\gamma_\mu e_1)(\bar{e}_2\gamma^\mu e_2)/{\rm TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee1133	$(\bar{e}_1\gamma_\mu e_1)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cee2233	$(\bar{e}_2\gamma_\mu e_2)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cuu1	$(\bar{u}_p \gamma_\mu u_p)(\bar{u}_r \gamma^\mu u_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cuu8	$(\bar{u}_p \gamma_\mu T^A u_p)(\bar{u}_r \gamma^\mu T^A u_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ctt	$(\bar{t}\gamma_{\mu}t)(\bar{t}\gamma^{\mu}t)/\mathrm{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ctu1	$(\bar{t}\gamma_{\mu}t)(\bar{u}_{p}\gamma^{\mu}u_{p})/\text{TeV}^{2}$	R
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	ctu8	$(\bar{t}\gamma_{\mu}T^{A}t)(\bar{u}_{p}\gamma^{\mu}T^{A}u_{p})/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cdd1	$(\bar{d}_p\gamma_\mu d_p)(\bar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cdd8	$(\bar{d}_p \gamma_\mu T^A d_p)(\bar{d}_r \gamma^\mu T^A d_r)/\text{TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cbb	$(\bar{b}\gamma_{\mu}b)(\bar{b}\gamma^{\mu}b)/{ m TeV}^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cbd1	$(\bar{b}\gamma_{\mu}b)(\bar{d}_{p}\gamma^{\mu}d_{p})/\text{TeV}^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cbd8	$(\bar{b}\gamma_{\mu}T^{A}b)(\bar{d}_{p}\gamma^{\mu}T^{A}d_{p})/\text{TeV}^{2}$	R
ceu33 $(\bar{e}_3\gamma_\mu e_3)(\bar{u}_r\gamma^\mu u_r)/\text{TeV}^2$ R cte11 $(\bar{e}_1\gamma_\mu e_1)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R cte22 $(\bar{e}_2\gamma_\mu e_2)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R	ceu11	$(\bar{e}_1\gamma_\mu e_1)(\bar{u}_r\gamma^\mu u_r)/{\rm TeV}^2$	R
ctell $(\bar{e}_1\gamma_\mu e_1)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R ctell $(\bar{e}_2\gamma_\mu e_2)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R	ceu22		R
ctell $(\bar{e}_1\gamma_\mu e_1)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R ctell $(\bar{e}_2\gamma_\mu e_2)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R	ceu33	$(\bar{e}_3\gamma_\mu e_3)(\bar{u}_r\gamma^\mu u_r)/\text{TeV}^2$	R
	cte11		R
cte33 $(\bar{e}_3\gamma_\mu e_3)(\bar{t}\gamma^\mu t)/\text{TeV}^2$ R	cte22		R
	cte33	$(\bar{e}_3\gamma_\mu e_3)(\bar{t}\gamma^\mu t)/{\rm TeV}^2$	R

WC name	Operator	Type
ced11	$(\bar{e}_1\gamma_\mu e_1)(\bar{d}_r\gamma^\mu d_r)/\mathrm{TeV}^2$	R
ced22	$(\bar{e}_2\gamma_\mu e_2)(\bar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	$\mathbf{R}$
ced33	$(\bar{e}_3\gamma_\mu e_3)(\bar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	$\mathbf{R}$
cbe11	$(\bar{e}_1\gamma_\mu e_1)(\bar{b}\gamma^\mu b)/{ m TeV}^2$	$\mathbf{R}$
cbe22	$(\bar{e}_2\gamma_\mu e_2)(\bar{b}\gamma^\mu b)/{ m TeV}^2$	$\mathbf{R}$
cbe33	$(\bar{e}_3\gamma_{\mu}e_3)(\bar{b}\gamma^{\mu}b)/\text{TeV}^2$	$\mathbf{R}$
cud1	$(\bar{u}_p \gamma_\mu u_p)(\bar{d}_r \gamma^\mu d_r)/\text{TeV}^2$	${ m R}$
ctd1	$(\bar{t}\gamma_{\mu}t)(\bar{d}_{p}\gamma^{\mu}d_{p})/\mathrm{TeV}^{2}$	$\mathbf{R}$
cbu1	$(\bar{u}_p\gamma_\mu u_p)(\bar{b}\gamma^\mu b)/{ m TeV}^2$	$\mathbf{R}$
ctb1	$(\bar{t}\gamma_\mu t)(\bar{b}\gamma^\mu b)/{ m TeV}^2$	R
cud8	$(\bar{u}_p \gamma_\mu T^A u_p)(\bar{d}_r \gamma^\mu T^A d_r)/\text{TeV}^2$	${ m R}$
ctd8	$(\bar{t}\gamma_{\mu}T^{A}t)(\bar{d}_{p}\gamma^{\mu}T^{A}d_{p})/\text{TeV}^{2}$	R
cbu8	$(\bar{u}_p \gamma_\mu T^A u_p) (\bar{b} \gamma^\mu T^A b) / \text{TeV}^2$	$\mathbf{R}$
ctb8	$(\bar{t}\gamma_{\mu}T^{A}t)(\bar{b}\gamma^{\mu}T^{A}b)/\text{TeV}^{2}$	$\mathbf{R}$
cutbd1Re	$(Y_u Y_d^{\dagger})_{pr} (\bar{u}_p \gamma_{\mu} t) (\bar{b} \gamma^{\mu} d_r) / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cutbd1Im	$i(Y_u Y_d^{\dagger})_{pr}(\bar{u}_p \gamma_{\mu} t)(\bar{b} \gamma^{\mu} d_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cutbd8Re	$(Y_u Y_d^{\dagger})_{pr} (\bar{u}_p \gamma_{\mu} T^A t) (\bar{b} \gamma^{\mu} T^A d_r) / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cutbd8Im	$i(Y_u Y_d^{\dagger})_{pr}(\bar{u}_p \gamma_{\mu} T^A t)(\bar{b} \gamma^{\mu} T^A d_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cle1111	$(ar{\ell}_1\gamma_\mu\ell_1)(ar{e}_1\gamma^\mu e_1)/{ m TeV}^2$	$\mathbf{R}$
cle2222	$(\bar{\ell}_2\gamma_\mu\ell_2)(\bar{e}_2\gamma^\mu e_2)/{ m TeV}^2$	$\mathbf{R}$
cle3333	$(\bar{\ell}_3\gamma_\mu\ell_3)(\bar{e}_3\gamma^\mu e_3)/\text{TeV}^2$	$\mathbf{R}$
cle1122	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{e}_2\gamma^\mu e_2)/{\rm TeV}^2$	${ m R}$
cle1133	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	${ m R}$
cle2211	$(ar{\ell}_2\gamma_\mu^{}\ell_2)(ar{e}_1\gamma^\mu e_1)/{ m TeV}^2$	$\mathbf{R}$
cle2233	$(\bar{\ell}_2\gamma_\mu\ell_2)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	$\mathbf{R}$
cle3311	$(\bar{\ell}_3\gamma_\mu\ell_3)(\bar{e}_1\gamma^\mu e_1)/{ m TeV}^2$	$\mathbf{R}$
cle3322	$(\bar{\ell}_3\gamma_\mu\ell_3)(\bar{e}_2\gamma^\mu e_2)/{ m TeV}^2$	$\mathbf{R}$
cle1221	$(\bar{\ell}_1 \gamma_\mu \ell_2)(\bar{e}_2 \gamma^\mu e_1)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cle1331	$(\bar{\ell}_1\gamma_\mu\ell_3)(\bar{e}_3\gamma^\mu e_1)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cle2332	$(\bar{\ell}_2 \gamma_\mu \ell_3)(\bar{e}_3 \gamma^\mu e_2)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
clu11	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{u}_r\gamma^\mu u_r)/{ m TeV}^2$	$\mathbf{R}$
clu22	$(\bar{\ell}_2\gamma_\mu\ell_2)(\bar{u}_r\gamma^\mu u_r)/{ m TeV}^2$	$\mathbf{R}$
clu33	$(\bar{\ell}_3\gamma_\mu\ell_3)(\bar{u}_r\gamma^\mu u_r)/{ m TeV}^2$	$\mathbf{R}$
ctl11	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{t}\gamma^\mu t)/{ m TeV}^2$	$\mathbf{R}$
ct122	$(\bar{\ell}_2 \gamma_\mu \ell_2)(\bar{t} \gamma^\mu t)/\text{TeV}^2$	$\mathbf{R}$
ct133	$(ar{\ell}_3\gamma_\mu\ell_3)(ar{t}\gamma^\mu t)/{ m TeV}^2$	$\mathbf{R}$
cld11	$(\bar{\ell}_1\gamma_\mu\ell_1)(\bar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	$\mathbf{R}$
cld22	$(\bar{\ell}_2\gamma_\mu\ell_2)(\bar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	$\mathbf{R}$
cld33	$(ar{\ell}_3\gamma_\mu\ell_3)(ar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	$\mathbf{R}$
cbl11	$(\bar{\ell}_1 \gamma_\mu \ell_1) (\bar{b} \gamma^\mu b) / \text{TeV}^2$	$\mathbf{R}$
cb122	$(\bar{\ell}_2 \gamma_\mu \ell_2) (\bar{b} \gamma^\mu b) / \text{TeV}^2$	$\mathbf{R}$
cb133	$(\bar{\ell}_3 \gamma_\mu \ell_3) (\bar{b} \gamma^\mu b) / \text{TeV}^2$	$\mathbf{R}$

WC name	Operator	Type
cje11	$(\bar{q}_p \gamma_\mu q_p)(\bar{e}_1 \gamma^\mu e_1)/\text{TeV}^2$	R
cje22	$(\bar{q}_p\gamma_\mu q_p)(\bar{e}_2\gamma^\mu e_2)/\text{TeV}^2$	$\mathbf{R}$
cje33	$(\bar{q}_p\gamma_\mu q_p)(\bar{e}_3\gamma^\mu e_3)/{ m TeV}^2$	$\mathbf{R}$
cQe11	$(Q\gamma_{\mu}Q)(\bar{e}_1\gamma^{\mu}e_1)/\text{TeV}^2$	$\mathbf{R}$
cQe22	$(ar Q\gamma_\mu Q)(ar e_2\gamma^\mu e_2)/{ m TeV}^2$	$\mathbf{R}$
cQe33	$(\bar{Q}\gamma_{\mu}Q)(\bar{e}_{3}\gamma^{\mu}e_{3})/\text{TeV}^{2}$	$\mathbf{R}$
cju1	$(\bar{q}_p \gamma_\mu q_p)(\bar{u}_r \gamma^\mu u_r)/\text{TeV}^2$	$\mathbf{R}$
cQu1	$(\bar{Q}\gamma_{\mu}Q)(\bar{u}_r\gamma^{\mu}u_r)/{ m TeV}^2$	$\mathbf{R}$
ctj1	$(ar{q}_p\gamma_\mu q_p)(ar{t}\gamma^\mu t)/{ m TeV}^2$	R
cQt1	$(ar{Q}\gamma_{\mu}Q)(ar{t}\gamma^{\mu}t)/\mathrm{TeV}^2$	R
cju8	$(\bar{q}_p \gamma_\mu T^A q_p)(\bar{u}_r \gamma^\mu T^A u_r)/\text{TeV}^2$	$\mathbf{R}$
cQu8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{u}_{r}\gamma^{\mu}T^{A}u_{r})/\text{TeV}^{2}$	${ m R}$
ctj8	$(\bar{q}_p \gamma_\mu T^A q_p) (\bar{t} \gamma^\mu T^A t) / \text{TeV}^2$	$\mathbf{R}$
cQt8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{t}\gamma^{\mu}T^{A}t)/\mathrm{TeV}^{2}$	R
cjd1	$(ar{q}_p\gamma_\mu q_p)(ar{d}_r\gamma^\mu d_r)/{ m TeV}^2$	R
cQd1	$(\bar{Q}\gamma_{\mu}Q)(\bar{d}_r\gamma^{\mu}d_r)/\text{TeV}^2$	$\mathbf{R}$
cbj1	$(ar{q}_p\gamma_\mu q_p)(ar{b}\gamma^\mu b)/{ m TeV}^2$	R
cQb1	$(\bar{Q}\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}b)/\text{TeV}^2$	${ m R}$
cjd8	$(\bar{q}_p\gamma_\mu T^Aq_p)(d_r\gamma^\mu T^Ad_r)/{ m TeV}^2$	${ m R}$
cQd8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{d}_{r}\gamma^{\mu}T^{A}d_{r})/\text{TeV}^{2}$	R
cbj8	$(\bar{q}_p\gamma_\mu T^Aq_p)(\bar{b}\gamma^\mu T^Ab)/\text{TeV}^2$	${ m R}$
cQb8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{b}\gamma^{\mu}T^{A}b)/\text{TeV}^{2}$	${ m R}$
cjQtu1Re	$(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{t}\gamma^{\mu}u_r)/\text{TeV}^2 + \text{h.c.}$	${ m R}$
cjQtu1Im	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{t}\gamma^{\mu}u_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQtu8Re	$(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{t}\gamma^{\mu}T^Au_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQtu8Im	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{t}\gamma^{\mu}T^Au_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQbd1Re	$(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}d_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQbd1Im	$i(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}d_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQbd8Re	$(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{b}\gamma^{\mu}T^Ad_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cjQbd8Im	$i(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{b}\gamma^{\mu}T^Ad_r)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cledjRe11	$Y_{d,st}(\bar{\ell}_1^I e_1)(\bar{d}_s q_t^I)/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cledjRe22	$Y_{d,st}(\bar{\ell}_{2}^{I}e_{2})(\bar{d}_{s}q_{t}^{I})/\text{TeV}^{2}+\text{h.c.}$	$\mathbf{R}$
cledjRe33	$Y_{d,st}(ar{\ell_3^I}e_3)(ar{d}_sq_t^I)/\mathrm{TeV}^2+\mathrm{h.c.}$	$\mathbf{R}$
cledjIm11	$iY_{d,st}(\bar{\ell}_{1}^{I}e_{1})(\bar{d}_{s}q_{t}^{I})/\text{TeV}^{2}+\text{h.c.}$	$\mathbf{R}$
cledjIm22	$iY_{d,st}(\bar{\ell}_{2}^{I}e_{2})(\bar{d}_{s}q_{t}^{I})/\text{TeV}^{2}+\text{h.c.}$	$\mathbf{R}$
cledjIm33	$iY_{d,st}(\bar{\ell}_3^{\bar{I}}e_3)(\bar{d}_sq_t^{\bar{I}})/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
clebQRe11	$(ar{\ell}_1^I e_1) (ar{b} Q^I) / \mathrm{TeV}^2 + \mathrm{h.c.}$	$\mathbf{R}$
clebQRe22	$(\bar{\ell}_2^I e_2)(\bar{b}Q^I)/\mathrm{TeV}^2 + \mathrm{h.c.}$	R
clebQRe33	$(\bar{\ell}_3^I e_3)(\bar{b}Q^I)/\mathrm{TeV}^2 + \mathrm{h.c.}$	R
clebQIm11	$i(ar{\ell}_1^I e_1)(ar{b}Q^I)/\mathrm{TeV}^2 + \mathrm{h.c.}$	$\mathbf{R}$
clebQIm22	$i(ar{\ell}_2^I e_2)(ar{b}Q^I)/\mathrm{TeV}^2 + \mathrm{h.c.}$	$\mathbf{R}$
clebQIm33	$i(\bar{\ell}_3^I e_3)(\bar{b}Q^I)/\text{TeV}^2 + \text{h.c.}$	${ m R}$

Operator	Typ
$(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_v^I u_r)(\bar{q}_s^J d_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
	$\mathbf{R}$
$(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_n^I u_r)(\bar{q}_s^J d_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_n^I u_r)(\bar{q}_s^J d_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
$i(Y_d^{\dagger})_{st}(\bar{Q}^I t)(\bar{q}_s^J d_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_u^{\dagger})_{pr}(\bar{q}_p^I u_r)(\bar{Q}^J b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(Y_u^{\dagger})_{pr}(\bar{q}_p^I u_r)(\bar{Q}^J b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_u^{\dagger})_{sr}(\bar{Q}^I u_r)(\bar{q}_s^J b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(Y_u^{\dagger})_{sr}(\bar{Q}^I u_r)(\bar{q}_s^J b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_d^{\dagger})_{pt}(\bar{q}_p^I t)(\bar{Q}^J d_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
$(\bar{Q}^I t)(\bar{Q}^J b) \varepsilon_{IJ} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(\bar{Q}^I t)(\bar{Q}^J b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^I T^A u_r)(\bar{q}_s^J T^A d_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
	$\mathbf{R}$
$i(Y_{cl}^{\dagger})_{sr}(Y_{d}^{\dagger})_{nt}(\bar{q}_{n}^{I}T^{A}u_{r})(\bar{q}_{s}^{J}T^{A}d_{t})\varepsilon_{IJ}/\text{TeV}^{2} + \text{h.c.}$	$\mathbf{R}$
$(Y_{\perp}^{J})_{st}(\bar{Q}^{I}T^{A}t)(\bar{q}_{\perp}^{J}T^{A}d_{t})\varepsilon_{IJ}/\text{TeV}^{2} + \text{h.c.}$	$\mathbf{R}$
	R
$(Y_{t}^{I})_{pr}(\bar{q}_{p}^{I}T^{A}u_{r})(\bar{Q}^{J}T^{A}b)\varepsilon_{IJ}/\text{TeV}^{2} + \text{h.c.}$	R
$i(Y_u^{\dagger})_{pr}(\bar{q}_p^I T^A u_r)(\bar{Q}^J T^A b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
$i(Y_u^{\dagger})_{sr}(\bar{Q}^I T^A u_r)(\bar{q}_s^J T^A b)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_d^{\dagger})_{pt}(\bar{q}_p^I T^A t)(\bar{Q}^J T^A d_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
$(\bar{Q}^I T^A t) (\bar{Q}^J T^A b) \varepsilon_{IJ} / \text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(\bar{Q}^I T^A t)(\bar{Q}^J T^A b) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$(Y_u^{\dagger})_{st}(\bar{\ell}_1^I e_1)(\bar{q}_s^J u_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
	$\mathbf{R}$
	$\mathbf{R}$
$i(Y_u^{\dagger})_{st}(\underline{\ell_1^I}e_1)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(Y_u^{\dagger})_{st}(\ell_2^I e_2)(\bar{q}_s^J u_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
$i(Y_u^{\dagger})_{st}(\ell_3^I e_3)(\bar{q}_s^J u_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
	R
	R
	R
	R
	R
$i(\ell_3^i e_3)(Q^j t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$ $(Y_u^\dagger)_{st} (\bar{\ell}_1^i \sigma_{\mu\nu} e_1) (\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R R
	$\begin{split} &i(Y_u^{\dagger})_{sr}(\bar{Q}^Iu_r)(\bar{q}_s^Jb)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &(Y_d^{\dagger})_{pt}(\bar{q}_p^It)(\bar{Q}^Jd_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_d^{\dagger})_{pt}(\bar{q}_p^It)(\bar{Q}^Jd_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Q^It)(\bar{Q}^Jb)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{Q}^It)(\bar{Q}^Jb)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{Q}^It)(\bar{Q}^Jb)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_d^{\dagger})_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{pr}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{pr}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{sr}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Q^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Q^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Q^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{st}(\bar{\ell}_2^Ie_1)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(Y_u^{\dagger})_{st}(\bar{\ell}_2^Ie_2)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{\ell}_2^Ie_1)(\bar{Q}^Jt)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{\ell}_2^Ie_2)(\bar{Q}^Jt)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{\ell}_2^Ie_2)(\bar{Q}^Jt)\varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.} \\ &i(\bar{\ell}_2^Ie_2)(\bar{Q}^Jt)\varepsilon_{IJ}/$

WC name	Operator	Type
cleju3Re22	$(Y_u^{\dagger})_{st}(\bar{\ell}_2^I \sigma_{\mu\nu} e_2)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleju3Re33	$(Y_u^{\dagger})_{st}(\bar{\ell}_3^I \sigma_{\mu\nu} e_3)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleju3Im11	$i(Y_u^{\dagger})_{st}(\bar{\ell}_1^I \sigma_{\mu\nu} e_1)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleju3Im22	$i(Y_u^{\dagger})_{st}(\bar{\ell}_2^I \sigma_{\mu\nu} e_2)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleju3Im33	$i(Y_u^{\dagger})_{st}(\bar{\ell}_3^I \sigma_{\mu\nu} e_3)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleQt3Re11	$(\bar{\ell}_1^I \sigma_{\mu\nu} e_1)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleQt3Re22	$(\bar{\ell}_2^I \sigma_{\mu\nu} e_2)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ} / \text{TeV}^2 + \text{h.c.}$	R
cleQt3Re33	$(\bar{\ell}_3^I \sigma_{\mu\nu} e_3)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleQt3Im11	$i(\bar{\ell}_1^I \sigma_{\mu\nu} e_1)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$
cleQt3Im22	$i(\bar{\ell}_2^I \sigma_{\mu\nu} e_2)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/\text{TeV}^2 + \text{h.c.}$	R
cleQt3Im33	$i(\bar{\ell}_3^{\bar{I}}\sigma_{\mu\nu}e_3)(\bar{Q}^{\bar{J}}\sigma^{\mu\nu}t)\varepsilon_{I\bar{J}}/\text{TeV}^2 + \text{h.c.}$	$\mathbf{R}$