## Basis SMEFTsim-topU31 (EFT SMEFT)

Basis used in the SMEFTsim\_topU31 UFO models, version 3.0.0 or later. Implements Warsaw basis with  $U(2)^3$  flavor symmetry in the quarks sector and  $U(3)^2$  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.  $Y_l$  is the 3x3 lepton Yukawa. Yukawas 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 ans 1,2,3 for leptons. This basis definition corresponds to a fixed LambdaSMEFT=10e+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	$f^{ABC}G^{A u}_{\mu}G^{B ho}_{ u}G^{C\mu}_{ ho}/TeV^2$	R
cGtil	$f^{ABC}\widetilde{G}^{A\nu}_{\mu}G^{B\rho}_{\nu}G^{C\mu}_{\rho}/TeV^2$	R
cW	$\varepsilon^{IJK}W_{\mu}^{I}^{\nu}W_{\nu}^{J}^{\rho}W_{\rho}^{K}^{\mu}/TeV^{2}$	R
cWtil	$arepsilon^{IJK}\widetilde{W}_{\mu}^{I u}W_{ u}^{J ho}W_{ ho}^{K\mu}/TeV^{2}$	R
cH	$(H^{\dagger}H)^3/TeV^2$	R
cHbox	$(H^{\dagger}H)\Box(H^{\dagger}H)/TeV^2$	R
cHDD	$(D_{\mu}H^{\dagger}H)(H^{\dagger}D^{\mu}H)/TeV^{2}$	R
cHG	$G^{A}_{\mu u}G^{A\mu u}H^{\dagger}H/TeV^{2}$	$\mathbf{R}$
cHGtil	$\widetilde{G}^{A}_{\mu u}G^{A\mu u}H^{\dagger}H/TeV^{2}$	R
cHW	$\dot{W}^{I}_{\mu u}W^{I\mu u}H^{\dagger}H/TeV^{2}$	R
cHWtil	$\widetilde{W}^{I}_{\mu u}W^{I\mu u}H^{\dagger}H/TeV^{2}$	R
сНВ	$B_{\mu u}^{\mu u}B^{\mu u}H^{\dagger}H/TeV^2$	R
cHBtil	$\widetilde{B}_{\mu u}B^{\mu u}H^{\dagger}H/TeV^2$	$\mathbf{R}$
cHWB	$B_{\mu\nu}W^{I\mu\nu}H^{\dagger}\sigma^{I}H/TeV^{2}$	R
cHWBtil	$B_{\mu\nu}\widetilde{W}^{I\mu\nu}H^{\dagger}\sigma^{I}H/TeV^{2}$	$\mathbf{R}$
ceHRe	$(Y_l^{\dagger})_{pr}(\bar{\ell}_p H e_r)(H^{\dagger} H)/TeV^2 + hc$	${ m R}$

WC name	Operator	Type
ceHIm	$i(Y_l^\dagger)_{pr}(ar{\ell}_p H e_r)(H^\dagger H)/TeV^2 + hc$	R
cuHRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\tilde{H}u_r)(H^{\dagger}H)/TeV^2 + hc$	R
cuHIm	$i(Y_{\underline{u}}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}u_{r})(H^{\dagger}H)/TeV^{2}+hc$	$\mathbf{R}$
ctHRe	$(\bar{Q}\tilde{H}t)(H^{\dagger}H)/TeV^2 + hc$	R
ctHIm	$i(\bar{Q}\tilde{H}t)(H^{\dagger}H)/TeV^2 + hc$	R
cdHRe	$(Y_d^{\dagger})_{pr}(\bar{q}_pHd_r)(H^{\dagger}H)/TeV^2 + hc$	${ m R}$
cdHIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_pHd_r)(H^{\dagger}H)/TeV^2 + hc$	R
cbHRe	$(\bar{Q}Hb)(H^{\dagger}H)/TeV^2 + hc$	$\mathbf{R}$
cbHIm	$i(\bar{Q}Hb)(H^{\dagger}H)/TeV^2 + hc$	R
ceWRe	$(Y_l^{\dagger})_{pr}(\bar{\ell}_p\sigma^I H \sigma^{\mu\nu} e_r)W_{\mu\nu}^I/TeV^2 + hc$	R
ceWIm	$i(Y_l^{\dagger})_{pr}(\bar{\ell}_p\sigma^I H \sigma^{\mu\nu} e_r)W_{\mu\nu}^I/TeV^2 + hc$	R
ceBRe	$(Y_l^{\dagger})_{pr}(\bar{\ell}_p H \sigma^{\mu\nu} e_r) B_{\mu\nu}/TeV^2 + hc$	${ m R}$
ceBIm	$i(Y_l^{\dagger})_{pr}(\bar{\ell}_{p}H\sigma^{\mu\nu}e_r)B_{\mu\nu}/TeV^2 + hc$	$\mathbf{R}$
cuGRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\tilde{H}\sigma^{\mu\nu}T^Au_r)G^A_{\mu\nu}/TeV^2 + hc$	R
cuGIm	$i(Y_{u}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}\sigma^{\mu\nu}T^{A}u_{r})G_{\mu\nu}^{A}/TeV^{2}+hc$	${ m R}$
ctGRe	$(QH\sigma^{\mu\nu}T^At)G^A_{\mu\nu}/TeV^2 + hc$	R
ctGIm	$\begin{array}{l} (\bar{Q}\tilde{H}\sigma^{\mu\nu}T^{A}t)G^{A}_{\mu\nu}/TeV^{2} + hc\\ i(\bar{Q}\tilde{H}\sigma^{\mu\nu}T^{A}t)G^{A}_{\mu\nu}/TeV^{2} + hc\\ (Y^{\dagger}_{u})_{pr}(\bar{q}_{p}\sigma^{I}\tilde{H}\sigma^{\mu\nu}u_{r})W^{I}_{\mu\nu}/TeV^{2} + hc \end{array}$	R
cuWRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p\sigma^1 H \sigma^{\mu\nu} u_r) W_{\mu\nu}^1/TeV^2 + hc$	R
cuWIm	$i(I_{u})_{pr}(q_{p}\sigma^{I}\tilde{H}\sigma^{\mu\nu}u_{r})W_{\mu\nu}^{I}/TeV^{2} + hc$ $i(V_{u}^{\dagger})_{pr}(\bar{q}_{p}\sigma^{I}\tilde{H}\sigma^{\mu\nu}u_{r})W_{\mu\nu}^{I}/TeV^{2} + hc$ $(\bar{Q}\sigma^{I}\tilde{H}\sigma^{\mu\nu}t)W_{\mu\nu}^{I}/TeV^{2} + hc$ $(\bar{Q}\sigma^{I}\tilde{H}\sigma^{\mu\nu}t)W_{\mu\nu}^{I}/TeV^{2} + hc$	R
ctWRe	$(Q\sigma^{1}H\sigma^{\mu\nu}t)W_{\mu\nu}^{1}/TeV^{2}+hc$	R
ctWIm	$i(Q\sigma^{2}H\sigma^{\mu\nu}t)W_{\mu\nu}^{2}/TeV^{2}+hc$	R
cuBRe	$(Y_u^{\dagger})_{pr}(\bar{q}_p \tilde{H} \sigma^{\mu\nu} u_r) B_{\mu\nu}/TeV^2 + hc$	R
cuBIm	$i(Y_{\underline{u}}^{\dagger})_{pr}(\bar{q}_{p}\tilde{H}\sigma^{\mu\nu}u_{r})B_{\mu\nu}/TeV^{2} + hc$	R
ctBRe ctBIm	$(QH\sigma^{\mu\nu}t)B_{\mu\nu}/TeV^2 + hc$ $i(\bar{O}H\sigma^{\mu\nu}t)B_{\mu\nu}/TeV^2 + hc$	R R
cdGRe	$i(QH\sigma^{\mu\nu}t)B_{\mu\nu}/TeV^2 + hc$ $(Y_d^{\dagger})_{pr}(\bar{q}_pH\sigma^{\mu\nu}T^Ad_r)G_{\mu\nu}^A/TeV^2 + hc$	R R
	$(I_d)_{pr}(q_p\Pi 0^r - 1 - u_r)G_{\mu\nu}/1eV + nc$	
cdGIm	$i(Y_d)_{pr}(q_pH\sigma^{\mu\nu}T^*A_r)G_{\mu\nu}^*/1eV^2+nc$	R
cbGRe cbGIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} T^A d_r) G_{\mu\nu}^A / TeV^2 + hc$ $(\bar{Q} H \sigma^{\mu\nu} T^A b) G_{\mu\nu}^A / TeV^2 + hc$ $i(\bar{Q} H \sigma^{\mu\nu} T^A b) G_{\mu\nu}^A / TeV^2 + hc$	R R
	$t(QHO^r + D)G_{\mu\nu}/1eV + hc$ $(V^{\dagger}) = (Z - IH - \mu\nu J)WI / T - W^2 + hc$	
cdWRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p\sigma^I H \sigma^{\mu\nu} d_r) W_{\mu\nu}^I / TeV^2 + hc$	R
cdWIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_p\sigma^I H \sigma^{\mu\nu} d_r) W_{\mu\nu}^I/TeV^2 + hc$	R
cbWRe	$(\bar{Q}\sigma^I H \sigma^{\mu\nu}b)W^I_{\mu\nu}/TeV^2 + hc$	R
cbWIm	$i(\bar{Q}\sigma^I H \sigma^{\mu\nu} b) \dot{W}^I_{\mu\nu} / TeV^2 + hc$	R
cdBRe	$(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} \dot{d}_r) B_{\mu\nu}/TeV^2 + hc$	R
cdBIm	$i(Y_d^{\dagger})_{pr}(\bar{q}_p H \sigma^{\mu\nu} d_r) B_{\mu\nu}/TeV^2 + hc$	R
cbBRe	$ (\bar{Q}H\sigma^{\mu\nu}b)B_{\mu\nu}/TeV^2 + hc $ $ i(\bar{Q}H\sigma^{\mu\nu}b)B_{\mu\nu}/TeV^2 + hc $	R R
cbBIm		
cHl1	$(H^{\dagger}i\overrightarrow{D}_{\mu}H)(ar{\ell}_{p}\gamma^{\mu}\ell_{p})/TeV^{2}$	R
cH13	$(H^\dagger i \overleftrightarrow{D}_\mu^I H) (\bar{\ell}_p \gamma^\mu \sigma^I \ell_p) / TeV^2 \ (H^\dagger i \overleftrightarrow{D}_\mu H) (\bar{q}_p \gamma^\mu q_p) / TeV^2$	R
cHj1	$(H i D_{\mu} H)(\bar{q}_p \gamma^{\mu} q_p)/TeV^2$	R
сНј3	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}^{I}H)(\bar{q}_{p}\gamma^{\mu}\sigma^{I}q_{p})/TeV^{2}$	R
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	WC name	Operator	Type
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHQ1	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}H)(\bar{Q}\gamma^{\mu}Q)/TeV^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHQ3	$(H^\dagger i \overleftrightarrow{D}_{\mu}^I H) (\bar{Q} \gamma^\mu \sigma^I Q) / TeV^2$	$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	сНе	$(H^\dagger i \overleftrightarrow{D}_\mu H) (\bar{e}_p \gamma^\mu e_p) / TeV^2$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHu	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}H)(\bar{u}_{p}\gamma^{\mu}u_{p})/TeV^{2}$	$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHt	$(H^{\dagger}i\overleftrightarrow{D}_{\mu}^{I}H)(ar{t}\gamma^{\mu}t)/TeV^{2}$	R
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	cHd	$(H^\dagger i \overleftrightarrow{D}_\mu H) (ar{d}_p \gamma^\mu d_p) / TeV^2$	$\mathbf{R}$
cHudIm $i(Y_u \overline{Y}_d^{\dagger})_{pr}(\tilde{H}^{\dagger}iD_{\mu}H)(\overline{u}_p\gamma^{\mu}d_r)/TeV^2 + hc$ R cHtbRe $(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/TeV^2 + hc$ R cHtbIm $i(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/TeV^2 + hc$ R c11 $(\bar{\ell}_p\gamma_{\mu}\ell_p)(\bar{\ell}_r\gamma^{\mu}\ell_r)/TeV^2$ R c11 $(\bar{\ell}_p\gamma_{\mu}\ell_p)(\bar{\ell}_r\gamma^{\mu}\ell_p)/TeV^2$ R c111 $(\bar{\ell}_p\gamma_{\mu}\ell_p)(\bar{\ell}_r\gamma^{\mu}\ell_p)/TeV^2$ R c1j1 $(\bar{\ell}_p\gamma_{\mu}\ell_p)(\bar{q}_r\gamma^{\mu}q_r)/TeV^2$ R c2j3 $(\bar{\ell}_p\gamma_{\mu}\ell_p)(\bar{q}_p\gamma^{\mu}\ell_p)/TeV^2$ R c2l1 $(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_p\gamma^{\mu}\ell_p)/TeV^2$ R c2l3 $(\bar{Q}\gamma_{\mu}\sigma^IQ)(\bar{\ell}_p\gamma^{\mu}\ell_p)/TeV^2$ R c2l3 $(\bar{Q}\gamma_{\mu}\sigma^IQ)(\bar{\ell}_p\gamma^{\mu}\ell_p)/TeV^2$ R c2l3 $(\bar{q}_p\gamma_{\mu}q_p)(\bar{q}_r\gamma^{\mu}q_r)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}q_p)(\bar{q}_r\gamma^{\mu}q_r)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}q_p)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}Q)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}Q)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}Q)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l31 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l32 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l33 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l34 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l36 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l37 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l38 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l39 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l30 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l30 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}_p\gamma^{\mu}q_p)/TeV^2$ R c2l40 $(\bar{q}_p\gamma_{\mu}Q)(\bar{q}$	сНЪq	$(H^\dagger i \overleftrightarrow{D}_\mu H) (\bar{b} \gamma^\mu b) / TeV^2$	$\mathbf{R}$
CHtbRe $(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/TeV^{2} + hc \qquad \qquad \mathbb{R}$ CHtbIm $i(\tilde{H}^{\dagger}iD_{\mu}H)(\bar{t}\gamma^{\mu}b)/TeV^{2} + hc \qquad \qquad \mathbb{R}$ c11 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{p})(\bar{\ell}_{r}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c11 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{p})(\bar{\ell}_{r}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c11 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c111 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c1j1 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c1j3 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l1 $(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{p}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l1 $(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{p}\gamma^{\mu}\ell_{p})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l1 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l2 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}_{p}\gamma_{\mu}Q)(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})(\bar{\ell}_{r}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}_{p}\gamma_{\mu}Q)(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}_{p}\gamma_{\mu}\ell_{r})(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}_{p}\gamma^{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{r}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l3 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c2l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c3l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c3l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{2} \qquad \qquad \mathbb{R}$ c3l4 $(\bar{\ell}\gamma_{\mu}\ell_{r})(\bar{\ell}\gamma_{\mu}\ell_{r})/TeV^{$	cHudRe	$(Y_u Y_d^{\dagger})_{pr} (\tilde{H}^{\dagger} i D_{\mu} H) (\bar{u}_p \gamma^{\mu} d_r) / TeV^2 + hc$	$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHudIm		$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cHtbRe	$( ilde{H}^{\dagger}i ilde{D}_{\mu}H)(ar{t}\gamma^{\mu}b)/TeV^2+hc$	R
cll1 $ \begin{array}{ccccccccccccccccccccccccccccccccccc$	cHtbIm		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cll		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cll1		R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj1	$(ar{\ell}_p \gamma_\mu \ell_p) (ar{q}_r \gamma^\mu q_r) / TeV^2$	$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	clj3	$(ar{\ell}_p \gamma_\mu \sigma^I \ell_p) (ar{q}_r \gamma^\mu \sigma^I q_r) / TeV^2$	$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQl1	$(\bar{Q}\gamma_{\mu}Q)(\bar{\ell}_{p}\gamma^{\mu}\ell_{p})/TeV^{2}$	R
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cQ13		$\mathbf{R}$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	cjj11	$(ar{q}_p\gamma_\mu q_p)(ar{q}_r\gamma^\mu q_r)/TeV^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(ar{q}_p\gamma_\mu T^A_{}q_p)(ar{q}_r\gamma^\mu T^A_{}q_r)/TeV^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(\bar{q}_p \gamma_\mu \sigma^I q_p)(\bar{q}_r \gamma^\mu \sigma^I q_r)/TeV^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(Q\gamma_{\mu}Q)(Q\gamma^{\mu}Q)/TeV^{2}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(Q\gamma_{\mu}Q)(\bar{q}_{p}\gamma^{\mu}q_{p})/TeV^{2}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<del>-</del>	$(Q\gamma_{\mu}\sigma^{T}T^{T}Q)(q_{p}\gamma^{\mu}\sigma^{T}T^{T}q_{p})/TeV^{2}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(u_p\gamma_\mu u_p)(u_r\gamma^\mu u_r)/TeV^-$ $(\bar{u}_p\gamma_\mu TA_\mu)(\bar{u}_p\gamma_\mu TA_\mu)/TeV^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(u_p)_{\mu} = u_p)(u_r) = u_r)/1 ev$ $(\overline{t}_{\gamma'}, t)(\overline{t}_{\gamma'} + t)/T_e V^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(\overline{t}\gamma_{\mu}t)(u_p + u_p)/TeV$ $(\overline{t}\gamma_{\nu}T^At)(\overline{u}_{\nu}\gamma^{\mu}T^Au_{\nu})/TeV^2$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(\bar{d}_{\varpi}\gamma_{"}d_{\varpi})(\bar{d}_{\varpi}\gamma^{\mu}d_{\varpi})/TeV^{2}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(\bar{d}_{x}\gamma_{\mu}T^{A}d_{x})(\bar{d}_{x}\gamma^{\mu}T^{A}d_{x})/TeV^{2}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$(b\gamma_{\mu}b)(b\gamma^{\mu}b)/TeV^2$	
$\begin{array}{cccc} \operatorname{cbd8} & & & & & & & & & & & & & & & & & & &$			
$\begin{array}{lll} \text{ceu} & & (\bar{e}_p\gamma_\mu e_p)(\bar{u}_r\gamma^\mu u_r)/TeV^2 & & \text{R} \\ \text{cte} & & (\bar{e}_p\gamma_\mu e_p)(\bar{t}\gamma^\mu t)/TeV^2 & & \text{R} \\ \text{ced} & & (\bar{e}_p\gamma_\mu e_p)(\bar{d}_r\gamma^\mu d_r)/TeV^2 & & \text{R} \end{array}$		$(\bar{b}\gamma_{\mu}T^{A}b)(\bar{d}_{n}\gamma^{\mu}T^{A}d_{n})/TeV^{2}$	
cte $(\bar{e}_p\gamma_\mu e_p)(\bar{t}\gamma^\mu t)/TeV^2$ R ced $(\bar{e}_p\gamma_\mu e_p)(\bar{d}_r\gamma^\mu d_r)/TeV^2$ R		$(\bar{e}_n\gamma_\mu e_n)(\bar{u}_r\gamma^\mu u_r)/TeV^2$	
ced $(ar{e}_p\gamma_\mu e_p)(ar{d}_r\gamma^\mu d_r)/TeV^2$ R		$(\bar{e}_p\gamma_\mu e_p)(\bar{t}\gamma^\mu t)/TeV^2$	
cbe $(\bar{e}_n \gamma_{\mu} e_n)(\bar{b} \gamma^{\mu} b)/TeV^2$ R.		$(\bar{e}_p\gamma_\mu e_p)(\bar{d}_r\gamma^\mu d_r)/TeV^2$	
$\langle \neg p \mid \mu \neg p \rangle \langle \neg \gamma \rangle = \neg \gamma$	cbe	$(ar{e}_p\gamma_\mu e_p)(ar{b}\gamma^\mu b)/TeV^2$	R

WC name	Operator	Type
cud1	$(\bar{u}_p\gamma_\mu u_p)(\bar{d}_r\gamma^\mu d_r)/TeV^2$	R
ctd1	$(ar{t}\gamma_{\mu}t)(ar{d}_{p}\gamma^{\mu}d_{p})/TeV^{2}$	$\mathbf{R}$
cbu1	$(\bar{u}_p\gamma_\mu u_p)(\bar{b}\gamma^\mu b)/TeV^2$	$\mathbf{R}$
ctb1	$(\bar{t}\gamma_{\mu}t)(\bar{b}\gamma^{\mu}b)/TeV^2$	R
cud8	$(\bar{u}_p\gamma_\mu T^A u_p)(\bar{d}_r\gamma^\mu T^A d_r)/TeV^2$	R
ctd8	$(\bar{t}\gamma_{\mu}T^{A}t)(\bar{d}_{p}\gamma^{\mu}T^{A}d_{p})/TeV^{2}$	$\mathbf{R}$
cbu8	$(\bar{u}_{v}\gamma_{\mu}T^{A}u_{v})(\bar{b}\gamma^{\mu}T^{A}b)/TeV^{2}$	$\mathbf{R}$
ctb8	$(\bar{t}\gamma_{\mu}T^{A}t)(\bar{b}\gamma^{\mu}T^{A}b)/TeV^{2}$	$\mathbf{R}$
cutbd1Re	$(Y_uY_d^{\dagger})_{pr}(\bar{u}_p\gamma_ut)(\bar{b}\gamma^{\mu}d_r)/TeV^2 + hc$	$\mathbf{R}$
cutbd1Im	$i(Y_uY_d^\dagger)_{pr}(\bar{u}_p\gamma_\mu t)(\bar{b}\gamma^\mu d_r)/TeV^2 + hc$	R
cutbd8Re	$(Y_u Y_d^{\dagger})_{pr} (\bar{u}_p \gamma_\mu T^A t) (\bar{b} \gamma^\mu T^A d_r) / TeV^2 + hc$	R
cutbd8Im	$i(Y_uY_d^{\dagger})_{pr}(\bar{u}_p\gamma_{\mu}T^At)(\bar{b}\gamma^{\mu}T^Ad_r)/TeV^2 + hc$	R
cle	$(\bar{\ell}_{p}\gamma_{\mu}\ell_{p})(\bar{e}_{r}\gamma^{\mu}e_{r})/TeV^{2}$	R
clu	$rac{(ar{\ell}_p \gamma_\mu \ell_p)(ar{e}_r \gamma^*  ar{e}_r)/1  ar{e}_V}{(ar{\ell}_p \gamma_\mu \ell_p)(ar{u}_r \gamma^\mu u_r)/T eV^2}$	R
ctl	$rac{(ar{\ell}_p \gamma_\mu \ell_p)(a_r \gamma^\mu a_r)}{(ar{\ell}_p \gamma_\mu \ell_p)(ar{t} \gamma^\mu t)}/TeV^2$	R
	$rac{(ar{\ell}_p\gamma_\mu ar{\ell}_p)(\dot{\ell}^\gamma \iota)}{(ar{\ell}_p\gamma_\mu ar{\ell}_p)(ar{d}_r\gamma^\mu d_r)/TeV^2}$	R R
cld	$rac{(\ell_p\gamma_\mu\ell_p)(d_r\gamma^rd_r)/TeV}{(ar\ell_p\gamma_\mu\ell_p)(ar b\gamma^\mu b)/TeV^2}$	
cbl	$(\ell_p \gamma_\mu \ell_p)(0 \gamma^\mu 0)/T eV^-$	R
cje -0-	$(\bar{q}_p \gamma_\mu q_p)(\bar{e}_r \gamma^\mu e_r)/TeV^2$	R
cQe	$(\bar{Q}\gamma_{\mu}Q)(\bar{e}_{r}\gamma^{\mu}e_{r})/TeV^{2}$	R
cju1	$(\bar{q}_p \gamma_\mu q_p)(\bar{u}_r \gamma^\mu u_r)/TeV^2$	R
cQu1	$egin{aligned} (ar{Q}\gamma_{\mu}Q)(ar{u}_{r}\gamma^{\mu}u_{r})/TeV^{2} \ (ar{q}_{p}\gamma_{\mu}q_{p})(ar{t}\gamma^{\mu}t)/TeV^{2} \end{aligned}$	R R
ctj1	$(q_p \gamma_\mu q_p)(t \gamma^\mu t)/I eV^-$ $(\bar{Q}_{ab}, Q)(\bar{q}_{ab}, \mu_b)/T_a V^2$	
cQt1	$\frac{(\bar{Q}\gamma_{\mu}Q)(\bar{t}\gamma^{\mu}t)/TeV^{2}}{(\bar{q}_{p}\gamma_{\mu}T^{A}q_{p})(\bar{u}_{r}\gamma^{\mu}T^{A}u_{r})/TeV^{2}}$	R
cju8	$(q_p\gamma_\mu I^{-1}q_p)(u_r\gamma^\mu I^{-1}u_r)/IeV^- \ (ar{Q}\gamma_\mu T^AQ)(ar{u}_r\gamma^\mu T^Au_r)/TeV^2$	R
cQu8	$(Q\gamma_{\mu}T^{A}Q)(u_{r}\gamma^{\mu}T^{A}u_{r})/TeV^{2} \ (ar{q}_{p}\gamma_{\mu}T^{A}q_{p})(ar{t}\gamma^{\mu}T^{A}t)/TeV^{2}$	R R
ctj8	$(q_p\gamma_\mu I  q_p)(t\gamma^\mu I  t)/IeV \ (ar Q\gamma_\mu T^AQ)(ar t\gamma^\mu T^At)/TeV^2$	R R
cQt8		
cjd1	$(\bar{q}_p \gamma_\mu q_p)(\bar{d}_r \gamma^\mu d_r)/TeV^2$	R
cQd1	$(ar{Q}\gamma_{\mu}Q)(ar{d}_{r}\gamma^{\mu}d_{r})/TeV^{2}$	R
cbj1	$(\bar{q}_p \gamma_\mu q_p)(\bar{b} \gamma^\mu b)/TeV^2$	R
cQb1	$(\bar{Q}\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}b)/TeV^2$	R
cjd8	$(\bar{q}_p\gamma_\mu T^Aq_p)(\bar{d}_r\gamma^\mu T^Ad_r)/TeV^2$	R
cQd8	$(ar{Q}\gamma_{\mu}T^{A}Q)(ar{d}_{r}\gamma^{\mu}T^{A}d_{r})/TeV^{2}$	R
cbj8	$(\bar{q}_p\gamma_\mu T^Aq_p)(\bar{b}\gamma^\mu T^Ab)/TeV^2$	R
cQb8	$(\bar{Q}\gamma_{\mu}T^{A}Q)(\bar{b}\gamma^{\mu}T^{A}b)/TeV^{2}$	R
cjQtu1Re	$(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_\mu Q)(\bar{t}\gamma^\mu u_r)/TeV^2 + hc$	R
cjQtu1Im	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_\mu Q)(\bar{t}\gamma^\mu u_r)/TeV^2 + hc$	R
cjQtu8Re	$(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{t}\gamma^{\mu}T^Au_r)/TeV^2 + hc$	R
cjQtu8Im	$i(Y_u^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{t}\gamma^{\mu}T^Au_r)/TeV^2 + hc$	R
cjQbd1Re	$(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}d_r)/TeV^2 + hc$	R
cjQbd1Im	$i(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}Q)(\bar{b}\gamma^{\mu}d_r)/TeV^2 + hc$	R
cjQbd8Re	$(Y_d^{\dagger})_{pr}(\bar{q}_p\gamma_{\mu}T^AQ)(\bar{b}\gamma^{\mu}T^Ad_r)/TeV^2 + hc$	$\mathbf{R}$

$\begin{array}{lll} {\rm cjQhb8Im} & i(Y_{1}^{\dagger})_{pr}(\bar{q}_{p}\gamma_{\mu}T^{A}Q)(\bar{b}\gamma^{\mu}T^{A}d_{r})/TeV^{2} + hc} & {\rm R} \\ {\rm cledjRe} & (Y_{1}^{\dagger})_{pr}Y_{d,st}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{d}_{s}q_{1}^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm cledjIm} & i(Y_{1}^{\dagger})_{pr}Y_{d,st}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{d}_{s}q_{1}^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm clebQRe} & (Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{b}Q^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm clebQRe} & (Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{b}Q^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm clebQRe} & i(Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{b}Q^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm clebQIm} & i(Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{b}Q^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm cledQIm} & i(Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{b}Q^{\dagger})/TeV^{2} + hc} & {\rm R} \\ {\rm cjujdIIRe} & (Y_{1}^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjujdIIRe} & (Y_{1}^{\dagger})_{sr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjujdIIIRe} & (Y_{1}^{\dagger})_{sr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudbIRe} & (Y_{1}^{\dagger})_{sr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudbIRe} & (Y_{1}^{\dagger})_{sr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudbIRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudbIRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudbIRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudBIRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudBIRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{r})(\bar{q}_{s}^{\dagger}d_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudBRe} & (\bar{q}_{1}^{\dagger}e_{1})(\bar{q}_{s}^{\dagger}e_{1})(\bar{q}_{s}^{\dagger}e_{1})\epsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudBRe} & (Y_{1}^{\dagger})_{pr}(\bar{q}_{p}^{\dagger}e_{1})(\bar{q}_{s}^{\dagger}e_{1})e_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjudBRe} & (Y_{1}^{\dagger})_{pr}(Y_{1}^{\dagger}e_{1})_{pr}(\bar{q}_{p}^{\dagger}e_{1})e_{IJ}/TeV^{2} + hc} & {\rm R} \\ {$	WC name	Operator	Type
cledjIm $i(Y_1^\dagger)_{pr} Y_{d,st}(\bar{\ell}_p^\dagger e_r)(\bar{d}_s q_1^\dagger)/TeV^2 + hc$ R clebQRe $(Y_l^\dagger)_{pr}(\bar{\ell}_p^\dagger e_r)(\bar{b}Q^\dagger)/TeV^2 + hc$ R clebQIm $i(Y_l^\dagger)_{pr}(\bar{\ell}_p^\dagger e_r)(\bar{b}Q^\dagger)/TeV^2 + hc$ R cjujdIRe $(Y_u^\dagger)_{pr}(\bar{\ell}_p^\dagger e_r)(\bar{b}Q^\dagger)/TeV^2 + hc$ R cjujdIRe $(Y_u^\dagger)_{pr}(Y_d^\dagger)_{st}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cjujdIIM $i(Y_u^\dagger)_{pr}(Y_d^\dagger)_{st}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cjujdIIM $i(Y_u^\dagger)_{sr}(Y_d^\dagger)_{pt}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cjujdIIM $i(Y_u^\dagger)_{st}(Y_d^\dagger)_{pt}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqujdIRe $(Y_u^\dagger)_{st}(Y_d^\dagger)_{st}(\bar{q}_s^\dagger u_r)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqujdIIM $i(Y_d^\dagger)_{st}(Q_s^\dagger U_t)(\bar{q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cjuQbIRe $(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger u_r)(\bar{Q}_s^\dagger b) \epsilon_{IJ}/TeV^2 + hc$ R cqujbIIM $i(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger u_r)(\bar{Q}_s^\dagger b) \epsilon_{IJ}/TeV^2 + hc$ R cqujbIRe $(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger b) \epsilon_{IJ}/TeV^2 + hc$ R cqujbIRe $(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger u_r)(\bar{q}_s^\dagger b) \epsilon_{IJ}/TeV^2 + hc$ R cqujbIRe $(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger t_r)(\bar{Q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqujbIRe $(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger t_r)(\bar{Q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqudIIM $i(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger t_r)(\bar{Q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqudIIM $i(Y_u^\dagger)_{pr}(\bar{q}_p^\dagger t_r)(\bar{Q}_s^\dagger d_t) \epsilon_{IJ}/TeV^2 + hc$ R cqudIIM $i(Y_u^\dagger)_{pr}(Y_d^\dagger t_r) \epsilon_{IJ}/TeV^2 + hc$ R cqudBIRe $(Y_u^\dagger)_{pr}(Y_d^\dagger t_r) \epsilon_{IJ}/TeV^2 + hc$ R cqudBIRe $i(Y_u^\dagger)_{pr}(Y_d^\dagger t_r) \epsilon_{IJ}/TeV^2 + hc$ R cqudBIRe $i(Y_u^\dagger)_{sr}(Y_d^\dagger t_r) \epsilon_{IJ}/TeV^2 + hc$ R cqudBIR	cjQbd8Im		R
clebQRe $(Y_l^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R clebQIm $i(Y_l^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R cjujdIRe $(Y_u^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R cjujdIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujdIII $i(Y_d^{\dagger})_{st}(Q^{\dagger}l)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujdIII $i(Y_d^{\dagger})_{st}(Q^{\dagger}l)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqdIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqdIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjudSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cjudSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbSIII $i(Y_u^{\dagger}l)_{pr}(Y_u^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqubSIII $i(Y_u^{\dagger}l)$	cledjRe		R
clebQRe $(Y_l^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R clebQIm $i(Y_l^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R cjujdIRe $(Y_u^{\dagger})_{pr}(\bar{\ell}_{p}^{\dagger}e_r)(\bar{b}Q^{\dagger})/TeV^2 + hc$ R cjujdIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdIIII $i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujdIII $i(Y_d^{\dagger})_{st}(Q^{\dagger}l)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujdIII $i(Y_d^{\dagger})_{st}(Q^{\dagger}l)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqbIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqdIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjuqdIII $i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}l)(\bar{Q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc$ R cjudSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cjudSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cjujdSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbSIII $i(Y_u^{\dagger})_{pr}(Y_d^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqujbSIII $i(Y_u^{\dagger}l)_{pr}(Y_u^{\dagger}l)\varepsilon_{IJ}/TeV^2 + hc$ R cqubSIII $i(Y_u^{\dagger}l)$	cledjIm	$i(Y_l^{\dagger})_{pr}Y_{d,st}(\bar{\ell}_p^I e_r)(\bar{d}_s q_t^I)/TeV^2 + hc$	R
$\begin{array}{lll} {\rm cjujd1Re} & & & & & & & & & & & & & & & & & & &$	clebQRe	$(Y_l^{\dagger})_{pr}(\bar{\ell}_p^I e_r)(\bar{b}Q^I)/TeV^2 + hc$	$\mathbf{R}$
$\begin{array}{lll} {\rm cjujd1Im} & i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\overline{q}_p^Iu_r)(\overline{q}_s^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd11Re} & (Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\overline{q}_p^Iu_r)(\overline{q}_s^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd11Im} & i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\overline{q}_p^Iu_r)(\overline{q}_s^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd1Re} & (Y_d^{\dagger})_{st}(\overline{Q}^It)(\overline{q}_s^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd1Im} & i(Y_d^{\dagger})_{st}(\overline{Q}^It)(\overline{q}_s^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd1Im} & i(Y_u^{\dagger})_{sr}(\overline{q}_p^Iu_r)(Q^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjudb1Re} & (Y_u^{\dagger})_{pr}(\overline{q}_p^Iu_r)(Q^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjudb1Im} & i(Y_u^{\dagger})_{pr}(\overline{q}_p^Iu_r)(\overline{q}_s^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb1Im} & i(Y_u^{\dagger})_{pr}(\overline{Q}^Iu_r)(\overline{q}_s^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb1Im} & i(Y_u^{\dagger})_{pr}(\overline{Q}^Iu_r)(\overline{q}_s^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd1Re} & (Y_u^{\dagger})_{pt}(\overline{q}_p^It)(\overline{Q}^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd1Im} & i(Y_d^{\dagger})_{pt}(\overline{q}_p^It)(\overline{Q}^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cqtQb1Im} & i(Y_d^{\dagger})_{pt}(\overline{q}_p^It)(\overline{Q}^Jd_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cqtdb1Im} & i(\overline{Q}^It)(\overline{Q}^Jb\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{pt}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Re} & (Y_u^{\dagger})_{sr}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Bm} & i(Y_u^{\dagger})_{sr}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Im} & i(Y_u^{\dagger})_{sr}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Re} & (Y_u^{\dagger})_{sr}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Re} & (Y_u^{\dagger})_{sr}(\overline{q}_p^IT^Au_r)(\overline{q}_s^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjud8Re} & (Y$	clebQIm	$i(Y_l^{\dagger})_{pr}(\bar{\ell}_p^I e_r)(\bar{b}Q^I)/TeV^2 + hc$	$\mathbf{R}$
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$\begin{array}{llll} {\rm cjujd11Im} & i(Y_u^{\dagger})_{sr}(\bar{Y}_d^{\dagger})_{pt}(\bar{q}_s^{\dagger}u_r)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd1Re} & (Y_d^{\dagger})_{st}(\bar{Q}^{\dagger}t)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd1Im} & i(Y_d^{\dagger})_{st}(\bar{Q}^{\dagger}t)(\bar{q}_s^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjuQb1Re} & (Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}^{\dagger}b)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjuQb1Im} & i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}u_r)(\bar{Q}^{\dagger}b)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb1Re} & (Y_u^{\dagger})_{sr}(\bar{Q}^{\dagger}u_r)(\bar{q}_s^{\dagger}b)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb1Im} & i(Y_u^{\dagger})_{sr}(\bar{Q}^{\dagger}u_r)(\bar{q}_s^{\dagger}b)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd1Re} & (Y_u^{\dagger})_{t}(\bar{q}_p^{\dagger}t)(\bar{Q}^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd1Im} & i(Y_d^{\dagger})_{t}(\bar{q}_p^{\dagger}t)(\bar{Q}^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd1Im} & i(Y_d^{\dagger})_{t}(\bar{q}_p^{\dagger}t)(\bar{Q}^{\dagger}d_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtQb1Im} & i(\bar{Q}^{\dagger}t)(\bar{Q}^{\dagger}b)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Re} & (Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{pr}(Y_d^{\dagger})_{st}(\bar{q}_p^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd8Re} & (Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujd8Re} & (Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujd8Re} & (Y_u^{\dagger})_{st}(\bar{Q}^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujd8Re} & (Y_u^{\dagger})_{st}(\bar{q}^{\dagger}T^Au_r)(\bar{q}_s^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujd8Re} & (Y_u^{\dagger})_{sr}(\bar{q}^{\dagger}T^Au_r)(\bar{q}^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujb8Re} & (Y_u^{\dagger})_{sr}(\bar{q}^{\dagger}T^Au_r)(\bar{q}^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujb8Re} & (Y_u^{\dagger})_{sr}(\bar{q}^{\dagger}T^Au_r)(\bar{q}^{\dagger}T^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm clujb8Re} & (Y_u^{\dagger})_{sr}(\bar{q}^{\dagger}T^Au_r)(\bar{q}^{\dagger}T^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cluj1Re} & (Y_u^{$	cjujd1Im		R
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$\begin{array}{llll} {\rm cjuQb1Re} & & & & & & & & & & & & & & & & & & &$	cQtjd1Re		R
$\begin{array}{llll} \text{cjuQb1Im} & i(Y_u^\dag)_{pr}(\bar{q}_p^Iu_r)(\bar{Q}^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQujb1Re} & (Y_u^\dag)_{sr}(\bar{Q}^Iu_r)(\bar{q}_s^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQujb1Im} & i(Y_u^\dag)_{sr}(\bar{Q}^Iu_r)(\bar{q}_s^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjtQd1Re} & (Y_d^\dag)_{pt}(\bar{q}_p^It)(\bar{Q}^Jd_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjtQd1Im} & i(Y_d^\dag)_{pt}(\bar{q}_p^It)(\bar{Q}^Jd_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb1Re} & (\bar{Q}^It)(\bar{Q}^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb1Im} & i(Q^It)(\bar{Q}^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb1Im} & i(\bar{Q}^It)(\bar{Q}^Jb)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjujd8Re} & (Y_u^\dag)_{pr}(Y_d^\dag)_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjujd8Im} & i(Y_u^\dag)_{pr}(Y_d^\dag)_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjujd8IRe} & (Y_u^\dag)_{sr}(Y_d^\dag)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjujd8IIm} & i(Y_u^\dag)_{sr}(Y_d^\dag)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtjd8Re} & (Y_d^\dag)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtjd8Im} & i(Y_d^\dag)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtjd8Im} & i(Y_d^\dag)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cJuQb8Re} & (Y_u^\dag)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQujb8Re} & (Y_u^\dag)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQujb8Im} & i(Y_u^\dag)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cJtQ4BRe} & (Y_u^\dag)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjtQ4BRe} & (Y_u^\dag)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{clequalin} & i(Y_u^\dag)_{sr}(\bar{Q}^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{clequalin} & i(Y_u^\dag)_{st}(\bar{Q}^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Re} & (Y_u^\dag)_{st}(\bar{Q}^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Re} & (Y_u^\dag)_{pr}(\bar{Q}^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{clequalin} & i(Y_u^\dag)_{pr}(\bar{Q}^Ie_p)(\bar{Q}^It)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_u^\dag)_{pr}(\bar{Q}^Ie_p)(\bar{Q}^It)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_u^\dag)$	cQtjd1Im	$i(Y_d^{\dagger})_{st}(\bar{Q}^I t)(\bar{q}_s^J d_t)\varepsilon_{IJ}/TeV^2 + hc$	R
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$ \begin{array}{llllllllllllllllllllllllllllllllllll$	cjuQb1Im	$i(Y_u^{\dagger})_{pr}(\bar{q}_p^I u_r)(\bar{Q}^J b)\varepsilon_{IJ}/TeV^2 + hc$	
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$\begin{array}{llll} {\rm cQtQb1Im} & i(\bar{Q}^It)(\bar{Q}^Jb)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjujd8Re} & (Y_u^\dagger)_{pr}(Y_d^\dagger)_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjujd8Im} & i(Y_u^\dagger)_{pr}(Y_d^\dagger)_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjujd81Re} & (Y_u^\dagger)_{sr}(Y_d^\dagger)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjujd81Im} & i(Y_u^\dagger)_{sr}(Y_d^\dagger)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cQtjd8Re} & (Y_d^\dagger)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cQtjd8Im} & i(Y_d^\dagger)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjuqb8Re} & (Y_u^\dagger)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjuqb8Im} & i(Y_u^\dagger)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cQujb8Im} & i(Y_u^\dagger)_{pr}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cQujb8Im} & i(Y_u^\dagger)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjtqd8Re} & (Y_u^\dagger)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjtqd8Re} & (Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cjtqd8Re} & (Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cqtqb8Re} & (\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cqtqb8Im} & i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^Ab)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm clequ1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm clequ1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm clequ1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm clequ3Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{\ell}_p^Ie_r)(\bar{\ell}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{\ell}_s^Je_r)(\bar{\ell}_s^Je_r)u_t)\varepsilon_{IJ}/TeV^2 + hc & {\rm R} \\ {\rm cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{\ell}_$	•	$i(\underline{Y}_d^{\dagger})_{pt}(\bar{q}_p^I t)(Q^J d_t)\varepsilon_{IJ}/TeV^2 + hc$	
$\begin{array}{llll} {\rm cjujd8Re} & & & & & & & & & & & & & & & & & & &$		$(Q^It)(Q^Jb)\varepsilon_{IJ}/TeV^2 + hc$	
$\begin{array}{lll} {\rm cjujd8Im} & i(Y_u^\dagger)_{pr}(Y_d^\dagger)_{st}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd81Re} & (Y_u^\dagger)_{sr}(Y_d^\dagger)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjujd81Im} & i(Y_u^\dagger)_{sr}(Y_d^\dagger)_{pt}(\bar{q}_p^IT^Au_r)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd8Re} & (Y_d^\dagger)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtjd8Im} & i(Y_d^\dagger)_{st}(\bar{Q}^IT^At)(\bar{q}_s^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjuQb8Im} & i(Y_u^\dagger)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjuQb8Im} & i(Y_u^\dagger)_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb8Re} & (Y_u^\dagger)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb8Im} & i(Y_u^\dagger)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd8Re} & (Y_u^\dagger)_{sr}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd8Im} & i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtQb8Re} & (Q^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtQb8Im} & i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju1Re} & (Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju1Im} & i(Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleQt1Re} & (Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleQt1Im} & i(Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleQt1Im} & i(Y_t^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{q}^Jt)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Re} & (Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^J\sigma_\mu\nu_u)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^J\sigma_\mu\nu_e)(\bar{q}_s^J\sigma^\mu\nu_u)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^J\sigma_\mu\nu_e)(\bar{q}_s^J\sigma^\mu\nu_u)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_t^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^J\sigma_\mu\nu_e)(\bar{q}_s^J\sigma^\mu\nu_u)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3I$			
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$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		$(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^I T^A u_r)(\bar{q}_s^J T^A d_t)\varepsilon_{IJ}/TeV^2 + hc$	
$\begin{array}{llll} {\rm cQtjd8Im} & i(Y_{d}^{\dag})_{st}(\bar{Q}^{I}T^{A}t)(\bar{q}_{s}^{J}T^{A}d_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjuQb8Re} & (Y_{u}^{\dag})_{pr}(\bar{q}_{p}^{I}T^{A}u_{r})(\bar{Q}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjuQb8Im} & i(Y_{u}^{\dag})_{pr}(\bar{q}_{p}^{I}T^{A}u_{r})(\bar{Q}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cQujb8Re} & (Y_{u}^{\dag})_{sr}(\bar{Q}^{I}T^{A}u_{r})(\bar{q}_{s}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cQujb8Im} & i(Y_{u}^{\dag})_{sr}(\bar{Q}^{I}T^{A}u_{r})(\bar{q}_{s}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjtQd8Re} & (Y_{d}^{\dag})_{pt}(\bar{q}_{p}^{I}T^{A}t)(\bar{Q}^{J}T^{A}d_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cjtQd8Im} & i(Y_{d}^{\dag})_{pt}(\bar{q}_{p}^{I}T^{A}t)(\bar{Q}^{J}T^{A}d_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cQtQb8Re} & (\bar{Q}^{I}T^{A}t)(\bar{Q}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cQtQb8Im} & i(\bar{Q}^{I}T^{A}t)(\bar{Q}^{J}T^{A}b)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleju1Re} & (Y_{l}^{\dag})_{pr}(Y_{u}^{\dag})_{st}(\bar{\ell}_{p}^{I}e_{r})(\bar{q}_{s}^{J}u_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleju1Im} & i(Y_{l}^{\dag})_{pr}(Y_{u}^{\dag})_{st}(\bar{\ell}_{p}^{I}e_{r})(\bar{q}_{s}^{J}u_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleQt1Re} & (Y_{l}^{\dag})_{pr}(\bar{\ell}_{p}^{I}e_{r})(\bar{Q}^{J}t)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleQt1Im} & i(Y_{l}^{\dag})_{pr}(\bar{\ell}_{p}^{I}e_{r})(\bar{Q}^{J}t)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleju3Re} & (Y_{l}^{\dag})_{pr}(\bar{\ell}_{p}^{I}e_{r})(\bar{Q}^{J}t)\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleju3Re} & (Y_{l}^{\dag})_{pr}(Y_{u}^{\dag})_{st}(\bar{\ell}_{p}^{I}\sigma_{\mu\nu}e_{r})(\bar{q}_{s}^{J}\sigma^{\mu\nu}u_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_{l}^{\dag})_{pr}(Y_{u}^{\dag})_{st}(\bar{\ell}_{p}^{I}\sigma_{\mu\nu}e_{r})(\bar{q}_{s}^{J}\sigma^{\mu\nu}u_{t})\varepsilon_{IJ}/TeV^{2} + hc} & {\rm R} \\ \end{array}$		$i(Y_u^{\dagger})_{sr}(Y_d^{\dagger})_{pt}(\bar{q}_p^I T^A u_r)(\bar{q}_s^J T^A d_t)\varepsilon_{IJ}/TeV^2 + hc$	
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$\begin{array}{llll} {\rm cjuQb8Im} & i(Y_u^{\dag})_{pr}(\bar{q}_p^IT^Au_r)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb8Re} & (Y_u^{\dag})_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQujb8Im} & i(Y_u^{\dag})_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd8Re} & (Y_d^{\dag})_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cjtQd8Im} & i(Y_d^{\dag})_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtQb8Re} & (\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cQtQb8Im} & i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju1Re} & (Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju1Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleQt1Re} & (Y_l^{\dag})_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleQt1Im} & i(Y_l^{\dag})_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Re} & (Y_l^{\dag})_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Re} & (Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc} & {\rm R} \\ {\rm cleju3Im} & i(Y_l^{\dag})_{pr}(Y_u^{\dag})_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar$	_		
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cQujb8Im $i(Y_u^\dagger)_{sr}(\bar{Q}^IT^Au_r)(\bar{q}_s^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cjtQd8Re $(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cjtQd8Im $i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cQtQb8Re $(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cQtQb8Im $i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleju1Re $(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleju1Im $i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleQt1Re $(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleQt1Im $i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleQt1Im $i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleju3Re $(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$ cleju3Im $i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc \qquad R$	-	$i(Y_u^{\dagger})_{pr}(\bar{q}_p^{\dagger}T^Au_r)(Q^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc$	
$\begin{array}{lll} \text{cjtQd8Re} & (Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cjtQd8Im} & i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb8Re} & (\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb8Im} & i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \end{array}$			
$\begin{array}{lll} \text{cjtQd8Im} & i(Y_d^\dagger)_{pt}(\bar{q}_p^IT^At)(\bar{Q}^JT^Ad_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb8Re} & (\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cQtQb8Im} & i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(V_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \end{array}$			
$\begin{array}{lll} \operatorname{cQtQb8Re} & (\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cQtQb8Im} & i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \end{array}$	=	$(Y_d^{\dagger})_{pt}(\bar{q}_p^T T^A t)(Q^J T^A d_t)\varepsilon_{IJ}/TeV^2 + hc$	
$\begin{array}{lll} \operatorname{cQtQb8Im} & i(\bar{Q}^IT^At)(\bar{Q}^JT^Ab)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \operatorname{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \operatorname{R} \\ \end{array}$	•	$i(Y_d)_{pt}(\bar{q}_p^T T^A t)(Q^T T^A d_t)\varepsilon_{IJ}/TeV^2 + hc$	
$ \begin{array}{lll} \text{cleju1Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \text{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^Ie_r)(\bar{q}_s^Ju_t)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \text{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^Ie_r)(\bar{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \text{R} \\ \end{array} $			
$\begin{array}{lll} \text{cleju1Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\overline{\ell_p^I}e_r)(\overline{q_s^J}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Re} & (Y_l^\dagger)_{pr}(\overline{\ell_p^I}e_r)(\overline{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\overline{\ell_p^I}e_r)(\overline{Q}^Jt)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\overline{\ell_p^I}\sigma_{\mu\nu}e_r)(\overline{q_s^J}\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\overline{\ell_p^I}\sigma_{\mu\nu}e_r)(\overline{q_s^J}\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \end{array}$			
$ \begin{array}{lll} \text{cleQt1Re} & (Y_l^\dagger)_{pr}(\bar{\ell}_p^I e_r)(\bar{Q}^J t) \varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^I e_r)(\bar{Q}^J t) \varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I \sigma_{\mu\nu} e_r)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I \sigma_{\mu\nu} e_r)(\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ}/TeV^2 + hc & \mathbf{R} \\ \end{array} $	=	$(Y_l^{\dagger})_{pr}(Y_u^{\dagger})_{st}(\ell_p^{\dagger}e_r)(q_s^{\prime\prime}u_t)\varepsilon_{IJ}/TeV^2 + hc$	
$ \begin{array}{lll} \text{cleQt1Im} & i(Y_l^\dagger)_{pr}(\bar{\ell}_p^I e_r)(\bar{Q}^J t)\varepsilon_{IJ}/TeV^2 + hc & \mathrm{R} \\ \text{cleju3Re} & (Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I \sigma_{\mu\nu}e_r)(\bar{q}_s^J \sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathrm{R} \\ \text{cleju3Im} & i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I \sigma_{\mu\nu}e_r)(\bar{q}_s^J \sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc & \mathrm{R} \\ \end{array} $			
cleju3Re $ (Y_l^\dagger)_{pr} (Y_u^\dagger)_{st} (\bar{\ell}_p^I \sigma_{\mu\nu} e_r) (\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ} / TeV^2 + hc \qquad \mathbf{R} $ cleju3Im $ i (Y_l^\dagger)_{pr} (Y_u^\dagger)_{st} (\bar{\ell}_p^I \sigma_{\mu\nu} e_r) (\bar{q}_s^J \sigma^{\mu\nu} u_t) \varepsilon_{IJ} / TeV^2 + hc \qquad \mathbf{R} $			
cleju3Im $i(Y_l^\dagger)_{pr}(Y_u^\dagger)_{st}(\bar{\ell}_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2+hc$ R	•	$i(Y_l^{\dagger})_{pr}(\ell_p^I e_r)(Q^J t)\varepsilon_{IJ}/TeV^2 + hc$	
cleju3Im $i(Y_l^\intercal)_{pr}(Y_u^\dagger)_{st}(\ell_p^I\sigma_{\mu\nu}e_r)(\bar{q}_s^J\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2+hc$ R	=	$(Y_l^{\dagger})_{pr}(Y_u^{\dagger})_{st}(\ell_{p\sigma\mu\nu}^{\dagger}e_r)(\bar{q}_s^{\dagger}\sigma^{\mu\nu}u_t)\varepsilon_{IJ}/TeV^2 + hc$	
그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그	<del>-</del>	$i(Y_l^{\dagger})_{pr}(Y_u^{\dagger})_{st}(\ell_p^I \sigma_{\mu\nu} e_r)(\bar{q}_s^J \sigma^{\mu\nu} u_t)\varepsilon_{IJ}/TeV^2 + hc$	
cleQt3Re $(Y_l^\dagger)_{pr}(\bar{Q}^I_p\sigma_{\mu\nu}e_r)(\bar{Q}^J\sigma^{\mu\nu}t)\varepsilon_{IJ}/TeV^2+hc$ R	cleQt3Re	$(Y_l^{\dagger})_{pr}(\ell_p^I \sigma_{\mu\nu} e_r)(Q^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/TeV^2 + hc$	R

WC name	Operator	Type
cleQt3Im	$i(Y_l^{\dagger})_{pr}(\bar{\ell}_p^I \sigma_{\mu\nu} e_r)(\bar{Q}^J \sigma^{\mu\nu} t) \varepsilon_{IJ}/TeV^2 + hc$	R