Basis flavio (EFT WET-4)

Sectors

The effective Lagrangian is defined as

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

sdsd

WC name	Operator	Type
CVLL_sdsd	$(\bar{d}_L \gamma^\mu s_L)(\bar{d}_L \gamma_\mu s_L)$	С
CVRR_sdsd	$(\bar{d}_R \gamma^\mu s_R)(\bar{d}_R \gamma_\mu s_R)$	\mathbf{C}
CSLL_sdsd	$(ar{d}_R s_L)(ar{d}_R s_L)$	\mathbf{C}
CSRR_sdsd	$(ar{d}_L s_R)(ar{d}_L s_R)$	\mathbf{C}
CTLL_sdsd	$(\bar{d}_R \sigma^{\mu\nu} s_L)(\bar{d}_R \sigma_{\mu\nu} s_L)$	\mathbf{C}
CTRR_sdsd	$(\bar{d}_L \sigma^{\mu\nu} s_R)(\bar{d}_L \sigma_{\mu\nu} s_R)$	\mathbf{C}
CVLR_sdsd	$(\bar{d}_L \gamma^\mu s_L)(\bar{d}_R \gamma_\mu s_R)$	\mathbf{C}
CSLR_sdsd	$(ar{d}_R s_L)(ar{d}_L s_R)$	\mathbf{C}

sdnunu

WC name	Operator	Type
CL_sdnuenue	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^{\mu}d_L)(\bar{\nu}_e\gamma_{\mu}(1-\gamma_5)\nu_e)$	
CL_sdnumunumu	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\mu\gamma_\mu(1-\gamma_5)\nu_\mu)$	\mathbf{C}
CL_sdnutaunutau	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\tau\gamma_\mu(1-\gamma_5)\nu_\tau)$	\mathbf{C}
CL_sdnuenumu	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\mu\gamma_\mu(1-\gamma_5)\nu_e)$	\mathbf{C}
CL_sdnumunue	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_e\gamma_\mu(1-\gamma_5)\nu_\mu)$	\mathbf{C}
CL_sdnumunutau	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^* \frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\tau\gamma_\mu(1-\gamma_5)\nu_\mu)$	\mathbf{C}
CL_sdnutaunumu	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\mu\gamma_\mu(1-\gamma_5)\nu_ au)$	\mathbf{C}
CL_sdnuenutau	$\frac{\sqrt{G_F}}{\sqrt{2}}V_{td}V_{ts}^* \frac{e^2}{16\pi^2}(\bar{s}_L\gamma^\mu d_L)(\bar{\nu}_\tau\gamma_\mu(1-\gamma_5)\nu_e)$	\mathbf{C}
CL_sdnutaunue	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_L\gamma^{\mu}d_L)(\bar{\nu}_e\gamma_{\mu}(1-\gamma_5)\nu_{ au})$	\mathbf{C}
CR_sdnuenue	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_R\gamma^\mu d_R)(\bar{\nu}_e\gamma_\mu(1-\gamma_5)\nu_e)$	\mathbf{C}
CR_sdnumunumu	$\frac{\sqrt{G_F}}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_R\gamma^\mu d_R)(\bar{\nu}_\mu\gamma_\mu(1-\gamma_5)\nu_\mu)$	\mathbf{C}
CR_sdnutaunutau	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^* \frac{e^2}{16\pi^2}(\bar{s}_R\gamma^\mu d_R)(\bar{\nu}_\tau\gamma_\mu(1-\gamma_5)\nu_\tau)$	\mathbf{C}
CR_sdnuenumu	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_R\gamma^\mu d_R)(\bar{\nu}_\mu\gamma_\mu(1-\gamma_5)\nu_e)$	\mathbf{C}

WC name	Operator	Type
CR_sdnumunue	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R) (\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
${\tt CR_sdnumunutau}$	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_R\gamma^{\mu}d_R)(\bar{\nu}_{\tau}\gamma_{\mu}(1-\gamma_5)\nu_{\mu})$	\mathbf{C}
CR_sdnutaunumu	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^*\frac{e^2}{16\pi^2}(\bar{s}_R\gamma^{\mu}d_R)(\bar{\nu}_{\mu}\gamma_{\mu}(1-\gamma_5)\nu_{\tau})$	\mathbf{C}
CR_sdnuenutau	$\frac{4G_F}{\sqrt{2}}V_{td}V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R\gamma^{\mu}d_R)(\bar{\nu}_{\tau}\gamma_{\mu}(1-\gamma_5)\nu_e)$	\mathbf{C}
CR_sdnutaunue	$rac{\sqrt{4G_F}}{\sqrt{2}} V_{td} V_{ts}^* rac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R) (\bar{\nu}_e \gamma_\mu (1 - \gamma_5) \nu_ au)$	\mathbf{C}

usenu

WC name	Operator	Type
CVL_suenue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{e}_L\gamma_{\mu}\nu_{eL})$	C
CVR_suenue	$-rac{4reve{G_F}}{\sqrt{2}}V_{us}(ar{u}_R\gamma^\mu s_R)(ar{e}_L\gamma_\mu u_{eL})$	\mathbf{C}
CSR_suenue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{e}_R \nu_{eL})$	\mathbf{C}
CSL_suenue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R s_L)(\bar{e}_R \nu_{eL})$	\mathbf{C}
CT_suenue	$-rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_R\sigma^{\mu u}s_L)(ar{e}_R\sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_suenumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{e}_L\gamma_{\mu}\nu_{\mu L})$	\mathbf{C}
CVR_suenumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\gamma^\mu s_R)(\bar{e}_L\gamma_\mu\nu_{\mu L})$	\mathbf{C}
CSR_suenumu	$-\frac{4G_F^2}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{e}_R \nu_{\mu L})$	\mathbf{C}
CSL_suenumu	$-\frac{4\overset{\zeta}{G_F}}{\sqrt{2}}V_{us}(\bar{u}_Rs_L)(\bar{e}_R\nu_{\mu L})$	\mathbf{C}
CT_suenumu	$-rac{4rac{rack{G}_F}{\sqrt{2}}}{\sqrt{2}}V_{us}(ar{u}_R\sigma^{\mu u}s_L)(ar{e}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_suenutau	$-rac{4\overset{\zeta_G}{V_D}}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{e}_L\gamma_{\mu} u_{\tau L})$	\mathbf{C}
CVR_suenutau	$-rac{4rac{rack{G}_F}{\sqrt{2}}}{\sqrt{2}}V_{us}(ar{u}_R\gamma^\mu s_R)(ar{e}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CSR_suenutau	$-\frac{4\tilde{Q}_F^2}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{e}_R \nu_{\tau L})$	\mathbf{C}
CSL_suenutau	$-\frac{4\overset{\zeta}{G_F}}{\sqrt{2}}V_{us}(\bar{u}_Rs_L)(\bar{e}_R u_{\tau L})$	\mathbf{C}
CT_suenutau	$-\frac{4G_F^2}{\sqrt{2}}V_{us}(\bar{u}_R\sigma^{\mu\nu}s_L)(\bar{e}_R\sigma_{\mu\nu}\nu_{\tau L})$	\mathbf{C}

csenu

WC name	Operator	Type
CVL_scenue	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^\mu s_L)(\bar{e}_L\gamma_\mu \nu_{eL})$	$\overline{\mathbf{C}}$
CVR_scenue	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^{\mu}s_L)(\bar{e}_L\gamma_{\mu}\nu_{eL}) \\ -\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_R\gamma^{\mu}s_R)(\bar{e}_L\gamma_{\mu}\nu_{eL})$	$^{\mathrm{C}}$
CSR_scenue	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L s_R)(\bar{e}_R \nu_{eL})$	\mathbf{C}
CSL_scenue	$-rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_L s_R)(ar{e}_R u_{eL}) \ -rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_R s_L)(ar{e}_R u_{eL})$	\mathbf{C}
CT_scenue	$-rac{4ar{G}_F^2}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{e}_R\sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_scenumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^\mu s_L)(\bar{e}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_scenumu	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{e}_L\gamma_\mu u_{\mu L})$	C

WC name	Operator	Type
CSR_scenumu	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L s_R)(\bar{e}_R \nu_{\mu L})$	С
CSL_scenumu	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_R s_L)(\bar{e}_R \nu_{\mu L})$	\mathbf{C}
CT_scenumu	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_R\sigma^{\mu\nu}s_L)(\bar{e}_R\sigma_{\mu\nu}\nu_{\mu L})$	\mathbf{C}
CVL_scenutau	$-rac{4 \widetilde{G}_F^2}{\sqrt{2}} V_{cs} (\bar{c}_L \gamma^\mu s_L) (\bar{e}_L \gamma_\mu u_{\tau L})$	\mathbf{C}
CVR_scenutau	$-rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{e}_L\gamma_\mu u_{ au L})$	$^{\mathrm{C}}$
CSR_scenutau	$-rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_L s_R)(ar{e}_R u_{ au L})$	\mathbf{C}
CSL_scenutau	$-rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_Rs_L)(ar{e}_R u_{ au L})$	\mathbf{C}
CT_scenutau	$-rac{4ar{G_F}}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{e}_R\sigma_{\mu u} u_{ au L})$	$^{\mathrm{C}}$

cdenu

WC name	Operator	Type
CVL_dcenue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_L\gamma^\mu d_L)(\bar{e}_L\gamma_\mu\nu_{eL})$	
CVR_dcenue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{e}_L\gamma_\mu\nu_{eL})$	\mathbf{C}
CSR_dcenue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{e}_R\nu_{eL})$	\mathbf{C}
CSL_dcenue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_Rd_L)(\bar{e}_R\nu_{eL})$	\mathbf{C}
CT_dcenue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\sigma^{\mu\nu}d_L)(\bar{e}_R\sigma_{\mu\nu}\nu_{eL})$	\mathbf{C}
CVL_dcenumu	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_L\gamma^\mu d_L)(\bar{e}_L\gamma_\mu\nu_{\mu L})$	\mathbf{C}
CVR_dcenumu	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{e}_L\gamma_\mu\nu_{\mu L})$	\mathbf{C}
CSR_dcenumu	$-\frac{4\check{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{e}_R\nu_{\mu L})$	\mathbf{C}
CSL_dcenumu	$-\frac{4\check{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_Rd_L)(\bar{e}_R u_{\mu L})$	\mathbf{C}
CT_dcenumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_R\sigma^{\mu u}d_L)(\bar{e}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_dcenutau	$-rac{4 \check{G}_F}{\sqrt{2}} V_{cd} (\bar{c}_L \gamma^\mu d_L) (\bar{e}_L \gamma_\mu u_{\tau L})$	\mathbf{C}
CVR_dcenutau	$-\frac{4 \check{G}_F}{\sqrt{2}} V_{cd} (\bar{c}_R \gamma^\mu d_R) (\bar{e}_L \gamma_\mu \nu_{\tau L})$	\mathbf{C}
CSR_dcenutau	$-\frac{4\overset{\circ}{G_F}}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{e}_R\nu_{\tau L})$	\mathbf{C}
CSL_dcenutau	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(ar{c}_Rd_L)(ar{e}_R u_{ au L})$	\mathbf{C}
CT_dcenutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cd}(ar{c}_R\sigma^{\mu u}d_L)(ar{e}_R\sigma_{\mu u} u_{ au L})$	\mathbf{C}

usmunu

WC name	Operator	Type
CVL_sumunue	$-rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_L\gamma^\mu s_L)(ar{\mu}_L\gamma_\mu u_{eL})$	С
CVR_sumunue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{\mu}_L\gamma_{\mu}\nu_{eL}) \\ -\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\gamma^{\mu}s_R)(\bar{\mu}_L\gamma_{\mu}\nu_{eL})$	\mathbf{C}
CSR_sumunue	$-\frac{4\bar{G}_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\mu}_R \nu_{eL})$	\mathbf{C}
CSL_sumunue	$-rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_L s_R)(ar{\mu}_R u_{eL}) \ -rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_R s_L)(ar{\mu}_R u_{eL})$	\mathbf{C}

WC name	Operator	Type
CT_sumunue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\sigma^{\mu\nu}s_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{eL})$	С
CVL_sumunumu	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^\mu s_L)(\bar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_sumunumu	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{us}(\bar{u}_R\gamma^\mu s_R)(\bar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_sumunumu	$-rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_L s_R)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CSL_sumunumu	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{us}(ar{u}_Rs_L)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CT_sumunumu	$-rac{4 \widetilde{G}_F}{\sqrt{2}} V_{us} (ar{u}_R \sigma^{\mu u} s_L) (ar{\mu}_R \sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_sumunutau	$-rac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^\mu s_L)(\bar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_sumunutau	$-rac{4G_F}{\sqrt{2}}V_{us}(ar{u}_R\gamma^\mu s_R)(ar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CSR_sumunutau	$-rac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_Ls_R)(\bar{\mu}_R u_{ au L})$	\mathbf{C}
CSL_sumunutau	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{us}(ar{u}_Rs_L)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CT_sumunutau	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{us}(ar{u}_R\sigma^{\mu u}s_L)(ar{\mu}_R\sigma_{\mu u} u_{ au L})$	С

csmunu

WC name	Operator	Type
CVL_scmunue	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^{\mu}s_L)(\bar{\mu}_L\gamma_{\mu}\nu_{eL})$	C
CVR_scmunue	$-rac{4\widetilde{G}_F^c}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{\mu}_L\gamma_\mu u_{eL})$	\mathbf{C}
CSR_scmunue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_L s_R)(\bar{\mu}_R \nu_{eL})$	\mathbf{C}
CSL_scmunue	$-rac{4rac{G_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_R s_L)(ar{\mu}_R u_{eL})$	\mathbf{C}
CT_scmunue	$-rac{4ar{Q}_F^2}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{\mu}_R\sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_scmunumu	$-rac{4rac{arphi_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_L\gamma^\mu s_L)(ar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_scmunumu	$-rac{4rac{arphi_F}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_scmunumu	$-rac{4rac{arphi_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_L s_R)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CSL_scmunumu	$-rac{4rac{arphi_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_Rs_L)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CT_scmunumu	$-rac{4rac{arphi_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{\mu}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_scmunutau	$-rac{4rac{G_F}}{\sqrt{2}}V_{cs}(ar{c}_L\gamma^\mu s_L)(ar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_scmunutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cs}(\bar{c}_R\gamma^\mu s_R)(\bar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CSR_scmunutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cs}(ar{c}_L s_R)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CSL_scmunutau	$-rac{4rac{G_F}{\sqrt{2}}}{\sqrt{2}}V_{cs}(ar{c}_Rs_L)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CT_scmunutau	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{\mu}_R\sigma_{\mu u} u_{ au L})$	\mathbf{C}

$\operatorname{\mathtt{cdmunu}}$

WC name	Operator	Type
CVL_dcmunue	$-rac{4G_F}{\sqrt{2}}V_{cd}(ar{c}_L\gamma^\mu d_L)(ar{\mu}_L\gamma_\mu u_{eL})$	C

WC name	Operator	Type
CVR_dcmunue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{\mu}_L\gamma_\mu\nu_{eL})$	C
CSR_dcmunue	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cd}(ar{c}_Ld_R)(ar{\mu}_R u_{eL})$	\mathbf{C}
CSL_dcmunue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_Rd_L)(\bar{\mu}_R\nu_{eL})$	\mathbf{C}
CT_dcmunue	$-rac{4ar{G}_F}{\sqrt{2}}V_{cd}(ar{c}_R\sigma^{\mu u}d_L)(ar{\mu}_R\sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_dcmunumu	$-rac{4 ilde{G}_F}{\sqrt{2}}V_{cd}(ar{c}_L\gamma^\mu d_L)(ar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_dcmunumu	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_dcmunumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{cd}(ar{c}_Ld_R)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CSL_dcmunumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{cd}(ar{c}_Rd_L)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CT_dcmunumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{cd}(ar{c}_R\sigma^{\mu u}d_L)(ar{\mu}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_dcmunutau	$-rac{4ar{G}_F}{\sqrt{2}}V_{cd}(ar{c}_L\gamma^\mu d_L)(ar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_dcmunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{\mu}_L\gamma_\mu u_{\tau L})$	\mathbf{C}
CSR_dcmunutau	$-rac{4ar{G_F}}{\sqrt{2}}V_{cd}(ar{c}_Ld_R)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CSL_dcmunutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{cd}(ar{c}_Rd_L)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CT_dcmunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\sigma^{\mu\nu}d_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{\tau L})$	С

ustaunu

WC name	Operator	Type
CVL_sutaunue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{\tau}_L\gamma_{\mu}\nu_{eL})$	C
CVR_sutaunue	$-rac{4 ilde{Q}_F^2}{\sqrt{2}}V_{us}(ar{u}_R\gamma^\mu s_R)(ar{ au}_L\gamma_\mu u_{eL})$	$^{\mathrm{C}}$
CSR_sutaunue	$-\frac{4\tilde{G}_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\tau}_R \nu_{eL})$	\mathbf{C}
CSL_sutaunue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_Rs_L)(\bar{\tau}_R\nu_{eL})$	\mathbf{C}
CT_sutaunue	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\sigma^{\mu\nu}s_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{eL})$	\mathbf{C}
CVL_sutaunumu	$-rac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^\mu s_L)(\bar{ au}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_sutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\gamma^{\mu}s_R)(\bar{\tau}_L\gamma_{\mu}\nu_{\mu L})$	\mathbf{C}
CSR_sutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\tau}_R \nu_{\mu L})$	\mathbf{C}
CSL_sutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_Rs_L)(\bar{\tau}_R\nu_{\mu L})$	\mathbf{C}
CT_sutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\sigma^{\mu\nu}s_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{\mu L})$	\mathbf{C}
CVL_sutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L\gamma^{\mu}s_L)(\bar{\tau}_L\gamma_{\mu}\nu_{\tau L})$	\mathbf{C}
CVR_sutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R\gamma^{\mu}s_R)(\bar{\tau}_L\gamma_{\mu}\nu_{\tau L})$	\mathbf{C}
CSR_sutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\tau}_R \nu_{\tau L})$	\mathbf{C}
CSL_sutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R s_L)(\bar{\tau}_R \nu_{\tau L})$	\mathbf{C}
CT_sutaunutau	$-rac{4 \overleftarrow{G_F}}{\sqrt{2}} V_{us} (ar{u}_R \sigma^{\mu u} s_L) (ar{ au}_R \sigma_{\mu u} u_{ au L})$	\mathbf{C}

${\tt cstaunu}$

WC name	Operator	Type
CVL_sctaunue	$-\frac{4G_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^{\mu}s_L)(\bar{\tau}_L\gamma_{\mu}\nu_{eL})$	C
CVR_sctaunue	$-rac{4\overset{\sim}{G_F}}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{ au}_L\gamma_\mu u_{eL})$	\mathbf{C}
CSR_sctaunue	$-\frac{4\overset{\sim}{G_F}}{\sqrt{2}}V_{cs}(\bar{c}_L s_R)(\bar{\tau}_R \nu_{eL})$	$^{\mathrm{C}}$
CSL_sctaunue	$-\frac{4\ddot{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_Rs_L)(\bar{\tau}_R\nu_{eL})$	$^{\mathrm{C}}$
CT_sctaunue	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(ar{c}_R\sigma^{\mu u}s_L)(ar{ au}_R\sigma_{\mu u} u_{eL})$	$^{\mathrm{C}}$
CVL_sctaunumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(ar{c}_L\gamma^\mu s_L)(ar{ au}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_sctaunumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(ar{c}_R\gamma^\mu s_R)(ar{ au}_L\gamma_\mu u_{\mu L})$	$^{\mathrm{C}}$
CSR_sctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cs}(ar{c}_L s_R)(ar{ au}_R u_{\mu L})$	$^{\mathrm{C}}$
CSL_sctaunumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_Rs_L)(\bar{ au}_R u_{\mu L})$	\mathbf{C}
CT_sctaunumu	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_R\sigma^{\mu u}s_L)(\bar{ au}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_sctaunutau	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_L\gamma^\mu s_L)(\bar{ au}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_sctaunutau	$-rac{4\ddot{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_R\gamma^\mu s_R)(\bar{ au}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CSR_sctaunutau	$-rac{4\check{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_L s_R)(\bar{ au}_R u_{ au L})$	\mathbf{C}
CSL_sctaunutau	$-rac{4\overset{\sim}{G_F}}{\sqrt{2}}V_{cs}(ar{c}_Rs_L)(ar{ au}_R u_{ au L})$	\mathbf{C}
CT_sctaunutau	$-\frac{4\overleftarrow{G}_F}{\sqrt{2}}V_{cs}(\bar{c}_R\sigma^{\mu\nu}s_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{\tau L})$	С

${\tt cdtaunu}$

WC name	Operator	Type
CVL_dctaunue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_L\gamma^\mu d_L)(\bar{\tau}_L\gamma_\mu\nu_{eL})$	C
CVR_dctaunue	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(ar{c}_R\gamma^\mu d_R)(ar{ au}_L\gamma_\mu u_{eL})$	$^{\mathrm{C}}$
CSR_dctaunue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{\tau}_R\nu_{eL})$	\mathbf{C}
CSL_dctaunue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{cd}(\bar{c}_Rd_L)(\bar{\tau}_R\nu_{eL})$	$^{\mathrm{C}}$
CT_dctaunue	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\sigma^{\mu\nu}d_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{eL})$	$^{\mathrm{C}}$
CVL_dctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cd}(ar{c}_L\gamma^\mu d_L)(ar{ au}_L\gamma_\mu u_{\mu L})$	$^{\mathrm{C}}$
CVR_dctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cd}(ar{c}_R\gamma^\mu d_R)(ar{ au}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_dctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{ au}_R u_{\mu L})$	\mathbf{C}
CSL_dctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cd}(ar{c}_Rd_L)(ar{ au}_R u_{\mu L})$	\mathbf{C}
CT_dctaunumu	$-rac{4G_F}{\sqrt{2}}V_{cd}(ar{c}_R\sigma^{\mu u}d_L)(ar{ au}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_dctaunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_L\gamma^\mu d_L)(\bar{\tau}_L\gamma_\mu u_{\tau L})$	$^{\mathrm{C}}$
CVR_dctaunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_R\gamma^\mu d_R)(\bar{\tau}_L\gamma_\mu\nu_{\tau L})$	\mathbf{C}
CSR_dctaunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_Ld_R)(\bar{\tau}_R\nu_{\tau L})$	$^{\mathrm{C}}$
CSL_dctaunutau	$-\frac{4G_F}{\sqrt{2}}V_{cd}(\bar{c}_Rd_L)(\bar{\tau}_R\nu_{\tau L})$	$^{\mathrm{C}}$
CT_dctaunutau	$-\frac{4G_F^2}{\sqrt{2}}V_{cd}(\bar{c}_R\sigma^{\mu\nu}d_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{\tau L})$	С

udenu

WC name	Operator	Type
CVL_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^\mu d_L)(\bar{e}_L\gamma_\mu\nu_{eL})$	
CVR_duenue	$-rac{4\check{G}_F^c}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^\mu d_R)(\bar{e}_L\gamma_\mu u_{eL})$	$^{\mathrm{C}}$
CSR_duenue	$-\frac{4\widetilde{G_F}}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{e}_R u_{eL})$	$^{\mathrm{C}}$
CSL_duenue	$-\frac{4\check{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{e}_R\nu_{eL})$	\mathbf{C}
CT_duenue	$-rac{4 {ar G_F}}{\sqrt{2}} V_{ud} (ar u_R \sigma^{\mu u} d_L) (ar e_R \sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_duenumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_L\gamma^\mu d_L)(ar{e}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_duenumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\gamma^\mu d_R)(ar{e}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_duenumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_Ld_R)(ar{e}_R u_{\mu L})$	\mathbf{C}
CSL_duenumu	$-rac{4 \widetilde{G_F}}{\sqrt{2}} V_{ud}(ar{u}_R d_L)(ar{e}_R u_{\mu L})$	\mathbf{C}
CT_duenumu	$-rac{4 \widetilde{G_F}}{\sqrt{2}} V_{ud} (ar{u}_R \sigma^{\mu u} d_L) (ar{e}_R \sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_duenutau	$-rac{4reve{G_F}}{\sqrt{2}}V_{ud}(ar{u}_L\gamma^\mu d_L)(ar{e}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_duenutau	$-rac{4reve{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\gamma^\mu d_R)(ar{e}_L\gamma_\mu u_{ au L})$	$^{\mathrm{C}}$
CSR_duenutau	$-\frac{4\check{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{e}_R u_{\tau L})$	\mathbf{C}
CSL_duenutau	$-rac{4\check{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{e}_R u_{ au L})$	\mathbf{C}
CT_duenutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\sigma^{\mu u}d_L)(ar{e}_R\sigma_{\mu u} u_{ au L})$	C

${\tt udmunu}$

WC name	Operator	Type
CVL_dumunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^\mu d_L)(\bar{\mu}_L\gamma_\mu\nu_{eL})$	C
CVR_dumunue	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\gamma^\mu d_R)(ar{\mu}_L\gamma_\mu u_{eL})$	$^{\mathrm{C}}$
CSR_dumunue	$-\frac{4\tilde{G_F}}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\mu}_R\nu_{eL})$	\mathbf{C}
CSL_dumunue	$-rac{4 ilde{G_F}}{\sqrt{2}}V_{ud}(ar{u}_Rd_L)(ar{\mu}_R u_{eL})$	\mathbf{C}
CT_dumunue	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\sigma^{\mu u}d_L)(ar{\mu}_R\sigma_{\mu u} u_{eL})$	\mathbf{C}
CVL_dumunumu	$-rac{4 ilde{G}_F}{\sqrt{2}}V_{ud}(ar{u}_L\gamma^\mu d_L)(ar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CVR_dumunumu	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{ud}(ar{u}_R\gamma^\mu d_R)(ar{\mu}_L\gamma_\mu u_{\mu L})$	\mathbf{C}
CSR_dumunumu	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{ud}(ar{u}_Ld_R)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CSL_dumunumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_Rd_L)(ar{\mu}_R u_{\mu L})$	\mathbf{C}
CT_dumunumu	$-rac{4ar{G_F}}{\sqrt{2}}V_{ud}(ar{u}_R\sigma^{\mu u}d_L)(ar{\mu}_R\sigma_{\mu u} u_{\mu L})$	\mathbf{C}
CVL_dumunutau	$-rac{4\widetilde{G_F}}{\sqrt{2}}V_{ud}(ar{u}_L\gamma^\mu d_L)(ar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CVR_dumunutau	$-rac{4\check{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^\mu d_R)(\bar{\mu}_L\gamma_\mu u_{ au L})$	\mathbf{C}
CSR_dumunutau	$-rac{4G_F}{\sqrt{2}}V_{ud}(ar{u}_Ld_R)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CSL_dumunutau	$-rac{4G_F}{\sqrt{2}}V_{ud}(ar{u}_Rd_L)(ar{\mu}_R u_{ au L})$	\mathbf{C}
CT_dumunutau	$-\frac{4\overleftarrow{Q_F}}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{\tau L})$	С

udtaunu

WC name	Operator	Type
CVL_dutaunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^\mu d_L)(\bar{\tau}_L\gamma_\mu\nu_{eL})$	C
CVR_dutaunue	$-\frac{4\widetilde{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^\mu d_R)(\bar{\tau}_L\gamma_\mu\nu_{eL})$	\mathbf{C}
CSR_dutaunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\tau}_R\nu_{eL})$	\mathbf{C}
CSL_dutaunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{\tau}_R\nu_{eL})$	\mathbf{C}
CT_dutaunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{eL})$	\mathbf{C}
CVL_dutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^\mu d_L)(\bar{\tau}_L\gamma_\mu\nu_{\mu L})$	\mathbf{C}
CVR_dutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^\mu d_R)(\bar{\tau}_L\gamma_\mu\nu_{\mu L})$	\mathbf{C}
CSR_dutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\tau}_R\nu_{\mu L})$	\mathbf{C}
CSL_dutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{\tau}_R\nu_{\mu L})$	\mathbf{C}
CT_dutaunumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\tau}_R\sigma_{\mu\nu}\nu_{\mu L})$	\mathbf{C}
${\tt CVL_dutaunutau}$	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^\mu d_L)(\bar{\tau}_L\gamma_\mu\nu_{\tau L})$	\mathbf{C}
CVR_dutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^\mu d_R)(\bar{\tau}_L\gamma_\mu\nu_{\tau L})$	\mathbf{C}
CSR_dutaunutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\tau}_R\nu_{\tau L})$	\mathbf{C}
CSL_dutaunutau	$-rac{4\widetilde{G}_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{ au}_R u_{ au L})$	\mathbf{C}
CT_dutaunutau	$-\frac{4\tilde{V}_{F}^{2}}{\sqrt{2}}V_{ud}(\bar{u}_{R}\sigma^{\mu\nu}d_{L})(\bar{\tau}_{R}\sigma_{\mu\nu}\nu_{\tau L})$	С