Basis `flavio` (EFT `WET-3`)

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`	$(\bar{d}_L \gamma^\mu s_L)(\bar{d}_L \gamma_\mu s_L)$	C
`CVRR_sdsd`	$(\bar{d}_R \gamma^\mu s_R)(\bar{d}_R \gamma_\mu s_R)$	C
`CSLL_sdsd`	$(\bar{d}_R s_L)(\bar{d}_R s_L)$	C
`CSRR_sdsd`	$(\bar{d}_L s_R)(\bar{d}_L s_R)$	C
`CTLL_sdsd`	$(\bar{d}_R \sigma^{\mu\nu} s_L)(\bar{d}_R \sigma_{\mu\nu} s_L)$	C
`CTRR_sdsd`	$(\bar{d}_L \sigma^{\mu\nu} s_R)(\bar{d}_L \sigma_{\mu\nu} s_R)$	C
`CVLR_sdsd`	$(\bar{d}_L \gamma^\mu s_L)(\bar{d}_R \gamma_\mu s_R)$	C
`CSLR_sdsd`	$(\bar{d}_R s_L)(\bar{d}_L s_R)$	C

`sdnunu`

WC name	Operator	Type
`CL_sdnuenue`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_e)$	C
`CL_sdnumunumu`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
`CL_sdnutaunutau`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_\tau)$	C
`CL_sdnuenumu`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_e)$	C
`CL_sdnumunue`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
`CL_sdnumunutau`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
`CL_sdnutaunumu`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_\tau)$	C
`CL_sdnuenutau`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_e)$	C
`CL_sdnutaunue`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_L \gamma^\mu d_L)(\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_\tau)$	C
`CR_sdnuenue`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_e)$	C
`CR_sdnumunumu`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
`CR_sdnutaunutau`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_\tau)$	C
`CR_sdnuenumu`	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_e)$	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
CR_sdnumunutau	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_\mu)$	C
CR_sdnutaunumu	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\mu \gamma_\mu (1-\gamma_5) \nu_\tau)$	C
CR_sdnuenutau	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_\tau \gamma_\mu (1-\gamma_5) \nu_e)$	C
CR_sdnutaunue	$\frac{4G_F}{\sqrt{2}} V_{td} V_{ts}^* \frac{e^2}{16\pi^2} (\bar{s}_R \gamma^\mu d_R)(\bar{\nu}_e \gamma_\mu (1-\gamma_5) \nu_\tau)$	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	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \gamma^\mu s_R)(\bar{e}_L \gamma_\mu \nu_{eL})$	C
CSR_suenue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L s_R)(\bar{e}_R \nu_{eL})$	C
CSL_suenue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R s_L)(\bar{e}_R \nu_{eL})$	C
CT_suenue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{eL})$	C
CVL_suenumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L \gamma^\mu s_L)(\bar{e}_L \gamma_\mu \nu_{\mu L})$	C
CVR_suenumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \gamma^\mu s_R)(\bar{e}_L \gamma_\mu \nu_{\mu L})$	C
CSR_suenumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L s_R)(\bar{e}_R \nu_{\mu L})$	C
CSL_suenumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R s_L)(\bar{e}_R \nu_{\mu L})$	C
CT_suenumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{\mu L})$	C
CVL_suenutau	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L \gamma^\mu s_L)(\bar{e}_L \gamma_\mu \nu_{\tau L})$	C
CVR_suenutau	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \gamma^\mu s_R)(\bar{e}_L \gamma_\mu \nu_{\tau L})$	C
CSR_suenutau	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L s_R)(\bar{e}_R \nu_{\tau L})$	C
CSL_suenutau	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R s_L)(\bar{e}_R \nu_{\tau L})$	C
CT_suenutau	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{\tau L})$	C

usmunu

WC name	Operator	Type
CVL_sumunue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L \gamma^\mu s_L)(\bar{\mu}_L \gamma_\mu \nu_{eL})$	C
CVR_sumunue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \gamma^\mu s_R)(\bar{\mu}_L \gamma_\mu \nu_{eL})$	C
CSR_sumunue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L s_R)(\bar{\mu}_R \nu_{eL})$	C
CSL_sumunue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R s_L)(\bar{\mu}_R \nu_{eL})$	C
CT_sumunue	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{\mu}_R \sigma_{\mu\nu} \nu_{eL})$	C
CVL_sumunumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_L \gamma^\mu s_L)(\bar{\mu}_L \gamma_\mu \nu_{\mu L})$	C
CVR_sumunumu	$-\frac{4G_F}{\sqrt{2}} V_{us} (\bar{u}_R \gamma^\mu s_R)(\bar{\mu}_L \gamma_\mu \nu_{\mu L})$	C

WC name	Operator	Type
CSR_sumunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\mu}_R \nu_{\mu L})$	C
CSL_sumunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R s_L)(\bar{\mu}_R \nu_{\mu L})$	C
CT_sumunumu	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{\mu}_R \sigma_{\mu\nu} \nu_{\mu L})$	C
CVL_sumunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L \gamma^{\mu} s_L)(\bar{\mu}_L \gamma_{\mu} \nu_{\tau L})$	C
CVR_sumunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R \gamma^{\mu} s_R)(\bar{\mu}_L \gamma_{\mu} \nu_{\tau L})$	C
CSR_sumunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_L s_R)(\bar{\mu}_R \nu_{\tau L})$	C
CSL_sumunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R s_L)(\bar{\mu}_R \nu_{\tau L})$	C
CT_sumunutau	$-\frac{4G_F}{\sqrt{2}}V_{us}(\bar{u}_R \sigma^{\mu\nu} s_L)(\bar{\mu}_R \sigma_{\mu\nu} \nu_{\tau L})$	C

udenu

WC name	Operator	Type
CVL_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L \gamma^{\mu} d_L)(\bar{e}_L \gamma_{\mu} \nu_{eL})$	C
CVR_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \gamma^{\mu} d_R)(\bar{e}_L \gamma_{\mu} \nu_{eL})$	C
CSR_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L d_R)(\bar{e}_R \nu_{eL})$	C
CSL_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R d_L)(\bar{e}_R \nu_{eL})$	C
CT_duenue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \sigma^{\mu\nu} d_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{eL})$	C
CVL_duenumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L \gamma^{\mu} d_L)(\bar{e}_L \gamma_{\mu} \nu_{\mu L})$	C
CVR_duenumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \gamma^{\mu} d_R)(\bar{e}_L \gamma_{\mu} \nu_{\mu L})$	C
CSR_duenumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L d_R)(\bar{e}_R \nu_{\mu L})$	C
CSL_duenumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R d_L)(\bar{e}_R \nu_{\mu L})$	C
CT_duenumu	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \sigma^{\mu\nu} d_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{\mu L})$	C
CVL_duenutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L \gamma^{\mu} d_L)(\bar{e}_L \gamma_{\mu} \nu_{\tau L})$	C
CVR_duenutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \gamma^{\mu} d_R)(\bar{e}_L \gamma_{\mu} \nu_{\tau L})$	C
CSR_duenutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L d_R)(\bar{e}_R \nu_{\tau L})$	C
CSL_duenutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R d_L)(\bar{e}_R \nu_{\tau L})$	C
CT_duenutau	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \sigma^{\mu\nu} d_L)(\bar{e}_R \sigma_{\mu\nu} \nu_{\tau L})$	C

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	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R \gamma^{\mu} d_R)(\bar{\mu}_L \gamma_{\mu} \nu_{eL})$	C
CSR_dumunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L d_R)(\bar{\mu}_R \nu_{eL})$	C
CSL_dumunue	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R d_L)(\bar{\mu}_R \nu_{eL})$	C

WC name	Operator	Type
`CT_dumunue`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{eL})$	C
`CVL_dumunumu`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^{\mu}d_L)(\bar{\mu}_L\gamma_{\mu}\nu_{\mu L})$	C
`CVR_dumunumu`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^{\mu}d_R)(\bar{\mu}_L\gamma_{\mu}\nu_{\mu L})$	C
`CSR_dumunumu`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\mu}_R\nu_{\mu L})$	C
`CSL_dumunumu`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{\mu}_R\nu_{\mu L})$	C
`CT_dumunumu`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{\mu L})$	C
`CVL_dumunutau`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_L\gamma^{\mu}d_L)(\bar{\mu}_L\gamma_{\mu}\nu_{\tau L})$	C
`CVR_dumunutau`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\gamma^{\mu}d_R)(\bar{\mu}_L\gamma_{\mu}\nu_{\tau L})$	C
`CSR_dumunutau`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Ld_R)(\bar{\mu}_R\nu_{\tau L})$	C
`CSL_dumunutau`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_Rd_L)(\bar{\mu}_R\nu_{\tau L})$	C
`CT_dumunutau`	$-\frac{4G_F}{\sqrt{2}}V_{ud}(\bar{u}_R\sigma^{\mu\nu}d_L)(\bar{\mu}_R\sigma_{\mu\nu}\nu_{\tau L})$	C