# Basis `formflavor` (EFT `WET`)

Basis used by the FormFlavor package

## Sectors

The effective Lagrangian is defined as

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

**`sbsb`**

| WC name | Operator | Type |
|---|---|---|
| `CVLL_bsbs` | $(\bar{s}_L \gamma^\mu b_L)(\bar{s}_L \gamma_\mu b_L)$ | C |
| `CVRR_bsbs` | $(\bar{s}_R \gamma^\mu b_R)(\bar{s}_R \gamma_\mu b_R)$ | C |
| `CSLL_bsbs` | $(\bar{s}_R b_L)(\bar{s}_R b_L)$ | C |
| `CSRR_bsbs` | $(\bar{s}_L b_R)(\bar{s}_L b_R)$ | C |
| `CTLL_bsbs` | $(\bar{s}_R \sigma^{\mu\nu} b_L)(\bar{s}_R \sigma_{\mu\nu} b_L)$ | C |
| `CTRR_bsbs` | $(\bar{s}_L \sigma^{\mu\nu} b_R)(\bar{s}_L \sigma_{\mu\nu} b_R)$ | C |
| `CVLR_bsbs` | $(\bar{s}_L \gamma^\mu b_L)(\bar{s}_R \gamma_\mu b_R)$ | C |
| `CSLR_bsbs` | $(\bar{s}_R b_L)(\bar{s}_L b_R)$ | C |

**`dbdb`**

| WC name | Operator | Type |
|---|---|---|
| `CVLL_bdbd` | $(\bar{d}_L \gamma^\mu b_L)(\bar{d}_L \gamma_\mu b_L)$ | C |
| `CVRR_bdbd` | $(\bar{d}_R \gamma^\mu b_R)(\bar{d}_R \gamma_\mu b_R)$ | C |
| `CSLL_bdbd` | $(\bar{d}_R b_L)(\bar{d}_R b_L)$ | C |
| `CSRR_bdbd` | $(\bar{d}_L b_R)(\bar{d}_L b_R)$ | C |
| `CTLL_bdbd` | $(\bar{d}_R \sigma^{\mu\nu} b_L)(\bar{d}_R \sigma_{\mu\nu} b_L)$ | C |
| `CTRR_bdbd` | $(\bar{d}_L \sigma^{\mu\nu} b_R)(\bar{d}_L \sigma_{\mu\nu} b_R)$ | C |
| `CVLR_bdbd` | $(\bar{d}_L \gamma^\mu b_L)(\bar{d}_R \gamma_\mu b_R)$ | C |
| `CSLR_bdbd` | $(\bar{d}_R b_L)(\bar{d}_L b_R)$ | C |

**`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 |

| WC name | Operator | Type |
|---|---|---|
| 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 | $(\bar{d}_Rs_L)(\bar{d}_Ls_R)$ | C |

**cucu**

| WC name | Operator | Type |
|---|---|---|
| CVLL_cucu | $(\bar{u}_L\gamma^{\mu}c_L)(\bar{u}_L\gamma_{\mu}c_L)$ | C |
| CVRR_cucu | $(\bar{u}_R\gamma^{\mu}c_R)(\bar{u}_R\gamma_{\mu}c_R)$ | C |
| CSLL_cucu | $(\bar{u}_Rc_L)(\bar{u}_Rc_L)$ | C |
| CSRR_cucu | $(\bar{u}_Lc_R)(\bar{u}_Lc_R)$ | C |
| CTLL_cucu | $(\bar{u}_R\sigma^{\mu\nu}c_L)(\bar{u}_R\sigma_{\mu\nu}c_L)$ | C |
| CTRR_cucu | $(\bar{u}_L\sigma^{\mu\nu}c_R)(\bar{u}_L\sigma_{\mu\nu}c_R)$ | C |
| CVLR_cucu | $(\bar{u}_L\gamma^{\mu}c_L)(\bar{u}_R\gamma_{\mu}c_R)$ | C |
| CSLR_cucu | $(\bar{u}_Rc_L)(\bar{u}_Lc_R)$ | C |

**sb**

| WC name | Operator | Type |
|---|---|---|
| CVLL_bsmm | $(\bar{s}_L\gamma^{\mu}b_L)(\bar{\mu}_L\gamma_{\mu}\mu_L)$ | C |
| CVRR_bsmm | $(\bar{s}_R\gamma^{\mu}b_R)(\bar{\mu}_R\gamma_{\mu}\mu_R)$ | C |
| CVLR_bsmm | $(\bar{s}_L\gamma^{\mu}b_L)(\bar{\mu}_R\gamma_{\mu}\mu_R)$ | C |
| CVRL_bsmm | $(\bar{s}_R\gamma^{\mu}b_R)(\bar{\mu}_L\gamma_{\mu}\mu_L)$ | C |
| CSLL_bsmm | $(\bar{s}_Rb_L)(\bar{\mu}_R\mu_L)$ | C |
| CSRR_bsmm | $(\bar{s}_Lb_R)(\bar{\mu}_L\mu_R)$ | C |
| CSLR_bsmm | $(\bar{s}_Rb_L)(\bar{\mu}_L\mu_R)$ | C |
| CSRL_bsmm | $(\bar{s}_Lb_R)(\bar{\mu}_R\mu_L)$ | C |
| CTLL_bsmm | $(\bar{s}_R\sigma^{\mu\nu}b_L)(\bar{\mu}_R\sigma_{\mu\nu}\mu_L)$ | C |
| CTRR_bsmm | $(\bar{s}_L\sigma^{\mu\nu}b_R)(\bar{\mu}_L\sigma_{\mu\nu}\mu_R)$ | C |
| CAR_sb | $e(\bar{s}_L\sigma^{\mu\nu}b_R)F_{\mu\nu}$ | C |
| CAL_sb | $e(\bar{s}_R\sigma^{\mu\nu}b_L)F_{\mu\nu}$ | C |
| CGR_sb | $g_s(\bar{s}_L\sigma^{\mu\nu}b_R)G_{\mu\nu}$ | C |
| CGL_sb | $g_s(\bar{s}_R\sigma^{\mu\nu}b_L)G_{\mu\nu}$ | C |

**db**

| WC name | Operator | Type |
|---|---|---|
| CVLL_bdmm | $(\bar{d}_L\gamma^{\mu}b_L)(\bar{\mu}_L\gamma_{\mu}\mu_L)$ | C |
| CVRR_bdmm | $(\bar{d}_R\gamma^{\mu}b_R)(\bar{\mu}_R\gamma_{\mu}\mu_R)$ | C |

| WC name | Operator | Type |
|---|---|---|
| CVLR_bdmm | $(\bar{d}_L\gamma^\mu b_L)(\bar{\mu}_R\gamma_\mu\mu_R)$ | C |
| CVRL_bdmm | $(\bar{d}_R\gamma^\mu b_R)(\bar{\mu}_L\gamma_\mu\mu_L)$ | C |
| CSLL_bdmm | $(\bar{d}_R b_L)(\bar{\mu}_R\mu_L)$ | C |
| CSRR_bdmm | $(\bar{d}_L b_R)(\bar{\mu}_L\mu_R)$ | C |
| CSLR_bdmm | $(\bar{d}_R b_L)(\bar{\mu}_L\mu_R)$ | C |
| CSRL_bdmm | $(\bar{d}_L b_R)(\bar{\mu}_R\mu_L)$ | C |
| CTLL_bdmm | $(\bar{d}_R\sigma^{\mu\nu} b_L)(\bar{\mu}_R\sigma_{\mu\nu}\mu_L)$ | C |
| CTRR_bdmm | $(\bar{d}_L\sigma^{\mu\nu} b_R)(\bar{\mu}_L\sigma_{\mu\nu}\mu_R)$ | C |
| CAR_db | $e(\bar{d}_L\sigma^{\mu\nu} b_R)F_{\mu\nu}$ | C |
| CAL_db | $e(\bar{d}_R\sigma^{\mu\nu} b_L)F_{\mu\nu}$ | C |
| CGR_db | $g_s(\bar{d}_L\sigma^{\mu\nu} b_R)G_{\mu\nu}$ | C |
| CGL_db | $g_s(\bar{d}_R\sigma^{\mu\nu} b_L)G_{\mu\nu}$ | C |

**sdnunu**

| WC name | Operator | Type |
|---|---|---|
| CVLL_sdnn | $(\bar{d}_L\gamma^\mu s_L)(\bar{\nu}_L\gamma_\mu\nu_L)$ | C |
| CVRL_sdnn | $(\bar{d}_R\gamma^\mu s_R)(\bar{\nu}_L\gamma_\mu\nu_L)$ | C |

**dF=0**

| WC name | Operator | Type |
|---|---|---|
| CAR_dd | $e(\bar{d}_L\sigma^{\mu\nu} d_R)F_{\mu\nu}$ | C |
| CAL_dd | $e(\bar{d}_R\sigma^{\mu\nu} d_L)F_{\mu\nu}$ | C |
| CGR_dd | $g_s(\bar{d}_L\sigma^{\mu\nu} d_R)G_{\mu\nu}$ | C |
| CGL_dd | $g_s(\bar{d}_R\sigma^{\mu\nu} d_L)G_{\mu\nu}$ | C |
| CAR_uu | $e(\bar{u}_L\sigma^{\mu\nu} u_R)F_{\mu\nu}$ | C |
| CAL_uu | $e(\bar{u}_R\sigma^{\mu\nu} u_L)F_{\mu\nu}$ | C |
| CGR_uu | $g_s(\bar{u}_L\sigma^{\mu\nu} u_R)G_{\mu\nu}$ | C |
| CGL_uu | $g_s(\bar{u}_R\sigma^{\mu\nu} u_L)G_{\mu\nu}$ | C |

**mue**

| WC name | Operator | Type |
|---|---|---|
| CAR_em | $e(\bar{e}_L\sigma^{\mu\nu}\mu_R)F_{\mu\nu}$ | C |
| CAL_em | $e(\bar{e}_R\sigma^{\mu\nu}\mu_L)F_{\mu\nu}$ | C |

**mutau**

| WC name | Operator | Type |
|---|---|---|
| `CAR_mt` | $e(\bar{\mu}_L \sigma^{\mu\nu} \tau_R) F_{\mu\nu}$ | C |
| `CAL_mt` | $e(\bar{\mu}_R \sigma^{\mu\nu} \tau_L) F_{\mu\nu}$ | C |

**taue**

| WC name | Operator | Type |
|---|---|---|
| `CAR_et` | $e(\bar{e}_L \sigma^{\mu\nu} \tau_R) F_{\mu\nu}$ | C |
| `CAL_et` | $e(\bar{e}_R \sigma^{\mu\nu} \tau_L) F_{\mu\nu}$ | C |