

| Operator                              | Definition                                                                                        | Wilson coefficient                                    |
|---------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Two-quark + boson operators           |                                                                                                   |                                                       |
| $\ddagger O_{\text{u}\varphi}^{(ij)}$ | $\bar{\text{q}}_i \text{u}_j \tilde{\varphi} (\varphi^\dagger \varphi)$                           | $c_{\text{t}\varphi}^{(ij)}$                          |
| $O_{\varphi\text{q}}^{1(ij)}$         | $(\varphi^\dagger i \overleftrightarrow{D}_\mu \varphi) (\bar{\text{q}}_i \gamma^\mu \text{q}_j)$ | $c_{\varphi Q}^{-(ij)}$                               |
| $O_{\varphi\text{u}}^{(ij)}$          | $(\varphi^\dagger i \overleftrightarrow{D}_\mu \varphi) (\bar{\text{u}}_i \gamma^\mu \text{u}_j)$ | $c_{\varphi\text{t}}^{(ij)}$                          |
| $\ddagger O_{\text{uW}}^{(ij)}$       | $(\bar{\text{q}}_i \sigma^{\mu\nu} \tau^I \text{u}_j) \tilde{\varphi} W_{\mu\nu}^I$               | $c_W c_{\text{tA}}^{(ij)} - s_W c_{\text{tZ}}^{(ij)}$ |
| $\ddagger O_{\text{uB}}^{(ij)}$       | $(\bar{\text{q}}_i \sigma^{\mu\nu} \text{u}_j) \tilde{\varphi} B_{\mu\nu}$                        | $c_W c_{\text{tZ}}^{(ij)} + s_W c_{\text{tA}}^{(ij)}$ |
| $\ddagger O_{\text{uG}}^{(ij)}$       | $(\bar{\text{q}}_i \sigma^{\mu\nu} T^A \text{u}_j) \tilde{\varphi} G_{\mu\nu}^A$                  | $c_{\text{tG}}^{(ij)}$                                |

### Two-quark-two-lepton operators

|                                         |                                                                                                          |                                   |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|
| $O_{\ell\text{q}}^{1(ijkl)}$            | $(\bar{\ell}_i \gamma^\mu \ell_j) (\bar{\text{q}}_k \gamma^\mu \text{q}_\ell)$                           | $c_{Q\ell}^{-(\ell)(ijkl)}$       |
| $O_{\ell\text{u}}^{(ijkl)}$             | $(\bar{\ell}_i \gamma^\mu \ell_j) (\bar{\text{u}}_k \gamma^\mu \text{u}_\ell)$                           | $c_{\text{t}\ell}^{(\ell)(ijkl)}$ |
| $O_{\text{eq}}^{(ijkl)}$                | $(\bar{\text{e}}_i \gamma^\mu \text{e}_j) (\bar{\text{q}}_k \gamma^\mu \text{q}_\ell)$                   | $c_{Q\text{e}}^{(\ell)(ijkl)}$    |
| $O_{\text{eu}}^{(ijkl)}$                | $(\bar{\text{e}}_i \gamma^\mu \text{e}_j) (\bar{\text{u}}_k \gamma^\mu \text{u}_\ell)$                   | $c_{\text{te}}^{(\ell)(ijkl)}$    |
| $\ddagger O_{\ell\text{equ}}^{1(ijkl)}$ | $(\bar{\ell}_i \text{e}_j) \varepsilon (\bar{\text{q}}_k \text{u}_\ell)$                                 | $c_{\text{t}}^{S(\ell)(ijkl)}$    |
| $\ddagger O_{\ell\text{equ}}^{3(ijkl)}$ | $(\bar{\ell}_i \sigma^{\mu\nu} \text{e}_j) \varepsilon (\bar{\text{q}}_k \sigma_{\mu\nu} \text{u}_\ell)$ | $c_{\text{t}}^{T(\ell)(ijkl)}$    |