Basis `JMS` (EFT `WET-2`)

Variant of the basis suggested by Jenkins, Manohar, and Stoffer (arXiv:1709.04486) with only two dynamical quark flavors.

Sectors

The effective Lagrangian is defined as

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

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WC name	Operator	Type
`VnunuLL_1111`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{eL}\gamma_\mu \nu_{eL})$	R
`VnunuLL_1122`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\mu L})$	R
`VnunuLL_1133`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	R
`VnunuLL_2222`	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\mu L})$	R
`VnunuLL_2233`	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	R
`VnunuLL_3333`	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	R
`VnunuLL_1112`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{eL}\gamma_\mu \nu_{\mu L})$	C
`VnunuLL_1222`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\mu L})$	C
`VnunuLL_1233`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1113`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{eL}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1223`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1333`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1123`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_2223`	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_2333`	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1232`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{\tau L}\gamma_\mu \nu_{\mu L})$	C
`VnunuLL_1323`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1213`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{eL}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_1212`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{\nu}_{eL}\gamma_\mu \nu_{\mu L})$	C
`VnunuLL_1313`	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{eL}\gamma_\mu \nu_{\tau L})$	C
`VnunuLL_2323`	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{\nu}_{\mu L}\gamma_\mu \nu_{\tau L})$	C

`dF=0`

WC name	Operator	Type
`egamma_11`	$\bar{e}_L \sigma^{\mu\nu} e_R\, F_{\mu\nu}$	C

WC name	Operator	Type
ugamma_11	$\bar{u}_L \sigma^{\mu\nu} u_R \, F_{\mu\nu}$	C
dgamma_11	$\bar{d}_L \sigma^{\mu\nu} d_R \, F_{\mu\nu}$	C
uG_11	$\bar{u}_L \sigma^{\mu\nu} T^A u_R \, G^A_{\mu\nu}$	C
dG_11	$\bar{d}_L \sigma^{\mu\nu} T^A d_R \, G^A_{\mu\nu}$	C
G	$f^{ABC} G^{A\nu}_{\mu} G^{B\rho}_{\nu} G^{C\mu}_{\rho}$	R
Gtilde	$f^{ABC} \widetilde{G}^{A\nu}_{\mu} G^{B\rho}_{\nu} G^{C\mu}_{\rho}$	R
VeeLL_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{e}_L \gamma_\mu e_L)$	R
VeuLL_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{u}_L \gamma_\mu u_L)$	R
VedLL_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{d}_L \gamma_\mu d_L)$	R
VuuLL_1111	$(\bar{u}_L \gamma^\mu u_L)(\bar{u}_L \gamma_\mu u_L)$	R
VddLL_1111	$(\bar{d}_L \gamma^\mu d_L)(\bar{d}_L \gamma_\mu d_L)$	R
V1udLL_1111	$(\bar{u}_L \gamma^\mu u_L)(\bar{d}_L \gamma_\mu d_L)$	R
V8udLL_1111	$(\bar{u}_L \gamma^\mu T^A u_L)(\bar{d}_L \gamma_\mu T^A d_L)$	R
VeeRR_1111	$(\bar{e}_R \gamma^\mu e_R)(\bar{e}_R \gamma_\mu e_R)$	R
VeuRR_1111	$(\bar{e}_R \gamma^\mu e_R)(\bar{u}_R \gamma_\mu u_R)$	R
VedRR_1111	$(\bar{e}_R \gamma^\mu e_R)(\bar{d}_R \gamma_\mu d_R)$	R
VuuRR_1111	$(\bar{u}_R \gamma^\mu u_R)(\bar{u}_R \gamma_\mu u_R)$	R
VddRR_1111	$(\bar{d}_R \gamma^\mu d_R)(\bar{d}_R \gamma_\mu d_R)$	R
V1udRR_1111	$(\bar{u}_R \gamma^\mu u_R)(\bar{d}_R \gamma_\mu d_R)$	R
V8udRR_1111	$(\bar{u}_R \gamma^\mu T^A u_R)(\bar{d}_R \gamma_\mu T^A d_R)$	R
VeeLR_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{e}_R \gamma_\mu e_R)$	R
VeuLR_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{u}_R \gamma_\mu u_R)$	R
VedLR_1111	$(\bar{e}_L \gamma^\mu e_L)(\bar{d}_R \gamma_\mu d_R)$	R
VueLR_1111	$(\bar{u}_L \gamma^\mu u_L)(\bar{e}_R \gamma_\mu e_R)$	R
VdeLR_1111	$(\bar{d}_L \gamma^\mu d_L)(\bar{e}_R \gamma_\mu e_R)$	R
V1uuLR_1111	$(\bar{u}_L \gamma^\mu u_L)(\bar{u}_R \gamma_\mu u_R)$	R
V8uuLR_1111	$(\bar{u}_L \gamma^\mu T^A u_L)(\bar{u}_R \gamma_\mu T^A u_R)$	R
V1udLR_1111	$(\bar{u}_L \gamma^\mu u_L)(\bar{d}_R \gamma_\mu d_R)$	R
V8udLR_1111	$(\bar{u}_L \gamma^\mu T^A u_L)(\bar{d}_R \gamma_\mu T^A d_R)$	R
V1duLR_1111	$(\bar{d}_L \gamma^\mu d_L)(\bar{u}_R \gamma_\mu u_R)$	R
V8duLR_1111	$(\bar{d}_L \gamma^\mu T^A d_L)(\bar{u}_R \gamma_\mu T^A u_R)$	R
V1ddLR_1111	$(\bar{d}_L \gamma^\mu d_L)(\bar{d}_R \gamma_\mu d_R)$	R
V8ddLR_1111	$(\bar{d}_L \gamma^\mu T^A d_L)(\bar{d}_R \gamma_\mu T^A d_R)$	R
V1udduLR_1111	$(\bar{u}_L \gamma^\mu d_L)(\bar{d}_R \gamma_\mu u_R)$	C
V8udduLR_1111	$(\bar{u}_L \gamma^\mu T^A d_L)(\bar{d}_R \gamma_\mu T^A u_R)$	C
SeuRL_1111	$(\bar{e}_L e_R)(\bar{u}_R u_L)$	C
SedRL_1111	$(\bar{e}_L e_R)(\bar{d}_R d_L)$	C
SeeRR_1111	$(\bar{e}_L e_R)(\bar{e}_L e_R)$	C
SeuRR_1111	$(\bar{e}_L e_R)(\bar{u}_L u_R)$	C
TeuRR_1111	$(\bar{e}_L \sigma^{\mu\nu} e_R)(\bar{u}_L \sigma_{\mu\nu} u_R)$	C
SedRR_1111	$(\bar{e}_L e_R)(\bar{d}_L d_R)$	C
TedRR_1111	$(\bar{e}_L \sigma^{\mu\nu} e_R)(\bar{d}_L \sigma_{\mu\nu} d_R)$	C
S1uuRR_1111	$(\bar{u}_L u_R)(\bar{u}_L u_R)$	C

WC name	Operator	Type
S8uuRR_1111	$(\bar{u}_L T^A u_R)(\bar{u}_L T^A u_R)$	C
S1udRR_1111	$(\bar{u}_L u_R)(\bar{d}_L d_R)$	C
S8udRR_1111	$(\bar{u}_L T^A u_R)(\bar{d}_L T^A d_R)$	C
S1ddRR_1111	$(\bar{d}_L d_R)(\bar{d}_L d_R)$	C
S8ddRR_1111	$(\bar{d}_L T^A d_R)(\bar{d}_L T^A d_R)$	C
S1udduRR_1111	$(\bar{u}_L d_R)(\bar{d}_L u_R)$	C
S8udduRR_1111	$(\bar{u}_L T^A d_R)(\bar{d}_L T^A u_R)$	C

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WC name	Operator	Type
VnueLL_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{e}_L \gamma_\mu e_L)$	R
VnueLL_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{e}_L \gamma_\mu e_L)$	R
VnueLL_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{e}_L \gamma_\mu e_L)$	R
VnuuLL_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{u}_L \gamma_\mu u_L)$	R
VnuuLL_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{u}_L \gamma_\mu u_L)$	R
VnuuLL_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{u}_L \gamma_\mu u_L)$	R
VnudLL_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{d}_L \gamma_\mu d_L)$	R
VnudLL_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{d}_L \gamma_\mu d_L)$	R
VnudLL_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{d}_L \gamma_\mu d_L)$	R
VnueLR_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{e}_R \gamma_\mu e_R)$	R
VnueLR_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{e}_R \gamma_\mu e_R)$	R
VnueLR_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{e}_R \gamma_\mu e_R)$	R
VnuuLR_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{u}_R \gamma_\mu u_R)$	R
VnuuLR_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{u}_R \gamma_\mu u_R)$	R
VnuuLR_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{u}_R \gamma_\mu u_R)$	R
VnudLR_1111	$(\bar{\nu}_{eL}\gamma^\mu \nu_{eL})(\bar{d}_R \gamma_\mu d_R)$	R
VnudLR_2211	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\mu L})(\bar{d}_R \gamma_\mu d_R)$	R
VnudLR_3311	$(\bar{\nu}_{\tau L}\gamma^\mu \nu_{\tau L})(\bar{d}_R \gamma_\mu d_R)$	R
VnueLL_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{e}_L \gamma_\mu e_L)$	C
VnuuLL_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{u}_L \gamma_\mu u_L)$	C
VnudLL_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{d}_L \gamma_\mu d_L)$	C
VnueLR_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{e}_R \gamma_\mu e_R)$	C
VnuuLR_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{u}_R \gamma_\mu u_R)$	C
VnudLR_1211	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\mu L})(\bar{d}_R \gamma_\mu d_R)$	C
VnueLL_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{e}_L \gamma_\mu e_L)$	C
VnuuLL_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{u}_L \gamma_\mu u_L)$	C
VnudLL_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{d}_L \gamma_\mu d_L)$	C
VnueLR_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{e}_R \gamma_\mu e_R)$	C
VnuuLR_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{u}_R \gamma_\mu u_R)$	C
VnudLR_1311	$(\bar{\nu}_{eL}\gamma^\mu \nu_{\tau L})(\bar{d}_R \gamma_\mu d_R)$	C
VnueLL_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{e}_L \gamma_\mu e_L)$	C

WC name	Operator	Type
VnuuLL_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{u}_L \gamma_\mu u_L)$	C
VnudLL_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{d}_L \gamma_\mu d_L)$	C
VnueLR_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{e}_R \gamma_\mu e_R)$	C
VnuuLR_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{u}_R \gamma_\mu u_R)$	C
VnudLR_2311	$(\bar{\nu}_{\mu L}\gamma^\mu \nu_{\tau L})(\bar{d}_R \gamma_\mu d_R)$	C

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WC name	Operator	Type
SdudRL_1111	$\epsilon_{\alpha\beta\gamma}(d_R^{\alpha T} C u_R^\beta)(d_L^{\gamma T} C \nu_{eL})$	C
SdudRL_1112	$\epsilon_{\alpha\beta\gamma}(d_R^{\alpha T} C u_R^\beta)(d_L^{\gamma T} C \nu_{\mu L})$	C
SdudRL_1113	$\epsilon_{\alpha\beta\gamma}(d_R^{\alpha T} C u_R^\beta)(d_L^{\gamma T} C \nu_{\tau L})$	C
SuddLL_1111	$\epsilon_{\alpha\beta\gamma}(u_L^{\alpha T} C d_L^\beta)(d_L^{\gamma T} C \nu_{eL})$	C
SuddLL_1112	$\epsilon_{\alpha\beta\gamma}(u_L^{\alpha T} C d_L^\beta)(d_L^{\gamma T} C \nu_{\mu L})$	C
SuddLL_1113	$\epsilon_{\alpha\beta\gamma}(u_L^{\alpha T} C d_L^\beta)(d_L^{\gamma T} C \nu_{\tau L})$	C

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WC name	Operator	Type
SduuLL_1111	$\epsilon_{\alpha\beta\gamma}(d_L^{\alpha T} C u_L^\beta)(u_L^{\gamma T} C e_L)$	C
SduuLR_1111	$\epsilon_{\alpha\beta\gamma}(d_L^{\alpha T} C u_L^\beta)(u_R^{\gamma T} C e_R)$	C
SduuRL_1111	$\epsilon_{\alpha\beta\gamma}(d_R^{\alpha T} C u_R^\beta)(u_L^{\gamma T} C e_L)$	C
SduuRR_1111	$\epsilon_{\alpha\beta\gamma}(d_R^{\alpha T} C u_R^\beta)(u_R^{\gamma T} C e_R)$	C