```
C_{Hud}^{\textrm{i1\_i2}-} \rightarrow \frac{1}{16\,\pi^2}\,\left(\frac{1}{6}\,\,\textbf{S}_{\gamma}\,\,\textbf{C}_{\gamma}\,\frac{1}{\textbf{m}_{\text{D}}^2}\,\,\textbf{y}_{\text{d}}^{\textrm{pi2}}\,\,\overline{\textbf{y}_{\text{u}}}^{\textrm{si1}}\,\left(\overline{\textbf{y}_{\text{d}}}^{\textrm{pr}}\,\,\textbf{y}_{\text{d}}^{\textrm{sr}}\,\left(3\,\,\textbf{c}_{\gamma}^{\,\,2} + \textbf{s}_{\gamma}^{\,\,2}\right) + \overline{\textbf{y}_{\text{u}}}^{\textrm{pr}}\,\,\textbf{y}_{\text{u}}^{\textrm{sr}}\,\left(\textbf{c}_{\gamma}^{\,\,2} + 3\,\,\textbf{s}_{\gamma}^{\,\,2}\right)\right) \,-\,\left(\frac{1}{2}\,\,\mathbf{y}_{\text{u}}^{\,\,2}\,\,\mathbf{y}_{\text{d}}^{\,\,2}\,\,\mathbf{y}_{\text{d}}^{\,\,2}\,\,\mathbf{y}_{\text{d}}^{\,\,2}\,\,\mathbf{y}_{\text{d}}^{\,\,2}\right)
                                                                                                                                                                       \frac{1}{18} \; \mathsf{S}_{\gamma} \; \mathsf{C}_{\gamma} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,0}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, \big] \; + \; \frac{1}{9} \; \mathsf{S}_{\gamma} \; \mathsf{C}_{\gamma} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{3,1,-1}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, \big] \; - \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, \big] \; + \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, \mathsf{m_{\tilde{q}}}^{\, \mathsf
                                                                                                                                                        \frac{1}{18} \; \mathsf{S}_{\curlyvee} \; \mathsf{C}_{\curlyvee} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{4,1,-2}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \big] \; - \; \frac{3}{2} \; \mathsf{S}_{\curlyvee} \; \mathsf{C_{\curlyvee}} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,0}} \big[ \, \mathsf{m_2} \, , \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \big] \; + \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \, \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \big] \; + \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \, \mathsf{m_{\tilde{q
                                                                                                                                              3\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{3,1,-1}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{\;pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{\;pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;2}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{\;pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;p}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{\;pi1}\; LF_{4,1,-2}\big[\, m_{2}\,,\; m_{\tilde{q}}^{\;p}\,\big] \; -\; \frac{3}{2}\; s_{\gamma}\; c_{\gamma}\; g_{2}^{\;p}\; y_{d}^{\;pi2}\; \overline{y_{u}}^{\;p}\; y_{d}^{\;p}\; y_
                                                                                                                                                        \frac{8}{3}\;\mathsf{s_{\gamma}}\;\mathsf{c_{\gamma}}\;\mathsf{g_{3}}^{2}\;\mathsf{y_{d}}^{\mathsf{pi2}}\;\overline{\mathsf{y_{u}}}^{\mathsf{pi1}}\;\mathsf{LF_{2,1,0}}\!\left[\mathsf{m_{3}}\;,\;\mathsf{m_{\tilde{q}}}^{\mathsf{p}}\right]\;+\;\frac{16}{3}\;\mathsf{s_{\gamma}}\;\mathsf{c_{\gamma}}\;\mathsf{g_{3}}^{2}\;\mathsf{y_{d}}^{\mathsf{pi2}}\;\overline{\mathsf{y_{u}}}^{\mathsf{pi1}}\;\mathsf{LF_{3,1,-1}}\!\left[\mathsf{m_{3}}\;,\;\mathsf{m_{\tilde{q}}}^{\mathsf{p}}\right]\;
                                                                                                                                                                                                s_{\gamma} \; c_{\gamma} \; g_{3}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{pi1} \; \mathsf{LF}_{4,1,-2} \big[ \, m_{3} \, , \; m_{\tilde{q}}^{\; p} \, \big] \; - \; s_{\gamma} \; c_{\gamma} \; \overline{y_{d}}^{pr} \; y_{d}^{\; pi2} \; y_{d}^{\; sr} \; \overline{y_{u}}^{si1} \; \mathsf{LF}_{2,1,0} \big[ \, \widetilde{\mu} \, , \; m_{\tilde{d}}^{\; r} \, \big] \; + \; c_{\gamma} \; c_{\gamma} \; \overline{y_{d}}^{pr} \; y_{d}^{\; pi2} \; y_{d}^{\; sr} \; \overline{y_{u}}^{si1} \; \mathsf{LF}_{2,1,0} \big[ \, \widetilde{\mu} \, , \; m_{\tilde{d}}^{\; r} \, \big] \; + \; c_{\gamma} \; c_{\gamma} \; \overline{y_{d}}^{pr} \; y_{d}^{\; pr} \; y_{d}^{\; pr} \; y_{d}^{\; sr} \; \overline{y_{u}}^{si1} \; \mathsf{LF}_{2,1,0} \big[ \, \widetilde{\mu} \, , \; m_{\tilde{d}}^{\; r} \, \big] \; + \; c_{\gamma} \; c_{\gamma} \; \overline{y_{d}}^{pr} \; y_{d}^{\; pr} \; y_{d}^{\; pr} \; y_{d}^{\; pr} \; y_{d}^{\; pr} \; \overline{y_{d}}^{sr} \; \overline
                                                                                                                                              2 \, \mathsf{s}_{\gamma} \, \mathsf{c}_{\gamma} \, \overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{pr}} \, \mathsf{y}_{\mathsf{d}}^{\, \mathsf{pi2}} \, \mathsf{y}_{\mathsf{d}}^{\, \mathsf{sr}} \, \overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{si1}} \, \mathsf{LF}_{3,1,-1} \big[ \widetilde{\mu} \, , \, \mathsf{m}_{\bar{\mathsf{d}}}^{\, \bar{\mathsf{r}}} \big] \, - \\
                                                                                                                                              \mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{pr}}\;\mathsf{y}_{\mathsf{d}}^{\mathsf{pi2}}\;\mathsf{y}_{\mathsf{d}}^{\mathsf{sr}}\;\overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{si1}}\;\mathsf{LF_{\mathsf{4,1,-2}}}\big[\tilde{\mu}\;,\;\mathsf{m}_{\tilde{\mathsf{d}}}^{\;\;r}\big]\;-\;\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{y}_{\mathsf{d}}^{\mathsf{pi2}}\;\overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{pr}}\;\overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{si1}}\;\mathsf{y}_{\mathsf{u}}^{\;\;\mathsf{sr}}\;\mathsf{LF_{\mathsf{2,1,0}}}\big[\tilde{\mu}\;,\;\mathsf{m}_{\tilde{\mathsf{u}}}^{\;\;r}\big]\;+\;\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\;\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\;\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\;\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{pr}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}\,\mathsf{v}_{\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{\;\;\mathsf{u}}^{
                                                                                                                                              2\;\mathsf{s_{\scriptscriptstyle \gamma}}\;\mathsf{c_{\scriptscriptstyle \gamma}}\;\mathsf{y_{\scriptscriptstyle d}}^{\mathsf{pi2}}\;\overline{\mathsf{y_{\scriptscriptstyle u}}}^{\mathsf{pr}}\;\overline{\mathsf{y_{\scriptscriptstyle u}}}^{\mathsf{si1}}\;\mathsf{y_{\scriptscriptstyle u}}^{\mathsf{sr}}\;\mathsf{LF_{3,1,-1}}\!\left[\widetilde{\boldsymbol{\mu}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{u}}}^{\mathsf{r}}\right]\;-\;\mathsf{s_{\scriptscriptstyle \gamma}}\;\mathsf{c_{\scriptscriptstyle \gamma}}\;\mathsf{y_{\scriptscriptstyle d}}^{\mathsf{pi2}}\;\overline{\mathsf{y_{\scriptscriptstyle u}}}^{\mathsf{pr}}\;\overline{\mathsf{y_{\scriptscriptstyle u}}}^{\mathsf{si1}}\;\mathsf{y_{\scriptscriptstyle u}}^{\mathsf{sr}}\;\mathsf{LF_{4,1,-2}}\!\left[\widetilde{\boldsymbol{\mu}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{u}}}^{\mathsf{r}}\right]\;+\;\mathsf{s_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{sr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}}^{\mathsf{pr}}\;\mathsf{v_{\scriptscriptstyle \mathcal{U}}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{pr}}^{\mathsf{
                                                                                                                                                        \frac{1}{18} \; \mathsf{m_1} \; \mathsf{s_{Y}} \; \mathsf{g_1}^2 \; \overline{\mathsf{y_u}}^{\mathsf{pil}} \; \left( - \, \mathsf{c_{Y}} \; \mathsf{a_d}^{\mathsf{pil}} + \, \mathsf{s_{Y}} \; \widetilde{\boldsymbol{\mu}} \; \mathsf{y_d}^{\mathsf{pil}} \right) \; \mathsf{LF_{2,1,1,0}} \left[ \, \mathsf{m_1} \, , \; \mathsf{m_{\bar{d}}}^{\, \, 12} \, , \; \mathsf{m_{\bar{q}}}^{\, \, \, \, P} \, \right] \; + \\
                                                                                                                                                        \frac{1}{36} \; \mathsf{m_1} \; \mathsf{s_{Y}} \; \mathsf{g_1}^2 \; \overline{\mathsf{y_u}}^{\mathsf{pil}} \; \left( \mathsf{c_{Y}} \; \mathsf{a_d}^{\mathsf{pi2}} - \mathsf{s_{Y}} \; \widetilde{\boldsymbol{\mu}} \; \mathsf{y_d}^{\mathsf{pi2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\bar{d}}}^{\mathsf{i2}} \, , \; \mathsf{m_{\bar{q}}}^{\mathsf{p}} \big] \; + \; \mathsf{m_{\bar{d}}}^{\mathsf{pi2}} \; , \; \mathsf{m_{\bar{d}}}^{\mathsf{pi2}} \, , \; \mathsf{m_{\bar{d}
                                                                                                                                                                                                                    \mathsf{m_1} \; \mathsf{s_{Y}} \; \mathsf{g_{1}}^2 \; \overline{\mathsf{y_u}}^{\text{pil}} \; \left( \, \mathsf{c_{Y}} \; \mathsf{a_d}^{\text{pil}} - \mathsf{s_{Y}} \, \widetilde{\boldsymbol{\mu}} \; \mathsf{y_d}^{\text{pil}} \right) \; \mathsf{LF_{3,1,1,-1}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\bar{q}}}^{\text{il}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pl}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \; , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \; , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \; , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{pil}} \, , \; \mathsf{m_{\bar{q}}}^{\text{
                                                                                                                                                                                                                    \mathbf{m_{1}} \; \mathbf{s_{\gamma}} \; \mathbf{g_{1}}^{2} \; \overline{\mathbf{y_{u}}}^{\text{pil}} \; \left( - \, \mathbf{c_{\gamma}} \; \mathbf{a_{d}}^{\text{pi2}} + \, \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{d}}^{\text{pi2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathbf{m_{1}} \, , \; \mathbf{m_{\bar{q}}}^{\, p} \, , \; \mathbf{m_{\bar{d}}}^{\, i2} \, \big] \; + \\
                                                                                                                                                                                                \mathbf{m_1} \, \mathbf{c_Y} \, \mathbf{g_1}^2 \, \mathbf{y_d}^{\mathsf{pi2}} \, \left( \mathbf{s_Y} \, \overline{\mathbf{a_u}}^{\mathsf{pi1}} - \widetilde{\mu} \, \mathbf{c_Y} \, \overline{\mathbf{y_u}}^{\mathsf{pi1}} \right) \, \mathsf{LF_{2,1,1,0}} \left[ \mathbf{m_1}, \, \mathbf{m_{\tilde{q}}}^{\mathsf{p}}, \, \mathbf{m_{\tilde{u}}}^{\mathsf{i1}} \right] + \mathbf{m_{\tilde{q}}}^{\mathsf{p}} \, \mathbf{m_{\tilde{u}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{p}} \, \mathbf{m_{\tilde{u}}}^{\mathsf{pi1}} \right] + \mathbf{m_{\tilde{q}}}^{\mathsf{p}} \, \mathbf{m_{\tilde{u}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} + \mathbf{m_{\tilde{q}}}^{\mathsf{pi1}} \, \mathbf{m_{\tilde{q}}}
                                                                                                                                                                                                               \mathbf{m_1} \, \mathbf{c_{\gamma}} \, \mathbf{g_1}^2 \, \mathbf{y_d}^{\text{pi2}} \, \left( \mathbf{s_{\gamma}} \, \overline{\mathbf{a_u}}^{\text{pi1}} - \widetilde{\mu} \, \mathbf{c_{\gamma}} \, \overline{\mathbf{y_u}}^{\text{pi1}} \right) \, \mathsf{LF_{2,2,1,-1}} \big[ \mathbf{m_1}, \, \mathbf{m_{\tilde{q}}}^{\text{p}}, \, \mathbf{m_{\tilde{u}}}^{\text{i1}} \big] \, + \, \mathbf{m_{\tilde{q}}}^{\text{pi1}} \, \mathbf{m_{\tilde{q}}}^{\text{pi1}} + \, \mathbf{m_{\tilde{q}}}^{\text{pi1}} \, \mathbf{m_{\tilde{q}}}^{\text{pi1
                                                                                                                                                        \frac{1}{a}\,\mathsf{m_1}\,\mathsf{c_{\scriptscriptstyle Y}}\,\mathsf{g_1}^2\,\mathsf{y_d}^{\mathsf{pi2}}\,\left(-\,\mathsf{s_{\scriptscriptstyle Y}}\,\overline{\mathsf{a_u}}^{\mathsf{pi1}}\,+\,\widetilde{\mu}\,\,\mathsf{c_{\scriptscriptstyle Y}}\,\overline{\mathsf{y_u}}^{\mathsf{pi1}}\right)\,\mathsf{LF_{3,1,1,-1}}\big[\mathsf{m_1},\,\mathsf{m_{\tilde{q}}}^{\mathsf{p}},\,\mathsf{m_{\tilde{u}}}^{\mathsf{ii}}\big]\,+\,\widetilde{\mathsf{m_{\tilde{q}}}}^{\mathsf{p}},\,\mathsf{m_{\tilde{u}}}^{\mathsf{pi1}}\big]
                                                                                                                                                        \frac{\mathsf{j}}{\mathsf{s}}\;\mathsf{m_1}\;\widetilde{\mu}\;\mathsf{g_1}^2\;\mathsf{y_d}^{\mathsf{pi2}}\;\overline{\mathsf{y_u}}^{\mathsf{pi1}}\;\left(-\,\mathsf{c_{\gamma}}^2\,+\,\mathsf{s_{\gamma}}^2\right)\;\mathsf{LF_{2,1,1,0}}\!\left[\,\mathsf{m_1}\,,\,\mathsf{m_{\tilde{q}}}^{\,\mathsf{p}}\,,\,\widetilde{\mu}\,\right]\,+\,
                                                                                                                                                        \frac{1}{\epsilon} m_1 \tilde{\mu} g_1^2 y_d^{pi2} \overline{y_u^{pi1}} (c_{\gamma}^2 - s_{\gamma}^2) LF_{3,1,1,-1}[m_1, m_{\tilde{q}}^p, \tilde{\mu}] +
                                                                                                                                                                                                               \left[ \mathbf{m_1} \ \mathbf{c_{\gamma}} \ \mathbf{g_{1}}^2 \ \mathbf{y_d}^{\text{pi2}} \ \left( - \ \mathbf{s_{\gamma}} \ \overline{\mathbf{a_u}}^{\text{pi1}} + \widetilde{\mu} \ \mathbf{c_{\gamma}} \ \overline{\mathbf{y_u}}^{\text{pi1}} \right) \ \mathsf{LF_{2,2,1,-1}} \left[ \mathbf{m_1}, \ \mathbf{m_{\tilde{u}}}^{\text{ii}}, \ \mathbf{m_{\tilde{q}}}^{\text{p}} \right] - \mathbf{m_{\tilde{q}}}^{\text{pi1}} \right]
                                                                                                                                                                  rac{1}{6} \, {\sf s_{\scriptscriptstyle Y}} \, {\sf c_{\scriptscriptstyle Y}} \, {\sf g_{\scriptscriptstyle 1}}^2 \, {\sf y_{\scriptscriptstyle d}}^{\sf pi2} \, \overline{{\sf y_{\scriptscriptstyle u}}}^{\sf pi1} \, {\sf LF_{2,2,1,-2}} \big[ {\sf m_{\scriptscriptstyle 1}}, \, \widetilde{\mu}, \, {\sf m_{\scriptscriptstyle d}}^{\sf i2} \big] \, - \,
                                                                                                                                                                                           \mathsf{m_1} \; \tilde{\mu} \; \mathsf{g_1}^2 \; \mathsf{s_7}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{d}}}^{\text{-i2}} \big] \; + \; \frac{1}{4} \; \mathsf{s_7} \; \mathsf{c_7} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{q}}}^{\text{-}p} \big] \; + \; \frac{1}{4} \; \mathsf{s_7} \; \mathsf{c_7} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{q}}}^{\text{-}p} \big] \; + \; \frac{1}{4} \; \mathsf{s_7} \; \mathsf{c_7} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{q}}}^{\text{-}p} \big] \; + \; \frac{1}{4} \; \mathsf{s_7} \; \mathsf{c_7} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{q}}}^{\text{-}p} \big] \; + \; \frac{1}{4} \; \mathsf{s_7} \; \mathsf{c_7} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\bar{q}}}^{\text{-}p} \big] \; + \; \frac{1}{4} \; \mathsf{m_1}^2 \; \mathsf{m_2}^2 \; \mathsf{v_1}^2 \; \mathsf{v_2}^2 \; \mathsf{v_3}^2 
                                                                                                                                                                                                                    \widetilde{\mu} \; g_{1}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{pi1} \; \left( 2 \; m_{1} \; \left( 2 \; c_{\gamma}^{\; 2} + s_{\gamma}^{\; 2} \right) \; + \; 3 \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \right) \; \mathsf{LF}_{2,2,1,-1} \big[ \; m_{1} \; , \; \widetilde{\mu} \; , \; m_{\widetilde{q}}^{\; p} \, \big] \; - \; 2 \; m_{1} \; \left( 2 \; m_{1} \; \left( 2 \; c_{\gamma}^{\; 2} + s_{\gamma}^{\; 2} \right) \; + \; 3 \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \right) \; \mathsf{LF}_{2,2,1,-1} \big[ \; m_{1} \; , \; \widetilde{\mu} \; , \; m_{\widetilde{q}}^{\; p} \; \big] \; - \; 2 \; m_{1} \; \left( 2 \; m_{1} \; \left( 2 \; c_{\gamma}^{\; 2} + s_{\gamma}^{\; 2} \right) \; + \; 3 \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \right) \; \mathsf{LF}_{2,2,1,-1} \big[ \; m_{1} \; , \; \widetilde{\mu} \; , \; m_{\widetilde{q}}^{\; p} \; \big] \; - \; 2 \; m_{1} \; \left( 2 \; m_{1} \; \left( 2 \; m_{1} \; \right) \; m_{2} \; m_{2}
                                                                                                                                                                                                     s_{\gamma} c_{\gamma} g_{1}^{2} y_{d}^{pi2} \overline{y_{u}}^{pi1} LF_{2,2,1,-2}[m_{1}, \tilde{\mu}, m_{\tilde{u}}^{i1}] -
                                                                                                                                                        \frac{1}{3} \; \mathsf{m_1} \; \tilde{\boldsymbol{\mu}} \; \mathsf{g_1}^2 \; \mathsf{c_{\gamma}}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_1}, \; \tilde{\boldsymbol{\mu}}, \; \mathsf{m_{\tilde{u}}}^{\mathsf{i1}} \big] \; + \; \frac{9}{2} \; \mathsf{s_{\gamma}} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,1,-1}} \big[ \mathsf{m_2}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}}, \; \tilde{\boldsymbol{\mu}} \big] \; + \; \frac{9}{2} \; \mathsf{s_{\gamma}} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,1,-1}} \big[ \mathsf{m_2}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}}, \; \tilde{\boldsymbol{\mu}} \big] \; + \; \frac{9}{2} \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p}} \; \mathsf{p_{\tilde{q}}}^{\mathsf{p
                                                                                                                                                        \frac{3}{2}\;\mathsf{m}_{2}\;\tilde{\mu}\;\mathsf{g}_{2}^{\;2}\;\mathsf{y}_{\mathsf{d}}^{\;\mathsf{pi2}}\;\overline{\mathsf{y}_{\mathsf{u}}^{\;\mathsf{pi1}}}\;\mathsf{LF}_{2,1,1,9}\left[\mathsf{m}_{2}\;,\;\mathsf{m}_{\tilde{\mathsf{q}}}^{\;\mathsf{p}}\;,\;\tilde{\mu}\right]\;-\;3\;\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{g}_{2}^{\;2}\;\mathsf{y}_{\mathsf{d}}^{\;\mathsf{pi2}}\;\overline{\mathsf{y}_{\mathsf{u}}^{\;\mathsf{pi1}}}\;\mathsf{LF}_{3,1,1,-2}\left[\mathsf{m}_{2}\;,\;\mathsf{m}_{\tilde{\mathsf{q}}}^{\;\mathsf{p}}\;,\;\tilde{\mu}\right]\;-\;3\;\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{g}_{2}^{\;2}\;\mathsf{y}_{\mathsf{d}}^{\;\mathsf{pi2}}\;\overline{\mathsf{y}_{\mathsf{u}}^{\;\mathsf{pi1}}}\;\mathsf{LF}_{3,1,1,-2}\left[\mathsf{m}_{2}\;,\;\mathsf{m}_{\tilde{\mathsf{q}}}^{\;\mathsf{p}}\;,\;\tilde{\mu}\right]\;-\;3\;\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{g}_{2}^{\;\mathsf{p}}\;\mathsf{g}_{2}^{\;\mathsf{pi2}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{LF}_{3,1,1,-2}\left[\mathsf{m}_{2}\;,\;\mathsf{m}_{\tilde{\mathsf{q}}}^{\;\mathsf{p}}\;,\;\tilde{\mu}\right]\;-\;3\;\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{g}_{2}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{pi3}}\;\mathsf{g}_{\mathsf{u}}^{\;\mathsf{u}}^{\;\mathsf{u}}^{\;\mathsf{u}}^{\;\mathsf{u}}^{
                                                                                                                                                                                                \mathsf{m_2}\; \tilde{\mu}\; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m_2} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \,, \; \tilde{\mu} \, \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_2} \,, \; \tilde{\mu} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_2} \,, \; \tilde{\mu} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_2} \,, \; \tilde{\mu} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_2} \,, \; \tilde{\mu} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_u}}^{\text{pi1}} \; \mathsf{LF_{2,2,2,1,-2}} \big[ \mathsf{m_2} \,, \; \tilde{\mu} \,, \; \mathsf{m_{\tilde{q}}}^{\text{p}} \big] \; - \; \frac{9}{4} \; \mathsf{s_Y} \; \mathsf{c_Y} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\text{pi2}} \; \overline{\mathsf{y_d}}^{\text{pi2}} \; \overline{\mathsf{y_d}}^{\text{pi2}} \; \mathsf{g_2}^{\text{pi2}} \; \mathsf{g_2
                                                                                                                                                                                                     \widetilde{\mu}~g_2^{~2}~y_d^{~\text{pil}}~\overline{y_u}^{~\text{pil}}~(2~m_2+s_{_Y}~\widetilde{\mu}~c_{_Y})~\text{LF}_{2,2,1,-1}\big[\,m_2\,,~\widetilde{\mu}\,,~m_{_Q}^{~-p}\,\big]~+
                                                                                                                                                        \frac{4}{3}\,\,m_3\,\,s_{\gamma}\,\,g_{3}^{\,2}\,\,\overline{y_{u}}^{pil}\,\left(\,c_{\gamma}\,\,a_{d}^{\,pi2}\,-\,s_{\gamma}\,\widetilde{\mu}\,\,y_{d}^{\,pi2}\,\right)\,\,\mathsf{LF}_{2,1,1,0}\!\left[\,m_{3}\,,\,\,m_{d}^{\,-i2}\,,\,\,m_{\tilde{q}}^{\,-p}\,\right]\,+\,3\,\,\mu_{\tilde{q}}^{\,pi}
                                                                                                                                                        \frac{2}{3}\; m_3\; s_\gamma\; g_3^2\; \overline{y_u}^{\text{pil}}\; \left(-\,c_\gamma\; a_d^{\,\text{pi2}}\, +\, s_\gamma\; \widetilde{\mu}\; y_d^{\,\text{pi2}}\right)\; \text{LF}_{2,2,1,-1}\!\left[m_3\, ,\, m_{\widetilde{d}}^{\,\,\text{i2}}\, ,\, m_{\widetilde{q}}^{\,\,\text{p}}\right]\; +\, c_\gamma\; \widetilde{\mu}\; y_d^{\,\,\text{pi2}}\right)\; \text{LF}_{2,2,1,-1}\!\left[m_3\, ,\, m_{\widetilde{d}}^{\,\,\text{i2}}\, ,\, m_{\widetilde{q}}^{\,\,\text{p}}\right]\; +\, c_\gamma\; \widetilde{\mu}\; y_d^{\,\,\text{pi2}}\right]\; +\, c_\gamma\; \widetilde{\mu}\; y_d^{\,\,\text{pi2}}
                                                                                                                                                                                                \mathsf{m_{3}}\;\mathsf{s_{\gamma}}\;\mathsf{g_{3}}^{2}\;\overline{\mathsf{y_{u}}}^{\text{pil}}\;\left(-\,\mathsf{c_{\gamma}}\;\mathsf{a_{d}}^{\text{pi2}}\,+\,\mathsf{s_{\gamma}}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{y_{d}}^{\text{pi2}}\right)\;\mathsf{LF_{3,1,1,-1}}\!\left[\,\mathsf{m_{3}}\,,\;\mathsf{m_{\bar{d}}}^{\text{i2}}\,,\;\mathsf{m_{\bar{q}}}^{\text{i2}}\,\right]\;+\;\mathsf{m_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d}}}^{\text{pi2}}\;\mathsf{a_{\bar{d
                                                                                                                                                        \frac{2}{3} \; \mathsf{m_3} \; \mathsf{s_{Y}} \; \mathsf{g_{3}}^2 \; \overline{\mathsf{y_{u}}}^{\mathsf{pil}} \; \left( \mathsf{c_{Y}} \; \mathsf{a_{d}}^{\mathsf{pi2}} - \mathsf{s_{Y}} \; \tilde{\mu} \; \mathsf{y_{d}}^{\mathsf{pi2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_{3}} \, , \, \, \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, , \, \, \mathsf{m_{\tilde{d}}}^{\, \mathsf{i2}} \big] \; + \\
                                                                                                                                                                                                \textbf{m}_{3} \; \textbf{c}_{\curlyvee} \; \textbf{g}_{3}^{\; 2} \; \textbf{y}_{d}^{\; \text{pi2}} \; \left( \, \textbf{s}_{\curlyvee} \; \overline{\textbf{a}_{u}}^{\, \text{pi1}} - \widetilde{\mu} \; \textbf{c}_{\curlyvee} \; \overline{\textbf{y}_{u}}^{\, \text{pi1}} \right) \; \textbf{LF}_{2,\textbf{1},\textbf{1},\textbf{0}} \left[ \, \textbf{m}_{3} \, , \; \textbf{m}_{\tilde{q}}^{\; \, p} \, , \; \textbf{m}_{\tilde{u}}^{\; \, \, \text{i1}} \, \right] \; + \\
                                                                                                                                                                                                \textbf{m}_{3} \; \textbf{c}_{\gamma} \; \textbf{g}_{3}^{\; 2} \; \textbf{y}_{d}^{\; \text{pi2}} \; \left( \textbf{s}_{\gamma} \; \overline{\textbf{a}_{u}}^{\; \text{pi1}} - \widetilde{\mu} \; \textbf{c}_{\gamma} \; \overline{\textbf{y}_{u}}^{\; \text{pi1}} \right) \; \textbf{LF}_{2,2,1,-1} \big[ \, \textbf{m}_{3} \, , \; \textbf{m}_{\tilde{q}}^{\; p} \, , \; \textbf{m}_{\tilde{u}}^{\; \text{i1}} \big] \; + \\
                                                                                                                                                                                                \text{m}_{3}\;c_{\gamma}\;g_{3}^{\;2}\;y_{d}^{\;\text{pi2}}\;\left(-\,s_{\gamma}\;\overline{a_{u}}^{\,\text{pi1}}\,+\,\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\,\text{pi1}}\right)\;\text{LF}_{3,\text{1,1,-1}}\!\left[\,\text{m}_{3}\,,\;\text{m}_{\tilde{q}}^{\;\;p}\,,\;\text{m}_{\tilde{u}}^{\;\;\text{i1}}\,\right]\,+\,\widetilde{\mu}^{\;\;\text{pi2}}\left(-\,s_{\gamma}\;\overline{a_{u}}^{\,\text{pi1}}\,+\,\widetilde{\mu}^{\;\;\text{pi2}}\,\right)
                                                                                                                                                        \overset{\text{5}}{\overset{\text{4}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{\text{7}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}}{\overset{1}}{\overset{1}}{\overset{1}}{\overset{1
                                                                                                                                                        \frac{1}{4} \, s_{\gamma} \, \widetilde{\mu} \, y_{d}^{pi2} \, \overline{y_{u}}^{si1} \, y_{u}^{sr} \, \left( s_{\gamma} \, \overline{a_{u}}^{pr} - \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr} \right) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] \, + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{\; r} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{pr} + \widetilde{\mu}, \, s_{\gamma} \, \overline{y_{u}}^{pr}) \, \mathsf{LF}_{2,2,2,1,-1} \big[ \mathsf{m}_{\bar{q}}^{\; p}, \, \widetilde{\mu}, \, \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{p}, \, s_{\gamma} \, \overline{a_{u}}^{p}) \, \mathsf{LF}_{2,2,2,1} \big[ \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p} \big] + \, \frac{1}{4} \, (s_{\gamma} \, \overline{a_{u}}^{p}, \, s_{\gamma} \, \overline{a_{u}}^{p}) \, \mathsf{LF}_{2,2,2,2} \big[ \mathsf{m}_{\bar{u}}^{p}, \, \mathsf{m}_{\bar{u}}^{p
                                                                                                                                                                                                     \widetilde{\mu} \; \mathbf{c}_{\gamma} \; \overline{\mathbf{y_d}}^{\text{pr}} \; \mathbf{y_d}^{\text{pi2}} \; \overline{\mathbf{y_u}}^{\text{si1}} \; \left( \mathbf{c}_{\gamma} \; \mathbf{a_d}^{\text{sr}} - \mathbf{s}_{\gamma} \; \widetilde{\mu} \; \mathbf{y_d}^{\text{sr}} \right) \; \mathsf{LF_{2,2,1,-1}} \left[ \mathbf{m_{\tilde{q}}}^{\text{s}} \text{, } \widetilde{\mu} \text{, } \mathbf{m_{\tilde{d}}^{\text{-}r}} \right] \; + \; \mathsf{m_{\tilde{d}}}^{\text{-}r} \; \mathsf{m_{\tilde{d}
                                                                                                                                                        s_{\gamma} \; c_{\gamma} \; g_{1}^{2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{i2}} \big] \; + \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{\; \; 2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{-i2}} \big] \; - \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{\; \; 2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{-i2}} \big] \; - \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{\; \; 2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{-i2}} \big] \; - \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{-i2}} \big] \; - \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{d}}^{\text{-i2}} \big] \; - \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{2} \; s_{\gamma}^{2} \; y_{d}^{\text{pi2}} \; \overline{y_{u}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{1}^{\text{-i2}} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{2}^{\text{-i2}} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{2}^{\text{-i2}} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{2}^{\text{-i2}} \big] \; + \; \frac{1}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\text{-i2}} \; g_{2}^{\text{-i2}} \; g_{2}^{\text{-i2}}
                                                                                                                                                                                                s_{\gamma}\;c_{\gamma}\;g_{1}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{pi1}\;\mathsf{LF}_{3,1,1,-2}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{-i2}\big]\;-\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;-i2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;pi2}\;\overline{y_{u}}^{\;pi1}\;\mathsf{LF}_{3,1,1,-1}\big[\tilde{\mu}\,,\;m_{1}\,,\;m_{\bar{d}}^{\;2}\big]\;+\;\frac{1}{3}\;m_{1}\;\tilde{\mu}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;y_{d}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2}\,s_{\gamma}^{\;2
                                                                                                                                                                                                     s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,-1}\big[\tilde{\mu}\,,\; \mathsf{m}_{\text{1}}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\big] \; - \; \frac{1}{2} \; s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; \tilde{\mu}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0}\big[\tilde{\mu}\,,\; \mathsf{m}_{\text{1}}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\big] \; + \; \frac{1}{2} \; s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; \tilde{\mu}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0}\big[\tilde{\mu}\,,\; \mathsf{m}_{\text{1}}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\big] \; + \; \frac{1}{2} \; s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; \tilde{\mu}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0}\big[\tilde{\mu}\,,\; \mathsf{m}_{\text{1}}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\big] \; + \; \frac{1}{2} \; s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; \tilde{\mu}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi1}} \; \mathsf{LF}_{2,1,1,0}\big[\tilde{\mu}\,,\; \mathsf{m}_{\text{1}}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\big] \; + \; \frac{1}{2} \; s_{\text{Y}} \; c_{\text{Y}} \; g_{\text{1}}^{2} \; \tilde{\mu}^{2} \; y_{\text{d}}^{\text{pi2}} \; \overline{y_{\text{u}}}^{\text{pi2}} \; \overline{y_{\text
                                                                                                                                                   \mathsf{s}_{\gamma} \; \mathsf{c}_{\gamma} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{d}}^{\mathsf{pi2}} \; \overline{\mathsf{y_{u}}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,1,-1}} \big[ \widetilde{\mu} \,, \; \mathsf{m_{1}} \,, \; \mathsf{m_{\tilde{u}}}^{\mathsf{i1}} \big] \; + \; \frac{2}{3} \; \mathsf{m_{1}} \; \widetilde{\mu} \; \mathsf{g_{1}}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{y_{d}}^{\mathsf{pi2}} \; \overline{\mathsf{y_{u}}}^{\mathsf{pi1}} \; \mathsf{LF_{2,1,1,0}} \big[ \widetilde{\mu} \,, \; \mathsf{m_{1}} \,, \; \mathsf{m_{\tilde{u}}}^{\mathsf{i1}} \big] \; - \; \mathsf{m_{\tilde{u}}}^{\mathsf{pi2}} \; \mathsf{v_{u}}^{\mathsf{pi3}} \; \mathsf{v_{u}}^{\mathsf{v_{u}}^{\mathsf{pi3}}} \; \mathsf{v_{u}}^{\mathsf{pi3}} \; \mathsf{v_{u}}^{\mathsf{pi3}} \; \mathsf{v_
                                                                                                                                                                                                s_{\gamma} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{pi1} \; \mathsf{LF}_{3,1,1,-2} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; i1} \big] - \frac{2}{3} \; \mathsf{m}_{1} \; \tilde{\mu} \; g_{1}^{\; 2} \; c_{\gamma}^{\; 2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{3,1,1,-1} \big[ \tilde{\mu} \,, \; \mathsf{m}_{1} \,, \; \mathsf{m}_{\tilde{u}}^{\; 2} \,, \; \mathsf{m}_{1}^{\; 2} \,, \; \mathsf{m}_{2}^{\; 2} \,, \; \mathsf{m}
                                                                                                                                                   \frac{3}{4} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,-1} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi1} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{\bar{q}}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi2} \; \mathsf{LF}_{2,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{2}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi2} \; \mathsf{LF}_{2,1,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{2}^{\; p} \big] \; + \; \frac{3}{2} \; s_{\gamma} \; c_{\gamma} \; g_{2}^{2} \; \widetilde{\mu}^{2} \; y_{d}^{\; pi2} \; \overline{y_{u}}^{\; pi2} \; \mathsf{LF}_{2,1,1,1,9} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{2}^{\; pi2} \,, \; \mathsf{m}_{2}^{\; pi2} \; \mathsf{LF}_{2,1,1,1,1,1,1} \big[ \, \widetilde{\mu} \,, \; \mathsf{m}_{2} \,, \; \mathsf{m}_{2}^{\; pi2} \,, \; \mathsf{m}_{2}^{\; p
                                                                                                                                                             \frac{1}{2}\;\widetilde{\mu}\;c_{\gamma}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\text{pi2}}\;\overline{y_{u}}^{\text{si1}}\;\left(-\,c_{\gamma}\;a_{d}^{\,\text{sr}}\,+\,s_{\gamma}\;\widetilde{\mu}\;y_{d}^{\,\text{sr}}\right)\;\mathsf{LF}_{2,1,1,\theta}\left[\,\widetilde{\mu}\,,\,\mathsf{m_{\tilde{d}}}^{\,\text{r}}\,,\,\mathsf{m_{\tilde{q}}}^{\,\text{s}}\,\right]\;+\;
                                                                                                                                                                                                     \tilde{\mu} \; c_{\gamma} \, \overline{y_{d}}^{\text{pr}} \; y_{d}^{\text{pi2}} \, \overline{y_{u}}^{\text{si1}} \; \left( c_{\gamma} \; a_{d}^{\text{sr}} - s_{\gamma} \, \tilde{\mu} \; y_{d}^{\text{sr}} \right) \; \mathsf{LF_{3,1,1,-1}} \big[ \tilde{\mu} \text{, } \, \mathsf{m}_{\bar{d}}^{\text{-r}} \text{, } \, \mathsf{m}_{\bar{q}}^{\text{-r}} \big] 
                                                                                                                                                                                                          \mathbf{s}_{\mathrm{Y}}\,\tilde{\boldsymbol{\mu}}\,\,\mathbf{y_{d}}^{\mathrm{pi2}}\,\,\overline{\mathbf{y_{u}}}^{\mathrm{si1}}\,\,\mathbf{y_{u}}^{\mathrm{sr}}\,\left(-\,\mathbf{s}_{\mathrm{Y}}\,\,\overline{\mathbf{a_{u}}}^{\mathrm{pr}}+\tilde{\boldsymbol{\mu}}\,\,\mathbf{c}_{\mathrm{Y}}\,\,\overline{\mathbf{y_{u}}}^{\mathrm{pr}}\right)\,\,\mathrm{LF_{2,1,1,0}}\left[\,\tilde{\boldsymbol{\mu}}\,,\,\,\mathbf{m_{\tilde{q}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{r}}\,\right]\,+\,\,\mathrm{LF_{2,1,1,0}}\left[\,\tilde{\boldsymbol{\mu}}\,,\,\,\mathbf{m_{\tilde{q}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{r}}\,\right]\,+\,\,\mathrm{LF_{2,1,1,0}}\left[\,\tilde{\boldsymbol{\mu}}\,,\,\,\mathbf{m_{\tilde{q}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u}}}^{\mathrm{p}}\,,\,\,\mathbf{m_{\tilde{u
                                                                                                                                                                                           s_{\gamma} \, \widetilde{\mu} \, y_{\mathsf{d}}^{\mathsf{pi2}} \, \overline{y_{\mathsf{u}}}^{\mathsf{si1}} \, y_{\mathsf{u}}^{\, \mathsf{sr}} \, \left( s_{\gamma} \, \overline{a_{\mathsf{u}}}^{\mathsf{pr}} - \widetilde{\mu} \, c_{\gamma} \, \overline{y_{\mathsf{u}}}^{\mathsf{pr}} \right) \, \mathsf{LF}_{\mathsf{3,1,1,-1}} \big[ \widetilde{\mu} \, , \, \mathsf{m}_{\bar{\mathsf{q}}}^{\, \mathsf{p}} \, , \, \mathsf{m}_{\bar{\mathsf{u}}}^{\, \mathsf{r}} \big] \, + \, \mathsf{m}_{\bar{\mathsf{q}}}^{\, \mathsf{pr}} \, , \, \mathsf{pr}_{\bar{\mathsf{q}}} \, , \, \mathsf{pr}_{\bar{\mathsf{q
                                                                                                                                                                                                     g_{1}^{2} \; \overline{y_{u}}^{\text{pil}} \; \left( \, m_{1} \; s_{\gamma} - \widetilde{\mu} \; c_{\gamma} \right) \; \left( - \, c_{\gamma} \; a_{d}^{\; \text{pi2}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pi2}} \right) \; \text{LF}_{1,1,1,1,0} \left[ \, m_{1} \; , \; m_{\bar{d}}^{\; -i2} \; , \; m_{\bar{q}}^{\; -i2} \; , \; \widetilde{\mu} \, \right] \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_{d}^{\; \text{pi2}} \; + \; c_{\gamma} \; \widetilde{\mu} \; a_
                                                                                                                                                                                                                    g_{1}^{2} \, \overline{y_{u}}^{\text{pil}} \, \left( \, m_{1} \, s_{\gamma} + \widetilde{\mu} \, c_{\gamma} \, \right) \, \left( - \, c_{\gamma} \, a_{d}^{\, \text{pi2}} + s_{\gamma} \, \widetilde{\mu} \, y_{d}^{\, \text{pi2}} \right) \, LF_{2,1,1,1,-1} \big[ \, m_{1} \, , \, \, m_{\tilde{d}}^{\, \, i2} \, , \, \, m_{\tilde{q}}^{\, \, p} \, , \, \, \widetilde{\mu} \, \big] \, + \, c_{\gamma} \, m_{\tilde{d}}^{\, \, p} \, , \, \, \widetilde{\mu} \, \big] + \, c_{\gamma} \, m_{\tilde{d}}^{\, \, p} \, m_{\tilde{d}}^{\, \, p} \, , \, \, \widetilde{\mu} \, \big] + \, c_{\gamma} \, m_{\tilde{d}}^{\, \, p} \, m_{\tilde{d}}^{\, \, p} \, m_{\tilde{d}}^{\, \, p} \, m_{\tilde{d}}^{\, \, p} \, , \, \, \widetilde{\mu} \, \big] + \, c_{\gamma} \, m_{\tilde{d}}^{\, \, p} \, m_{\tilde{d}}^{\, \, p
                                                                                                                                                        \frac{1}{3} \; g_1^2 \; y_d^{\text{pi2}} \; \left( s_\gamma \; \overline{a_u}^{\text{pi1}} - \widetilde{\mu} \; c_\gamma \; \overline{y_u}^{\text{pi1}} \right) \; \left( - \, m_1 \; c_\gamma \, + \, s_\gamma \; \widetilde{\mu} \right) \; LF_{1,1,1,1,0} \left[ \, m_1 \; , \; m_{\widetilde{q}}^{\, \, p} \; , \; m_{\widetilde{u}}^{\, \, i1} \; , \; \widetilde{\mu} \, \right] \; - \; \widetilde{\mu} 
                                                                                                                                                                                           \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{pi2}} \; \left( \mathsf{s_Y} \; \overline{\mathsf{a_u}}^{\mathsf{pi1}} - \widetilde{\mu} \; \mathsf{c_Y} \; \overline{\mathsf{y_u}}^{\mathsf{pi1}} \right) \; \left( \mathsf{m_1} \; \mathsf{c_Y} + \mathsf{s_Y} \; \widetilde{\mu} \right) \; \mathsf{LF_{2,1,1,1,-1}} \big[ \mathsf{m_1} \, , \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \, , \; \mathsf{m_{\tilde{u}}}^{\mathsf{i1}} \, , \; \widetilde{\mu} \big] \; + \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \; , \; \mathsf{m_{\tilde{u}}}^{\mathsf{p}} \, , \; \mathsf{
                                                                                                                                                        \frac{1}{12} g_1^2 \overline{y_u}^{\text{pil}} (m_1 s_{\gamma} + \tilde{\mu} c_{\gamma}) \left( -c_{\gamma} a_d^{\text{pil}} + s_{\gamma} \tilde{\mu} y_d^{\text{pil}} \right) LF_{2,1,1,1,-1} \left[ m_{\tilde{d}}^{\text{il}}, m_1, m_{\tilde{q}}^{\text{p}}, \tilde{\mu} \right] + \frac{1}{12} \left[ m_{\tilde{d}}^{\text{pil}}, m_1, m_{\tilde{q}}^{\text{pil}}, \tilde{\mu} \right] + \frac{1}{12} \left[ m_{\tilde{d}}^{\text{pil}}, \tilde{\mu} \right] + \frac
                                                                                                                                                        \frac{2}{9} \ g_{1}^{\ 2} \ \left( s_{\gamma} \ \overline{a_{u}}^{pi1} - \widetilde{\mu} \ c_{\gamma} \ \overline{y_{u}}^{pi1} \right) \ \left( - \, c_{\gamma} \ a_{d}^{pi2} + s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pi2} \right) \ \mathsf{LF}_{2,1,1,1,-1} \left[ \, \mathsf{m}_{\tilde{q}}^{\ p}, \ \mathsf{m}_{1} \, , \ \mathsf{m}_{\tilde{d}}^{-i2} \, , \ \mathsf{m}_{\tilde{u}}^{-i1} \right] \ + c_{\gamma} \ \widetilde{\mu} \ y_{d}^{pi2} + c_{\gamma} \ \widetilde{\mu} \ y_{
                                                                                                                                                        \frac{1}{12} \ g_1^{\ 2} \ \overline{y_u^{\ pil}} \ \left( \ m_1 \ s_{\gamma} + \widetilde{\mu} \ c_{\gamma} \right) \ \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \ y_d^{\ pil} \right) \ LF_{2,1,1,1,-1} \left[ \ m_{\bar{q}}^{\ p}, \ m_1, \ m_{\bar{d}}^{\ il}, \ \widetilde{\mu} \right] + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \ y_d^{\ pil} \right) \ LF_{2,1,1,1,-1} \left[ m_{\bar{q}}^{\ p}, \ m_1, \ m_{\bar{d}}^{\ il}, \ \widetilde{\mu} \right] + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) + c_{\gamma} \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_{\gamma} \ a_d^{\ pil} - s_{\gamma} \ \widetilde{\mu} \right) \left( c_
                                                                                                                                                        \frac{1}{6} g_1^2 y_d^{\text{pi2}} \left( s_{\gamma} \overline{a_u}^{\text{pi1}} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{\text{pi1}} \right) \left( m_1 c_{\gamma} + s_{\gamma} \widetilde{\mu} \right) LF_{2,1,1,1,-1} \left[ m_{\tilde{q}}^{\text{p}}, m_1, m_{\tilde{u}}^{\text{i1}}, \widetilde{\mu} \right] + \frac{1}{6} m_{\tilde{q}}^{\text{pi2}} \left( s_{\gamma} \overline{a_u}^{\text{pi2}} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{\text{pi1}} \right) \left( m_1 c_{\gamma} + s_{\gamma} \widetilde{\mu} \right) LF_{2,1,1,1,-1} \left[ m_{\tilde{q}}^{\text{p}}, m_1, m_{\tilde{u}}^{\text{i1}}, \widetilde{\mu} \right] + \frac{1}{6} m_{\tilde{q}}^{\text{pi2}} \left( s_{\gamma} \overline{a_u}^{\text{pi2}} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{\text{pi2}} \right) \left( m_1 c_{\gamma} + s_{\gamma} \widetilde{\mu} \right) LF_{2,1,1,1,-1} \left[ m_{\tilde{q}}^{\text{pi2}}, m_1, m_{\tilde{u}}^{\text{i1}}, \widetilde{\mu} \right] + \frac{1}{6} m_{\tilde{q}}^{\text{pi2}} \left( s_{\gamma} \overline{a_u}^{\text{pi2}} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{\text{pi2}} \right) \left( s_{\gamma} \overline{a_u}^{\text{pi2}} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{\text
                                                                                                                                                   \frac{4}{3} \; g_{3}^{\; 2} \; \left( s_{\gamma} \; \overline{a_{u}}^{p \, i \, 1} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{p \, i \, 1} \right) \; \left( c_{\gamma} \; a_{d}^{p \, i \, 2} - s_{\gamma} \; \widetilde{\mu} \; y_{d}^{p \, i \, 2} \right) \; LF_{2, 1, 1, 1, -1} \left[ m_{\tilde{q}}^{\; p}, \; m_{3}, \; m_{\tilde{d}}^{\; i \, 2}, \; m_{\tilde{u}}^{\; i \, 1} \right] \; - \left( c_{\gamma} \; a_{d}^{p \, i \, 2} - s_{\gamma} \; \widetilde{\mu} \; y_{d}^{p \, i \, 2} \right) \; LF_{2, 1, 1, 1, -1} \left[ m_{\tilde{q}}^{\; p}, \; m_{3}, \; m_{\tilde{d}}^{\; i \, 2}, \; m_{\tilde{u}}^{\; i \, 1} \right] \; - \left( c_{\gamma} \; a_{d}^{p \, i \, 2} - s_{\gamma} \; \widetilde{\mu} \; y_{d}^{p \, i \, 2} \right) \; LF_{2, 1, 1, 1, 1, 1} \left[ m_{\tilde{q}}^{\; p}, \; m_{3}, \; m_{\tilde{d}}^{\; i \, 2}, \; m_{\tilde{u}}^{\; i \, 1} \right] \; - \left( c_{\gamma} \; a_{d}^{p \, i \, 2} - s_{\gamma} \; \widetilde{\mu} \; y_{d}^{p \, i \, 2} \right) \; LF_{2, 1, 1, 1, 1, 1} \left[ m_{\tilde{q}}^{\; p}, \; m_{3}, \; m_{\tilde{d}}^{\; i \, 2}, \; m_{\tilde{u}}^{\; i \, 1} \right] \; - \left( c_{\gamma} \; a_{d}^{p \, i \, 2} - s_{\gamma} \; \widetilde{\mu} \; y_{d}^{p \, i \, 2} \right) \; LF_{2, 1, 1, 1, 1, 1} \left[ m_{\tilde{q}}^{\; p}, \; m_{3}, \; m_{\tilde{d}}^{\; i \, 2}, \; m_{\tilde{d}}^{\; i \, 1} \right] \; - \left( c_{\gamma} \; a_{d}^{p \, i \, 1} - \widetilde{\mu} \; y_{d}^{p \, i \, 1} \right) \; C_{\gamma} \; F_{3, 1, 1} \left[ m_{\tilde{q}}^{\; p}, \; m_{\tilde{d}}^{p \, i \, 1}, \; m_{\tilde{d}}^{p \, i \, 1} \right] \; C_{\gamma} \; F_{3, 1, 1} \left[ m_{\tilde{q}}^{\; p}, \; m_{\tilde{d}}^{p \, i \, 1}, \; m_{\tilde{d}}^{p \, i \, 1} \right] \; C_{\gamma} \; F_{3, 1, 1} \left[ m_{\tilde{d}}^{p \, i \, 1}, \; m_{\tilde{d}}^{p \, i \, 1}, 
                                                                                                                                                                                                g_{1}^{\ 2}\ y_{d}^{\ pi2}\ \left(s_{\gamma}\ \overline{a_{u}}^{pi1}-\widetilde{\mu}\ c_{\gamma}\ \overline{y_{u}}^{pi1}\right)\ \left(m_{1}\ c_{\gamma}+s_{\gamma}\ \widetilde{\mu}\right)\ \mathsf{LF}_{2,1,1,1,-1}\!\left[m_{\bar{u}}^{\ i1},\ m_{1},\ m_{\bar{q}}^{\ p},\ \widetilde{\mu}\right]+c_{1}^{\ 2}
                                                                                                                                                        \frac{1}{12} \; g_{1}^{\; 2} \; \overline{y_{u}}^{\text{pil}} \; \left( \, m_{1} \; s_{\gamma} + \widetilde{\mu} \; c_{\gamma} \, \right) \; \left( \, c_{\gamma} \; a_{d}^{\, \text{pi2}} - s_{\gamma} \, \widetilde{\mu} \; y_{d}^{\, \text{pi2}} \right) \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{p}} \, \big] \; + \; \mathsf{LF}_{2,1,1,1,-1} \big[ \, \widetilde{\mu} \, , \; m_{1} \, , \; m_{\tilde{d}}^{\, \text{i2}} \, , \; m_{\tilde{q}}^{\, \text{i3}} \, , \; m_{\tilde{q}}^
                                                                                                                                                   \frac{1}{6} \; g_1^{\; 2} \; y_d^{\; pi2} \; \left( s_\gamma \; \overline{a_u}^{pi1} - \widetilde{\mu} \; c_\gamma \; \overline{y_u}^{pi1} \right) \; \left( \textbf{m}_1 \; c_\gamma + s_\gamma \; \widetilde{\mu} \right) \; \text{LF}_{2,1,1,1,-1} \! \left[ \widetilde{\mu} \, , \; \textbf{m}_1 \, , \; \textbf{m}_{\tilde{q}}^{\; p} \, , \; \textbf{m}_{\tilde{u}}^{\; -i1} \right] \right)
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