```
\textit{C}_{\mathsf{HB}} \to \hbar \, \left( \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \mathsf{LF}_{3\,,\,0} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ 4} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \curlyvee} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, - \, \frac{1}{36} \, \sum_{p} \, c_{2\, \varUpsilon} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, + \, \frac{1}{36} \, \sum_{p} \, c_{2\, \varUpsilon} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, + \, \frac{1}{36} \, \sum_{p} \, c_{2\, \varUpsilon} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, + \, \frac{1}{36} \, \sum_{p} \, c_{2\, \varUpsilon} \, g_{1}^{\ p} \, \, \mathsf{LF}_{4\,,\,-1} \left[ \, m_{\tilde{d}}^{\ p} \, \right] \, + \, \frac
                                                                                                                                                           g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{3,0}}\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;\mathsf{LF_{4,-1}}\!\left[\,m_{\tilde{d}}{}^{r}\,\right]\,+\,\frac{1}{6}\;g_{1}{}^{2}\;c_{\gamma}{}^{2}\;\overline{y_{d}}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{pr}\;y_{d}{}^{
                                                                                                                      \frac{1}{4}\, \sum_{p}\, c_{2\,\gamma}\, g_{1}{}^{4}\, \, \text{LF}_{3,0} \big[\, \text{m}_{\bar{e}}{}^{p} \big] \, - \, \frac{1}{4}\, \sum_{p}\, c_{2\,\gamma}\, g_{1}{}^{4}\, \, \text{LF}_{4,-1} \big[\, \text{m}_{\bar{e}}{}^{p} \, \big] \, - \, \frac{1}{2}\, \, g_{1}{}^{2}\, \, c_{\gamma}^{\,\,2}\, \, \overline{y_{e}}{}^{pr}\, \, y_{e}{}^{pr}\, \, \text{LF}_{3,0} \big[\, \text{m}_{\bar{e}}{}^{r} \, \big] \, + \, \frac{1}{2}\, \, y_{e}{}^{pr} \, \, y_{e}{}^{
                                                                                                                          \frac{1}{2} \ g_{1}{}^{2} \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ LF_{4,-1} \left[ \ m_{\tilde{e}}{}^{r} \ \right] \ - \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ \right] \ + \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ \right] \ + \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ \right] \ + \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ \right] \ + \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ \right] \ + \ \frac{1}{16} \ g_{1}{}^{2} \ \left( 2 \ c_{\gamma}{}^{2} \ \overline{y_{e}}^{pr} \ y_{e}{}^{pr} \ y_{e}{}^{pr} \ + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[ \ m_{\tilde{l}}{}^{p} \ y_{e}{}^{pr} \ y_{e}{}^{pr
                                                                                                                              1_
                                                                                                                                                                                   \left(2\;{g_{1}}^{2}\;{c_{\gamma}}^{2}\;\overline{y_{e}}^{pr}\;{y_{e}}^{pr}\;+\sum_{p}\,{c_{2\,\gamma}}\;{g_{1}}^{4}\right)\;LF_{4,-1}\!\left[m_{\tilde{l}}^{\;p}\right]\;+
                                                                                                                          \frac{1}{144} \ g_{1}{}^{2} \ \left(-6 \ c_{\gamma}{}^{2} \ \overline{y_{d}}^{pr} \ y_{d}{}^{pr} - 6 \ s_{\gamma}{}^{2} \ \overline{y_{u}}^{pr} \ y_{u}{}^{pr} + \sum_{p} c_{2\,\gamma} \ g_{1}{}^{2} \right) \ LF_{3,0} \left[\, m_{\tilde{q}}^{\,-\,p} \,\right] \ + \left[\, m_{\tilde{q}}^{\,-\,p} \,\right] \ +
                                                                                                                                                                                                    g_{1}^{2} \; \left(6 \; c_{\gamma}^{\; 2} \; \overline{y_{d}}^{pr} \; y_{d}^{\; pr} \; + \; 6 \; s_{\gamma}^{\; 2} \; \overline{y_{u}}^{pr} \; y_{u}^{\; pr} \; - \sum_{p} c_{2 \; \gamma} \; g_{1}^{\; 2} \right) \; LF_{4, -1} \left\lceil m_{\widetilde{q}}^{\; p} \right\rceil \; - \; C_{p}^{\; 2} \; \left( \frac{1}{2} \; a_{\gamma}^{\; pr} \; y_{d}^{\; pr} \; + \; \frac{1}{2} \; a_{\gamma}^{\; pr} \; y_{d}^{\; pr} \; \right) \; LF_{4, -1} \left\lceil m_{\widetilde{q}}^{\; pr} \; y_{d}^{\; pr} \; + \; \frac{1}{2} \; a_{\gamma}^{\; pr} \; y_{d}^{\; pr} \; \right] \; .
                                                                                                                          \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ r} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ r} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ r} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ r} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 4} \, LF_{4\,,-1} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, - \, \frac{2}{3} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, \overline{y_{u}}^{pr} \, y_{u}^{pr} \, LF_{3\,,0} \left[\, m_{\tilde{u}}^{\ p} \,\right] \, + \, \frac{2}{9} \, \sum_{p} \, c_{2\,\gamma} \, g_{1}^{\ 2} \, g_{1}^{\ 2} \, s_{\gamma}^{\ 2} \, g_{1}^{\ 
                                                                                                                          \frac{2}{3} \; g_{1}^{\; 2} \; s_{\gamma}^{\; 2} \; \overline{y_{u}}^{pr} \; y_{u}^{\; pr} \; \mathsf{LF_{4,-1}} \Big[ \, m_{\tilde{u}}^{\; r} \, \Big] \; + \; \frac{1}{64} \; \Big( g_{1}^{\; 4} \; \left( 1 + 3 \; c_{4 \; \gamma} \right) \; + \; 3 \; g_{1}^{\; 2} \; g_{2}^{\; 2} \; \left( -1 + c_{4 \; \gamma} \right) \, \Big) \; \; \mathsf{LF_{3,0}} \left[ \, m_{\scriptscriptstyle \oplus} \, \right] \; - \; \mathsf{LF_{4,-1}} \left[ \, m_{\scriptscriptstyle \oplus} \, m_{\scriptscriptstyle \oplus}
                                                                                                                                                                               g_{1}^{2}\left(c_{\gamma}\;\overline{a_{d}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{d}}^{pr}\right)\;\left(c_{\gamma}\;a_{d}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{q}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}\,\right]\;-\,\mathsf{LF}_{2,2,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\;r}\,,\;\mathsf{m}_{\bar{d}}^{\;\;p}
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{d}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{d}}^{pr}\right)\;\left(c_{\gamma}\;a_{d}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{d}^{pr}\right)\;LF_{3,1,0}\left[\tilde{m_{\tilde{d}}}^{r},\;\tilde{m_{\tilde{q}}}^{p}\right]\;+
                                                                                                                                                                   \mathbf{g_1}^2 \; \left( \mathbf{c_{\scriptscriptstyle Y}} \; \overline{\mathbf{a_d}}^{\text{pr}} - \mathbf{s_{\scriptscriptstyle Y}} \, \widetilde{\boldsymbol{\mu}} \, \overline{\mathbf{y_d}}^{\text{pr}} \right) \; \left( \mathbf{c_{\scriptscriptstyle Y}} \; \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\scriptscriptstyle Y}} \, \widetilde{\boldsymbol{\mu}} \; \mathbf{y_d}^{\text{pr}} \right) \; \mathsf{LF_{3,2,-1}} \big[ \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, , \; \mathbf{m_{\bar{q}}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \big] \; \mathbf{m_{\bar{d}}}^{\text{-r}} \; , \; \mathbf{m_{\bar{q}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, , \; \mathbf{m_{\bar{q}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, , \; \mathbf{m_{\bar{q}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, , \; \mathbf{m_{\bar{q}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text{-r}} \, \mathbf{m_{\bar{d}}}^{\text
                                                                                                                                                               \mathbf{g_1}^2 \, \left( \mathbf{c}_{\curlyvee} \, \overline{\mathbf{a_d}}^{\text{pr}} - \mathbf{s}_{\curlyvee} \, \widetilde{\boldsymbol{\mu}} \, \overline{\mathbf{y_d}}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s}_{\curlyvee} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{y_d}^{\text{pr}} \right) \, \operatorname{LF_{4,1,-1}} \left[ \, \boldsymbol{m_{\widetilde{d}}}^{\text{r}} \, , \, \, \boldsymbol{m_{\widetilde{q}}}^{\text{r}} \right] \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{y_d}^{\text{pr}} \right) \, \operatorname{LF_{4,1,-1}} \left[ \, \boldsymbol{m_{\widetilde{d}}}^{\text{r}} \, , \, \, \boldsymbol{m_{\widetilde{q}}}^{\text{r}} \right] \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\curlyvee}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{s_{\nwarrow}} \, \widetilde{\boldsymbol{\mu}} \, \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\curlyvee} \, \mathbf{a_d}^{\text{pr}} - \mathbf{a_d}^{\text{pr}} \right) \, \left( \mathbf{c}_{\nwarrow} \, \mathbf{
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]-\left(c_{\gamma}\;a_{e}^{pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{pr}\right)\;\mathsf{LF}_{2,2,0}\!\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,\;\mathsf{m_{\tilde{l}}}^{r}\,\right]
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;LF_{3,1,0}\left[\,{m_{\tilde{e}}}^{r}\,,\;{m_{\tilde{l}}}^{p}\,\right]\;+
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\,\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\,\overline{y_{e}}^{pr}\right)\,\left(c_{\gamma}\,a_{e}^{pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{pr}\right)\,LF_{3,2,-1}\!\left[m_{\tilde{e}}^{\,\,r},\,m_{\tilde{l}}^{\,\,p}\right]+
                                                                                                                                                                                                                                                                 \left(c_{\gamma} \, \overline{a_{e}}^{pr} - s_{\gamma} \, \widetilde{\mu} \, \overline{y_{e}}^{pr}\right) \, \left(c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr}\right) \, \mathsf{LF_{4,1,-1}} \big[\, \mathsf{m_{\tilde{e}}}^{r} \, \mathsf{,} \, \, \mathsf{m_{\tilde{1}}}^{p}\, \big] \, + \, \mathsf{I} \, \mathsf{m_{\tilde{e}}}^{r} \, \mathsf{,} \, \, \mathsf{m_{\tilde{1}}}^{r} \, \mathsf{,} \, \, \mathsf{,} \, \, \mathsf{m_{\tilde{1}}}^{r} \, \mathsf{,} \, \, \, \mathsf{,} \,
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;LF_{3,2,-1}\!\left[m_{\widetilde{l}}^{\;p},\;m_{\widetilde{e}}^{\;p}\right]
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;LF_{4,1,-1}\!\left[m_{\tilde{l}}^{\;p},\;m_{\tilde{e}}^{\;p}\right]
                                                                                                                                                                                                                                                                 \left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;LF_{5,1,^{-2}}\!\left[m_{\tilde{l}}^{\;p},\;m_{\tilde{e}}^{\;p}\right]
                                                                                                                                                                   \mathbf{g_1}^2 \; \left( \mathbf{c}_{\curlyvee} \; \overline{\mathbf{a_d}}^{\text{pr}} - \mathbf{s}_{\curlyvee} \; \widetilde{\boldsymbol{\mu}} \; \overline{\mathbf{y_d}}^{\text{pr}} \right) \; \left( \mathbf{c}_{\curlyvee} \; \mathbf{a_d}^{\text{pr}} - \mathbf{s}_{\curlyvee} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_d}^{\text{pr}} \right) \; \text{LF}_{3,1,0} \left[ \, \mathbf{m_{\tilde{q}}}^{\sim} \, \mathbf{r} , \; \mathbf{m_{\tilde{d}}}^{\sim} \, \mathbf{r} \right] \; \mathbf{m_{\tilde{d}}}^{\sim} \; \mathbf{n_{\tilde{d}}}^{\sim} \; \mathbf{n_{\tilde{d}
                                                                                                                                                                                                                                                             \left(c_{\scriptscriptstyle Y}\;\overline{a_d}^{pr}-s_{\scriptscriptstyle Y}\,\widetilde{\mu}\;\overline{y_d}^{pr}\right)\;\left(c_{\scriptscriptstyle Y}\;a_d{}^{pr}-s_{\scriptscriptstyle Y}\,\widetilde{\mu}\;y_d{}^{pr}\right)\;LF_{3,2,-1}\big[m_{\bar{q}}^{\;\;p},\;m_{\bar{d}}^{\;\;r}\big]\;-
                                                                                                                                                                                       g_{1}^{2} \, \left( c_{\curlyvee} \, \overline{a_{d}}^{pr} - s_{\curlyvee} \, \widetilde{\mu} \, \overline{y_{d}}^{pr} \right) \, \left( c_{\curlyvee} \, a_{d}^{\, pr} - s_{\curlyvee} \, \widetilde{\mu} \, y_{d}^{\, pr} \right) \, \mathsf{LF_{4,1,-1}} \big\lceil \, \mathsf{m}_{\tilde{q}} \,
                                                                                                                              \frac{3}{4} \; g_1^{\; 2} \; \left( c_{\gamma} \; \overline{a_d}^{pr} - s_{\gamma} \, \widetilde{\mu} \; \overline{y_d}^{pr} \right) \; \left( c_{\gamma} \; a_d^{\; pr} - s_{\gamma} \, \widetilde{\mu} \; y_d^{\; pr} \right) \; \mathsf{LF}_{5,1,-2} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} \, , \; \mathsf{m}_{\tilde{\mathsf{d}}}^{\; r} \right] \; - \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; .
                                                                                                                                                                               g_{1}^{2} \, \left( s_{\gamma} \, \overline{a_{u}}^{pr} - \widetilde{\mu} \, c_{\gamma} \, \overline{y_{u}}^{pr} \right) \, \left( s_{\gamma} \, a_{u}^{\, pr} - \widetilde{\mu} \, c_{\gamma} \, y_{u}^{\, pr} \right) \, \mathsf{LF}_{2,2,0} \left[ \, \mathsf{m}_{\tilde{q}} \, \right] \, \mathsf{LF}_{2,2,0
                                                                                                                                                                                   g_{1}^{2} \left( s_{\gamma} \; \overline{a_{u}}^{\text{pr}} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{\text{pr}} \right) \; \left( s_{\gamma} \; a_{u}^{\text{pr}} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\text{pr}} \right) \; \text{LF}_{3,1,0} \left[ \textit{m}_{\tilde{q}}^{\; p} \text{, } \textit{m}_{\tilde{u}} \right]
                                                                                                                          24
                                                                                                                                                                                       \mathbf{g_1}^2 \; \left( \, \mathbf{s_{\scriptscriptstyle Y}} \; \overline{\mathbf{a_u}}^{\text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\scriptscriptstyle Y}} \; \overline{\mathbf{y_u}}^{\text{pr}} \right) \; \left( \, \mathbf{s_{\scriptscriptstyle Y}} \; \mathbf{a_u}^{\text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\scriptscriptstyle Y}} \; \mathbf{y_u}^{\text{pr}} \right) \; \text{LF}_{3,2,-1} \big[ \, \mathbf{m_{\tilde{q}}}^{\, p} \, , \; \mathbf{m_{\tilde{u}}} \, \mathbf{m_{\tilde{u}}}^{\, p} \, , \; \mathbf{m_{\tilde{u}}}
                                                                                                                                                                                       \mathbf{g_1}^2 \; \left( \, \mathbf{s_{\scriptscriptstyle Y}} \; \overline{\mathbf{a_u}}^{\text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\scriptscriptstyle Y}} \; \overline{\mathbf{y_u}}^{\text{pr}} \right) \; \left( \, \mathbf{s_{\scriptscriptstyle Y}} \; a_u^{\, \text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\scriptscriptstyle Y}} \; \mathbf{y_u}^{\text{pr}} \right) \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{pr}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{p}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{p}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, \text{p}} \big] \; \mathsf{LF_{4,1,-1}} \big[ \, \mathbf{m_{\tilde{q}}}^{\, \text{p}} \, , \; \mathbf{m_{\tilde{u}}}^{\, 
                                                                                                                                  1
                                                                                                                          24
                                                                                                                                                                               g_{1}^{2}\left(s_{\gamma}\;\overline{a_{u}}^{pr}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\;\left(s_{\gamma}\;a_{u}^{\;pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;\mathsf{LF_{3,1,0}}\left[\mathsf{m}_{\tilde{u}}^{\;r}\,,\;\mathsf{m}_{\tilde{q}}^{\;r}\right]
                                                                                                                              24
                                                                                                                                                                               g_{1}^{2} \; \left( \, s_{\scriptscriptstyle Y} \; \overline{a_{u}}^{\text{pr}} - \widetilde{\mu} \; c_{\scriptscriptstyle Y} \; \overline{y_{u}}^{\text{pr}} \right) \; \left( \, s_{\scriptscriptstyle Y} \; a_{u}^{\; \text{pr}} - \widetilde{\mu} \; c_{\scriptscriptstyle Y} \; y_{u}^{\; \text{pr}} \right) \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{pr}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}} \; a_{u}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{u}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; \right] \; \text{LF}_{3,2,-1} \left[ \, m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\; \text{r}} \; , \; m_{\tilde{q}}^{\;
                                                                                                                          24
                                                                                                                          \frac{11}{24} \ g_1^2 \ \left( s_\gamma \ \overline{a_u}^{pr} - \widetilde{\mu} \ c_\gamma \ \overline{y_u}^{pr} \right) \ \left( s_\gamma \ a_u^{pr} - \widetilde{\mu} \ c_\gamma \ y_u^{pr} \right) \ \mathsf{LF_{4,1,-1}} \left\lceil \mathsf{m_{\tilde{u}}}^r, \ \mathsf{m_{\tilde{q}}} \right\rceil
                                                                                                                                                               g_{1}^{2} \left( s_{\gamma} \overline{a_{u}}^{pr} - \widetilde{\mu} c_{\gamma} \overline{y_{u}}^{pr} \right) \left( s_{\gamma} a_{u}^{pr} - \widetilde{\mu} c_{\gamma} y_{u}^{pr} \right) LF_{5,1,-2} \left[ m_{\widetilde{u}}^{r}, m_{\widetilde{q}}^{pr} \right]
                                                                                                                                                                                                                                                                 (c_{\gamma}^2 + s_{\gamma}^2) LF_{3,1,-1}[\tilde{\mu}, m_1] - \frac{1}{4} m_1 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^4 LF_{3,1,0}[\tilde{\mu}, m_1] +
                                                                                                                                                                                                                                                                 (c_{\gamma}^2 + s_{\gamma}^2) LF_{4,1,-2}[\tilde{\mu}, m_1] + \frac{1}{2} m_1 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^4 LF_{4,1,-1}[\tilde{\mu}, m_1] -
                                                                                                                                                                                                                                                                 (c_{\gamma}^2 + s_{\gamma}^2) LF_{5,1,-3}[\tilde{\mu}, m_1] - \frac{1}{2} m_1 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^4 LF_{5,1,-2}[\tilde{\mu}, m_1]
                                                                                                                                                                   g_1^2 g_2^2 (c_y^2 + s_y^2) LF_{3,1,-1}[\tilde{\mu}, m_2] - \frac{3}{4} m_2 s_y \tilde{\mu} c_y g_1^2 g_2^2 LF_{3,1,0}[\tilde{\mu}, m_2] +
                                                                                                                                                               g_1^2 g_2^2 (c_y^2 + s_y^2) LF_{4,1,-2}[\tilde{\mu}, m_2] + \frac{3}{2} m_2 s_y \tilde{\mu} c_y g_1^2 g_2^2 LF_{4,1,-1}[\tilde{\mu}, m_2] -
                                                                                                                                                               g_1^2 g_2^2 (c_y^2 + s_y^2) LF_{5,1,-3} [\tilde{\mu}, m_2] - \frac{3}{2} m_2 s_y \tilde{\mu} c_y g_1^2 g_2^2 LF_{5,1,-2} [\tilde{\mu}, m_2]
```