```
C_{\text{H }\square} \rightarrow \frac{1}{16\,\pi^{2}} \left( -\frac{3}{128}\,\frac{1}{m_{\text{\tiny B}}^{2}}\,\,\mathsf{S_{4\,\gamma}}^{2}\,\left(\mathsf{g_{1}}^{2} + \mathsf{g_{2}}^{2}\right)^{2} + \frac{1}{6}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{3,0}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{4}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{4,-1}}\left[\mathsf{m_{2}}\right] \, - \frac{4}{15}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{4}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{15}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{m_{2}}^{2}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{g_{2}}^{4}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{m_{2}}^{2}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}\right] \, + \frac{1}{16}\,\,\mathsf{LF_{5,-2}}\left[\mathsf{m_{2}}
                                                                                                         \frac{1}{216} \, \sum_{p} \, {g_{1}}^{4} \, \left(4 + 9 \, {c_{2}}_{\text{\tiny $\gamma$}}^{2}\right) \, \, \text{LF}_{3,0} \left[\, m_{\tilde{d}}^{\,\, p}\, \right] \, - \, \frac{1}{144} \, \sum_{p} \, {g_{1}}^{4} \, \left(5 + 6 \, {c_{2}}_{\text{\tiny $\gamma$}}^{\,\, 2}\right) \, \, \text{LF}_{4,-1} \left[\, m_{\tilde{d}}^{\,\, p}\, \right] \, + \, \frac{1}{144} \, \left[\, m_{\tilde{d}}^{\,\, p}\, m_{\tilde{d}}^{\,\, p}\, \right] \, + \, \frac{1}{144} \, \left[\, m_{\tilde{d}}^{\,\, p}\, m_{\tilde{d}}^{\,\, p} \, m_{\tilde{d}}^{\,\, p}\, 
                                                                                                            c_{2\,\gamma}\,g_{1}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\overline{y_{e}}^{pr}\,\,y_{e}^{\ pr}\,\,LF_{3,0}\!\left[\,m_{\tilde{e}}^{\ r}\,\right]\,+\,\frac{1}{2}\,\,c_{2\,\gamma}\,g_{1}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\overline{y_{e}}^{pr}\,\,y_{e}^{\ pr}\,\,LF_{4,-1}\!\left[\,m_{\tilde{e}}^{\ r}\,\right]\,+\,\frac{1}{2}\,\,c_{2\,\gamma}\,g_{1}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\,\overline{y_{e}}^{pr}\,\,y_{e}^{\ pr}\,\,A_{4,-1}\!\left[\,m_{\tilde{e}}^{\ r}\,\right]\,+\,\frac{1}{2}\,\,c_{2\,\gamma}\,g_{1}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\,\overline{y_{e}}^{pr}\,\,x_{e}^{\ pr}\,\,A_{4,-1}\!\left[\,m_{\tilde{e}}^{\ r}\,\right]\,+\,\frac{1}{2}\,\,c_{2\,\gamma}\,g_{1}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\,\overline{y_{e}}^{pr}\,\,x_{e}^{\ 2}\,\,c_{\gamma}^{\ 2}\,\,c_{
                                                                                                            \frac{1}{144} \left(36 \; {c_2}_{\text{Y}} \; {c_{\text{Y}}}^2 \; \overline{y_e}^{\text{pr}} \; y_e^{\text{pr}} \; \left({g_1}^2 + {g_2}^2\right) \; + \\ \sum_{p} \; \left({g_1}^4 \; \left(4 + 9 \; {c_2}_{\text{Y}}^2\right) \; + \; 3 \; {g_2}^4 \; \left(4 - 3 \; {c_2}_{\text{Y}}^2\right)\right) \right) \; \text{LF}_{3,0} \left[{m_{\tilde{l}}}^p\right] \; + \; {c_2}_{\text{P}} \; \left({g_1}^2 + {g_2}^2\right) \; + \; {c_2}_{\text{P}} \; + \; {c_2}_{\text{P}} \; \left({g_1}^2 + {g_2}^2\right) \; + \; {c_2}_{\text{P}} \; + \; {c_2}
                                                                                                            \left(-\frac{1}{4}\;c_{2\;\gamma}\;c_{\gamma}^{\;2}\;\overline{y_{e}}^{pr}\;y_{e}^{\;pr}\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)\;-\frac{1}{96}\;\sum_{p}\;\left(g_{1}^{\;4}\;\left(5+6\;c_{2\;\gamma}^{\;2}\right)+3\;g_{2}^{\;4}\;\left(5-2\;c_{2\;\gamma}^{\;2}\right)\right)\right)\;LF_{4\;,-1}\left[\,m_{\tilde{l}}^{\;p}\,\right]\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;2}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;2}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;4}\left(g_{1}^{\;4}+g_{2}^{\;4}\right)\;+\frac{1}{96}\;c_{2\;\gamma}^{\;
                                                                                                            \frac{1}{4} \; c_{2\,\gamma} \; s_{\gamma}^{\; 2} \; \overline{y_{u}}^{pr} \; y_{u}^{\; pr} \; \left( g_{1}^{\; 2} + 3 \; g_{2}^{\; 2} \right) \; + \\ \frac{1}{432} \; \sum_{p} \; \left( g_{1}^{\; 4} \; \left( 4 + 9 \; c_{2\,\gamma}^{\; 2} \right) \; + \; 27 \; g_{2}^{\; 4} \; \left( 4 - 3 \; c_{2\,\gamma}^{\; 2} \right) \; \right) \; ds^{2} \; ds^
                                                                                                                             LF_{3,0}\left[\,m_{\tilde{q}}^{\;\;p}\,\right] \;+\; \left(\frac{1}{4}\;\,c_{2\,\gamma}\;\left(\,c_{\gamma}^{\;\;2}\,\,\overline{y_{d}}^{pr}\;\,y_{d}^{\;pr}\;\,\left(\,g_{1}^{\;2} \;-\;3\;\,g_{2}^{\;2}\,\right) \;+\;s_{\gamma}^{\;\;2}\,\,\overline{y_{u}}^{pr}\;\,y_{u}^{\;pr}\;\,\left(\,g_{1}^{\;2} \;+\;3\;\,g_{2}^{\;2}\,\right)\,\right) \;-\;2\,\left(\,c_{\gamma}^{\;\;2}\,\,\overline{y_{d}}^{pr}\,\,y_{d}^{\;pr}\,\,\left(\,g_{1}^{\;\;2} \;+\;3\;\,g_{2}^{\;2}\,\right) \;\right) \;+\;2\,\left(\,c_{\gamma}^{\;\;2}\,\,\overline{y_{d}}^{pr}\,\,y_{d}^{\;pr}\,\,\left(\,g_{1}^{\;\;2} \;+\;3\;\,g_{2}^{\;\;2}\,\right)\,\right) \;+\;2\,\left(\,c_{\gamma}^{\;\;2}\,\,\overline{y_{d}}^{pr}\,\,y_{d}^{\;\;pr}\,\,\left(\,g_{1}^{\;\;2} \;+\;3\;\,g_{2}^{\;\;2}\,\right) \;\right) \;+\;2\,\left(\,c_{\gamma}^{\;\;2}\,\,\overline{y_{d}}^{pr}\,\,y_{d}^{\;\;pr}\,\,\left(\,g_{1}^{\;\;2} \;+\;3\;\,g_{2}^{\;\;2}\,\right)\,\right) \;+\;2\,\left(\,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}^{\;\;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}\,\,
                                                                                                                                                                                           \frac{1}{288} \sum_{p} \left( g_{1}^{4} \left( 5 + 6 c_{2 \gamma}^{2} \right) + 27 g_{2}^{4} \left( 5 - 2 c_{2 \gamma}^{2} \right) \right) \right) LF_{4,-1} \left[ m_{\tilde{q}}^{-p} \right] +
                                                                                                            \frac{1}{36} \sum_{p} g_{1}^{4} \left(5 + 6 c_{2 \gamma}^{2}\right) LF_{4,-1} \left[m_{\tilde{u}}^{p}\right] + \frac{8}{135} \sum_{p} g_{1}^{4} LF_{5,-2} \left[m_{\tilde{u}}^{p}\right] +
                                                                                                      c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{3\,,0}\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,-\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,LF_{4\,,-1}\!\left[\,m_{\tilde{u}}^{\,\,r}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,\overline{y_{u}}^{pr}\,\,y_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,z_{u}^{\,pr}\,
                                                                                                            \frac{1}{288} \left( g_{1}^{\phantom{1}4} \left( 8 + 9 \; c_{4\,\gamma} \; (1 + c_{4\,\gamma}) \; - 9 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \; \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; - \; 3 \; s_{2\,\gamma}^{\phantom{2}4} \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \left( - \; 3 + \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 + \; 3 \; c_{4\,\gamma} \; \right) \; + \; 3 \; g_{2}^{\phantom{2}4} \left( 8 +
                                                                                                                                                                                     18\;{g_{1}}^{2}\;{g_{2}}^{2}\;\left(\,{c_{4\,\gamma}}\;\left(\,-\,1\,+\,{c_{4\,\gamma}}\,\right)\,\,-\,{s_{2\,\gamma}}^{4}\right)\,\right)\;LF_{3,0}\left[\,{m_{\Phi}}\,\right]\;+\,\frac{1}{96}\;\left(\,-\,{g_{1}}^{4}\;\left(\,5\,+\,3\;{c_{4\,\gamma}}\;\left(\,1\,+\,{c_{4\,\gamma}}\,\right)\,\,-\,3\;{s_{2\,\gamma}}^{4}\right)\,+\,3\,{c_{4\,\gamma}}^{2}\right)
                                                                                                                                                                                     3\;{g_{2}}^{4}\;\left(-\,5\,-\,{c_{4\,\gamma}}\;\left(-\,3\,+\,{c_{4\,\gamma}}\right)\,+\,{s_{2\,\gamma}}^{4}\right)\,+\,6\;{g_{1}}^{2}\;{g_{2}}^{2}\;\left({c_{4\,\gamma}}\,-\,{c_{4\,\gamma}}^{2}\,+\,{s_{2\,\gamma}}^{4}\right)\,\right)\;LF_{4,-1}\left[\,m_{_{\!\!D}}\,\right]\,+\,2\,{c_{2\,\gamma}}^{4}
                                                                                                            \frac{1}{45} \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{3,0}} \left[ \widetilde{\mu} \right] \; + \\ \frac{1}{24} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{4,-1}} \left[ \widetilde{\mu} \right] \; - \\ \frac{1}{45} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; \mathsf{LF_{5,-2}} \left[ \mathsf{m_{\scriptscriptstyle \oplus}} \right] \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left( \mathsf{g_1}^4 + \mathsf{g_2} \right) \; + \\ \frac{1}{36} \; \left(
                                                                                                                \frac{2}{45} \left( \mathsf{g_1}^4 + \mathsf{3} \; \mathsf{g_2}^4 \right) \; \mathsf{LF_{5,-2}} \left[ \widetilde{\mu} \right] \; + \; \frac{1}{8} \; \mathsf{g_1}^4 \; \left( \mathsf{2} \; \mathsf{c_{\gamma}}^4 + \mathsf{3} \; \mathsf{s_{\gamma}}^2 \; \mathsf{c_{\gamma}}^2 + \mathsf{2} \; \mathsf{s_{\gamma}}^4 \right) \; \mathsf{LF_{2,2,-1}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{8} \; \mathsf{g_1}^4 \; \left( \mathsf{2} \; \mathsf{c_{\gamma}}^4 + \mathsf{3} \; \mathsf{s_{\gamma}}^2 \; \mathsf{c_{\gamma}}^2 + \mathsf{2} \; \mathsf{s_{\gamma}}^4 \right) \; \mathsf{LF_{2,2,-1}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{8} \; \mathsf{g_1}^4 \; \left( \mathsf{2} \; \mathsf{c_{\gamma}}^4 + \mathsf{3} \; \mathsf{s_{\gamma}}^2 \; \mathsf{c_{\gamma}}^2 + \mathsf{2} \; \mathsf{s_{\gamma}}^4 \right) \; \mathsf{LF_{2,2,-1}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{8} \; \mathsf{g_1}^4 \; \left( \mathsf{2} \; \mathsf{c_{\gamma}}^4 + \mathsf{3} \; \mathsf{s_{\gamma}}^2 \; \mathsf{c_{\gamma}}^2 + \mathsf{2} \; \mathsf{s_{\gamma}}^4 \right) \; \mathsf{LF_{2,2,-1}} \left[ \, \mathsf{m_2} \, , \; \mathsf{m_2}^4 \right] \; + \; \frac{1}{8} \; \mathsf{m_2}^4 
                                                                                                            \frac{3}{8} \; g_{1}{}^{4} \; \left(-\,m_{1}{}^{2} \; - \; 8 \; m_{1} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 4 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{3,2,-1} \left[\,m_{1} \, , \; \widetilde{\mu}\,\right] \; - \; g_{1}{}^{4} \; m_{1}{}^{2} \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2} \; \mathsf{LF}_{3,2,0} \left[\,m_{1} \, , \; \widetilde{\mu}\,\right] \; + \; c_{\gamma}{}^{2} \; m_{1}{}^{2} \; n_{1}{}^{2} \; n_{2}{}^{2} \; n_{1}{}^{2} \; n_{2}{}^{2} \; n_{1}{}^{2} \; n_{2}{}^{2} \; n_{1}{}^{2} \; n_{2}{}^{2} \; n_{2}{}^{2
                                                                                                            \frac{1}{4} g_{1}^{4} LF_{3,3,-3}[m_{1}, \tilde{\mu}] + \frac{1}{4} g_{1}^{4} (m_{1}^{2} + 8 m_{1} s_{\gamma} \tilde{\mu} c_{\gamma} + 4 s_{\gamma}^{2} \tilde{\mu}^{2} c_{\gamma}^{2}) LF_{3,3,-2}[m_{1}, \tilde{\mu}] +
                                                                                                      \mathsf{g_1}^4 \; \mathsf{m_1}^2 \; \mathsf{S_{\gamma}}^2 \; \widetilde{\mu}^2 \; \mathsf{c_{\gamma}}^2 \; \mathsf{LF_{3,3,-1}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_1}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_1}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_1}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{m_2} \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{m_2} \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{LF_{4,2,-3}} \left[ \, \mathsf{m_2} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{M_2} \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{M_2} \; + \; \frac{1}{4} \; \mathsf{M_2} \; \mathsf{M_2} \; + \; \frac{1}{4} \; \mathsf{M_2} \; + \; \frac{1}{4} \;
                                                                                                                                   \mathsf{g_{1}}^{4} \; \left(\mathsf{m_{1}}^{2} + 8 \; \mathsf{m_{1}} \; \mathsf{s_{\gamma}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} + 4 \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2}\right) \; \mathsf{LF_{4,2,-2}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{1}}^{2} \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}} \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}} \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}} \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}} \; \mathsf{s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}}^{2} \; \mathsf{s_{\gamma}}^{2} \; \mathsf{m_{2}}^{2} \; \mathsf{c_{\gamma}}^{2} \; \mathsf{LF_{4,2,-1}[m_{1}, \; \widetilde{\mu}\,]} \; + \; \mathsf{g_{1}}^{4} \; \mathsf{m_{2}}^{2} \; \mathsf{m
                                                                                                      g_{2}{}^{4} \; \mathsf{LF}_{2,1,0} \left[\,\mathsf{m}_{2}\,,\,\widetilde{\mu}\,\right] \; + \; \frac{1}{8} \; g_{2}{}^{4} \; \left(4 \; \mathsf{c}_{\gamma}{}^{4} + 4 \; \mathsf{s}_{\gamma}{}^{2} \; \left(-2 + \mathsf{s}_{\gamma}{}^{2}\right) \; + \; \mathsf{c}_{\gamma}{}^{2} \; \left(-8 + 19 \; \mathsf{s}_{\gamma}{}^{2}\right)\,\right) \; \mathsf{LF}_{2,2,-1} \left[\,\mathsf{m}_{2}\,,\,\widetilde{\mu}\,\right] \; + \; \mathsf{LF}_{2,2,-1} \left[\,\mathsf{m}_{2}\,,\,\widetilde{\mu}
                                                                                                            \frac{1}{8} m<sub>2</sub> g<sub>2</sub><sup>4</sup> (m<sub>2</sub> (c<sub>Y</sub><sup>4</sup> - 8 s<sub>Y</sub><sup>2</sup> c<sub>Y</sub><sup>2</sup> + s<sub>Y</sub><sup>4</sup>) + 4 s<sub>Y</sub> \widetilde{\mu} c<sub>Y</sub> (-4 + 3 c<sub>Y</sub><sup>2</sup> + 3 s<sub>Y</sub><sup>2</sup>)) LF<sub>2,2,0</sub> [m<sub>2</sub>, \widetilde{\mu}] +
                                                                                                            \frac{1}{2} \; {g_{2}}^{4} \; \mathsf{LF_{3,1,-1}} \left[ \; \mathsf{m_{2}} \; , \; \widetilde{\mu} \; \right] \; - \; \frac{1}{2} \; {g_{2}}^{4} \; \left( \; \mathsf{c_{\gamma}}^{4} - \; \mathsf{s_{\gamma}}^{2} \; + \; \mathsf{s_{\gamma}}^{4} \; + \; \mathsf{c_{\gamma}}^{2} \; \left( - \; \mathsf{1} \; + \; \mathsf{10} \; \mathsf{s_{\gamma}}^{2} \right) \right) \; \mathsf{LF_{3,2,-2}} \left[ \; \mathsf{m_{2}} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{c_{\gamma}}^{2} \; \left( \; \mathsf{n_{2}} \; + \; \mathsf{n_{2}} \; \right) \; + \; \mathsf{n_{2}}^{2} \; + \; \mathsf{n_{2}
                                                                                                            \frac{1}{8} \; {g_{2}}^{4} \; \left(-3 \; {m_{2}}^{2} \; \left(5 \; {c_{\gamma}}^{4} + 2 \; {s_{\gamma}}^{2} \; {c_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4}\right) \\ -8 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; \left(-1 + 9 \; {c_{\gamma}}^{2} + 9 \; {s_{\gamma}}^{2}\right) \\ -36 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2}\right) \\ -36 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4} + 2 \; {s_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4}\right) \\ -8 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; \left(-1 + 9 \; {c_{\gamma}}^{2} + 9 \; {s_{\gamma}}^{2}\right) \\ -36 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4} + 2 \; {s_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4}\right) \\ -8 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; \left(-1 + 9 \; {c_{\gamma}}^{2} + 9 \; {s_{\gamma}}^{2}\right) \\ -8 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} 
                                                                                                                             LF_{3,2,-1}[m_2, \tilde{\mu}] - 3 g_2^4 m_2^2 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 LF_{3,2,0}[m_2, \tilde{\mu}] +
                                                                                                            \frac{1}{4} g_2^4 \left(c_\gamma^4 + 10 s_\gamma^2 c_\gamma^2 + s_\gamma^4\right) LF_{3,3,-3}[m_2, \tilde{\mu}] +
                                                                                                            \frac{1}{4} \; {g_{2}}^{4} \; \left( {m_{2}}^{2} \; \left( 5 \; {c_{\gamma}}^{4} + 2 \; {s_{\gamma}}^{2} \; {c_{\gamma}}^{2} + 5 \; {s_{\gamma}}^{4} \right) \; + \; 24 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} + \; 12 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \right) \; \mathsf{LF}_{3,3,-2} \left[ \; {m_{2}} \; , \; \widetilde{\mu} \; \right] \; + \; 24 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; + \; 12 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \right) \; \mathsf{LF}_{3,3,-2} \left[ \; {m_{2}} \; , \; \widetilde{\mu} \; \right] \; + \; 24 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; + \; 12 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \right) \; \mathsf{LF}_{3,3,-2} \left[ \; {m_{2}} \; , \; \widetilde{\mu} \; \right] \; + \; 24 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; + \; 12 \; {s_{\gamma}}^{2} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \right] \; + \; 24 \; {m_{2}} \; {s_{\gamma}} \; \widetilde{\mu} \; {c_{\gamma}} \; + \; 24 \; {s_{\gamma}} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \; + \; 24 \; {s_{\gamma}} \; {c_{\gamma}}^{2} \; + \; 24 \; {s_{\gamma}} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \; + \; 24 \; {s_{\gamma}} \; \widetilde{\mu}^{2} \; {c_{\gamma}}^{2} \; + \; 24 \; {s_{\gamma}} \; \widetilde{\mu}^{2} \; + \; 24 \; {s_{\gamma}} \; + \; 24 \; {s_{\gamma}} \; \widetilde{\mu}^{2} \; + \; 24 \; {s_{\gamma}} \; + \; 24 \; {s_{\gamma}}
                                                                                                      3\; {g_{2}}^{4}\; {m_{2}}^{2}\; {s_{\gamma}}^{2}\; \tilde{\mu}^{2}\; {c_{\gamma}}^{2}\; LF_{3,3,-1}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\; {c_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; \left(\,{c_{\gamma}}^{4}\, + \,10\; {s_{\gamma}}^{2}\, + \,{s_{\gamma}}^{4}\,\right)\; LF_{4,2,-3}[\,m_{2}\,,\,\,\tilde{\mu}\,]\; + \frac{1}{4}\; {g_{2}}^{4}\; {g_{2}}^{4}\; + \,{s_{\gamma}}^{4}\; + \,{s_{\gamma}}^
                                                                                                            \frac{1}{4} g_{2}^{4} \left(m_{2}^{2} \left(5 c_{\gamma}^{4}+2 s_{\gamma}^{2} c_{\gamma}^{2}+5 s_{\gamma}^{4}\right)+24 m_{2} s_{\gamma} \tilde{\mu} c_{\gamma}+12 s_{\gamma}^{2} \tilde{\mu}^{2} c_{\gamma}^{2}\right) LF_{4,2,-2}[m_{2},\tilde{\mu}]+12 c_{\gamma}^{2} c_{\gamma}^{2} \left(5 c_{\gamma}^{4}+2 s_{\gamma}^{2} c_{\gamma}^{2}+5 s_{\gamma}^{4}\right)+24 c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2}+12 c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2}\right) LF_{4,2,-2}[m_{2},\tilde{\mu}]+12 c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2}+12 c_{\gamma}^{2} c_{\gamma}^{2} c_{\gamma}^{2}+12 c_{\gamma}^{2}
                                                                                                      3\;g_{2}^{\;4}\;m_{2}^{\;2}\;s_{\gamma}^{\;2}\;\tilde{\mu}^{2}\;c_{\gamma}^{\;2}\;\mathsf{LF_{4,2,-1}}[\;m_{2}\;,\;\tilde{\mu}\;]\;+\frac{3}{2}\;c_{\gamma}^{\;4}\;\overline{y_{d}}^{\mathsf{pr}}\;\overline{y_{d}}^{\mathsf{st}}\;y_{d}^{\;\mathsf{pt}}\;y_{d}^{\;\mathsf{sr}}\;\mathsf{LF_{2,1,0}}\left[\;m_{\tilde{d}}^{\;\mathsf{r}}\;,\;m_{\tilde{d}}^{\;\mathsf{r}}\;\right]\;-\frac{3}{2}\;c_{\gamma}^{\;4}\;\overline{y_{d}}^{\mathsf{pr}}\;\overline{y_{d}}^{\mathsf{st}}\;y_{d}^{\;\mathsf{pt}}\;y_{d}^{\;\mathsf{sr}}\;\mathsf{LF_{2,1,0}}\left[\;m_{\tilde{d}}^{\;\mathsf{r}}\;,\;m_{\tilde{d}}^{\;\mathsf{r}}\;\right]\;-\frac{3}{2}\;c_{\gamma}^{\;4}\;\overline{y_{d}}^{\mathsf{pr}}\;\overline{y_{d}}^{\mathsf{st}}\;y_{d}^{\;\mathsf{pt}}\;y_{d}^{\;\mathsf{sr}}\;\mathsf{LF_{2,1,0}}\left[\;m_{\tilde{d}}^{\;\mathsf{r}}\;,\;m_{\tilde{d}}^{\;\mathsf{r}}\;\right]\;
                                                                                                         \frac{3}{2} c_{\gamma}^{4} \overline{y_{d}}^{pr} \overline{y_{d}}^{st} y_{d}^{pt} y_{d}^{sr} LF_{3,1,-1} [m_{\tilde{d}}^{-r}, m_{\tilde{d}}^{-t}] +
                                                                                                            \frac{1}{6} \ 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) \ LF_{2,2,\theta} \left[ m_{\tilde{d}}^{-r} \, , \ m_{\tilde{q}}^{-p} \right] - m_{\tilde{q}}^{-r} \left( m_{\tilde{q}}^{-r} \, , \ m_{\tilde{q}}^{-r} \right) \left( m_{\tilde{q}}^{-r} \, , \ m_{\tilde{q}}^{-r} \, , \ m_{\tilde{q}}^{-r} \right) \left( m_{\tilde{q}}^{-r} \, , \ m_{\tilde{q}}
                                                                                                            \frac{1}{2} \; c_{2\,\gamma} \; 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}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \; \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \mathsf{m_{\tilde{d}}}^{\; r} \; , \; \mathsf{m_{\tilde{q}}}^{\; p} \; , \; \mathsf{m_{\tilde{
                                                                                                            \frac{1}{12} \ g_{1}{}^{2} \ (-1 + 3 \ c_{2}{}_{\curlyvee}) \ \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) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{q}}{}^{p}\right] + c_{1} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{r}, \ m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{p}\right) \ LF_{3,2,-1}\left[m_{\tilde{d}}{}^{p}\right] + c_{2} \left(m_{\tilde{d}}{}^{p}\right) + c_{2} \left(m_{\tilde{d}}{
                                                                                                                \frac{1}{2} c_{2\gamma} 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) LF_{4,1,-1} \left[ m_{\tilde{d}}^{r}, m_{\tilde{q}}^{p} \right] +
                                                                                                            \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{2,1,0} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; - \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; t} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{sr} \; LF_{3,1,-1} \left[ \, m_{\tilde{e}}^{\; r} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; + \; \frac{1}{2} \; c_{\gamma}^{\; 4} \; \overline{y_e}^{pr} \; \overline{y_e}^{st} \; y_e^{pt} \; y_e^{pt} \; y_e^{sr} \; \overline{y_e}^{st} \; y_e^{st} \; y_e^
                                                                                                            \frac{1}{6} \ g_1^2 \ \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_{2,2,9} \left[ m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right] - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) \right] - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ p} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r}, \ m_{\tilde{l}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right) - m_{\tilde{e}}^{\ r} \left( m_{\tilde{e}}^{\ r}, \ m_{\tilde{e}}^{\ r} \right)
                                                                                                                                       c_{2\,\gamma}\,g_{1}^{\,2}\,\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[\,\boldsymbol{m_{\tilde{e}}}^{\,r}\,,\,\boldsymbol{m_{\tilde{l}}}^{\,p}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,2}\,\left(c_{\gamma}\,a_{e}^{\,pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,pr}\right)\,LF_{3,1,0}\left[\,\boldsymbol{m_{\tilde{e}}}^{\,r}\,,\,\boldsymbol{m_{\tilde{l}}}^{\,p}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,2}\,\left(c_{\gamma}\,a_{e}^{\,pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,pr}\right)\,LF_{3,1,0}\left[\,\boldsymbol{m_{\tilde{e}}}^{\,r}\,,\,\boldsymbol{m_{\tilde{l}}}^{\,p}\,\right]\,+\,c_{2\,\gamma}\,g_{1}^{\,2}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}^{\,p}\,g_{1}
                                                                                                            \frac{1}{12} \ g_{1}{}^{2} \ (-1 + 3 \ c_{2}{}_{\gamma}) \ \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{1}}{}^{p}\right] + c_{1} \left(m_{\tilde{e}}{}^{r}, \ m_{\tilde{1}}{}^{p}\right] + c_{2} \left(m_{\tilde{e}}{}^{r}, \ m_{\tilde{e}}{}^{r}\right) \ LF_{3,2,-1}\left[m_{\tilde{e}}{}^{r}, \ m_{\tilde{e}}{}^{p}\right] + c_{2} \left(m_{\tilde{e}}{}^{r}, \ m_{\tilde{e}}{}^{p}\right] + c_{2} \left(m_{\tilde{e}}{}^{r}, \ m_{\tilde{e}}{}^{p}\right) + c_{2} \left(m_{\tilde{e}}{}^{p}, \ m_{\tilde{e}}{}^{p}\right) + c_{2} \left(m_{\tilde{e}}{}^
                                                                                                                                          c_{2\gamma} g_1^2 \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{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{1}}^p \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{e}}^r \right] - c_{2\gamma} g_1^2 \left( c_{\gamma} a_e^{pr} - s_{\gamma} \widetilde{\mu} y_e^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{e}}^r, m_{\tilde{e}}^r \right] 
                                                                                                            \frac{1}{6}~g_{1}^{2}~\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}_{3,1,0}\left[\,\mathsf{m}_{\tilde{l}}^{~p},~\mathsf{m}_{\tilde{e}}^{~r}\,\right]~-
                                                                                                            \frac{1}{6} \ g_1^2 \ \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}_{3,2,-1} \left[ \, \mathsf{m}_{\tilde{l}}^{\ p} \, , \ \mathsf{m}_{\tilde{e}}^{\ r} \, \right] \ + \\
                                                                                                                                                  (3 + c_{2\gamma}) \left( g_1^2 + g_2^2 \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}}^{r} \right] - c_{\gamma} \left( m_{\tilde{l}}^{p}, m_{\tilde{e}}^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{l}}^{p}, m_{\tilde{e}}^{pr} \right] - c_{\gamma} \left( m_{\tilde{l}}^{p}, m_{\tilde{e}}^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{l}}^{p}, m_{\tilde{e}}^{pr} \right] 
                                                                                                                                                    \left(g_{1}^{2}+3\;g_{2}^{2}\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}\big[m_{\tilde{1}}^{\;p},\;m_{\tilde{e}}^{\;r}\big]\;-
                                                                                                                                          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}_{3,1,0}\left[\mathsf{m}_{\tilde{q}}^{\;p},\;\mathsf{m}_{\tilde{d}}^{\;r}\right]-
                                                                                                                                             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_{3,2,-1}}\!\left[\mathsf{m}_{\tilde{\mathsf{q}}}^{\;p},\;\mathsf{m}_{\tilde{\mathsf{d}}}^{\;r}\right]-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -3 g_2^2 (3 + c_2) \left(c_{\gamma} \overline{a_d}^{pr} - s_{\gamma} \widetilde{\mu} \overline{y_d}^{pr}\right)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s_{\gamma} \widetilde{\mu} y_{d}^{pr} LF_{4,1,-1} [m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r}]
                                                                                                                                                       \left(\left.g_{1}^{2}+3\right.g_{2}^{2}\right)\left(\left.c_{\gamma}\right.\overline{a_{d}}^{pr}-s_{\gamma}\right.\widetilde{\mu}\left.\overline{y_{d}}^{pr}\right)\right.\left(\left.c_{\gamma}\right.a_{d}^{pr}-s_{\gamma}\right.\widetilde{\mu}\left.y_{d}^{pr}\right)\right.\\ \left.LF_{5,1,-2}\left[\left.m_{\tilde{q}}^{-p},\right.m_{\tilde{d}}^{-r}\right]+\left.c_{\gamma}\right.\widetilde{\mu}\left.c_{\gamma}\right.\left(\left.c_{\gamma}\right.a_{d}^{pr}\right)\right]\right]
                                                                                                            \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{\; pt} \; \mathsf{LF}_{3,1,-1} \left[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{q}}^{\; s} \right] - \frac{3}{2} \; s_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_d}^{sr} \; \overline{y_d}^{
                                                                                                                                                       -\left(g_{1}^{2}-9\ g_{2}^{2}\right)\ \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}}^{\,\,p},\ \mathsf{m}_{\tilde{u}}^{\,\,r}\right]-\mathrm{m}_{\tilde{q}}^{\,\,p}
                                                                                                            \frac{1}{4} \; c_{2\,\gamma} \; \left( g_{1}^{\;2} + 3 \; g_{2}^{\;2} \right) \; \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{\mathsf{q}}}^{\;p} \,, \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\;r} \, \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \, \mathsf{m}_{\tilde{\mathsf{q}}}^{\;p} \,, \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\;r} \, \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \, \mathsf{m}_{\tilde{\mathsf{q}}}^{\;p} \,, \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\;r} \, \right] \; + \; \mathsf{LF}_{3,1,0} \left[ \, \mathsf{m}_{\tilde{\mathsf{q}}}^{\;p} \,, \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\;r} \,, \; \mathsf
                                                                                                            \frac{1}{24} \ \left( {g_1}^2 \ (1 + 3 \ c_{2\, \gamma}) \ + 9 \ {g_2}^2 \ (-1 + c_{2\, \gamma}) \ \right)
                                                                                                                                       \left(s_{\text{Y}}\,\overline{a_{\text{u}}}^{\text{pr}}-\widetilde{\mu}\,\,c_{\text{Y}}\,\overline{y_{\text{u}}}^{\text{pr}}\right)\,\,\left(s_{\text{Y}}\,a_{\text{u}}^{\text{pr}}-\widetilde{\mu}\,\,c_{\text{Y}}\,y_{\text{u}}^{\text{pr}}\right)\,\,\text{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{r}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\text{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{q}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{u}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{u}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{u}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left\lceil\mathsf{m}_{\widetilde{u}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right\rceil\,+\,\,c_{\text{Y}}^{\text{p}}\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},\,\,\mathsf{m}_{\widetilde{u}}^{\text{p}}\right)\,\,\mathsf{LF}_{3,2,-1}\!\left(s_{\text{Y}}^{\text{p}},
                                                                                                                \frac{1}{4} \; c_{2\,\gamma} \; \left( g_1^{\; 2} + 3 \; g_2^{\; 2} \right) \; \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[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-1}} \left[ \mathsf{m}_{\bar{\mathsf{q}}}^{\; p} \; , \; \mathsf{m}_{\bar{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF_{4,1,-
                                                                                                            \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{2,1,0} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ - \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; {c_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_d}^{sr} \; \overline{y_u}^{st} \; y_u^{pt} \; \mathsf{LF}_{3,1,-1} \left[ m_{\tilde{q}}{}^s \; , \; m_{\tilde{q}}{}^p \right] \\ + \frac{3}{2} \; {s_{\gamma}}^2 \; \overline{y_d}^{pr} \; y_d^{sr} \; \overline{y_d}^{sr} \; \overline
                                                                                                                                                    \left(g_{1}{}^{2}-9\;g_{2}{}^{2}\right)\;\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[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}{}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}^{r},\;m_{\tilde{q}}^{-\tilde{p}}\right]\;\mathsf{LF}_{3,1,0}\left[m_{\tilde{u}}^{r},\;m
                                                                                                                                                       \left(g_1^2 - 9 g_2^2\right) \left(s_{\gamma} \overline{a_u}^{pr} - \tilde{\mu} c_{\gamma} \overline{y_u}^{pr}\right) \left(s_{\gamma} a_u^{pr} - \tilde{\mu} c_{\gamma} y_u^{pr}\right) LF_{3,2,-1}\left[m_{\tilde{u}}^{r}, m_{\tilde{q}}^{r}\right] +
                                                                                                                                          \left(g_{1}^{2}\left(1+2\;c_{2\;\gamma}\right)\right.\\ \left.+9\;g_{2}^{\;2}\right)\left.\left(s_{\gamma}\;\overline{a_{u}}^{pr}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\right.\\ \left.\left(s_{\gamma}\;a_{u}^{pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{pr}\right)\;LF_{4,1,-1}\!\left[m_{\widetilde{u}}^{\;r},\;m_{\widetilde{q}}^{\;p}\right]-m_{\widetilde{u}}^{r}\right]\right]
                                                                                                                                                 (g_1^2 + 3 g_2^2) (s_{\gamma} \overline{a_u}^{pr} - \tilde{\mu} c_{\gamma} \overline{y_u}^{pr}) (s_{\gamma} a_u^{pr} - \tilde{\mu} c_{\gamma} y_u^{pr}) LF_{5,1,-2}[m_{\tilde{u}}^r, m_{\tilde{g}}^p] +
                                                                                                            \frac{3}{2} \; \mathsf{S_{\gamma}}^4 \; \overline{\mathsf{y_u}}^\mathsf{pr} \; \overline{\mathsf{y_u}}^\mathsf{st} \; \mathsf{y_u}^\mathsf{pt} \; \mathsf{y_u}^\mathsf{sr} \; \mathsf{LF_{2,1,0}} \big[ \; \mathsf{m_{\tilde{u}}}^\mathsf{r} \; , \; \mathsf{m_{\tilde{u}}}^\mathsf{t} \big] \; - \; \frac{3}{2} \; \mathsf{S_{\gamma}}^4 \; \overline{\mathsf{y_u}}^\mathsf{pr} \; \overline{\mathsf{y_u}}^\mathsf{st} \; \mathsf{y_u}^\mathsf{pt} \; \mathsf{y_u}^\mathsf{sr} \; \mathsf{LF_{3,1,-1}} \big[ \; \mathsf{m_{\tilde{u}}}^\mathsf{r} \; , \; \mathsf{m_{\tilde{u}}}^\mathsf{t} \big] \; - \; \frac{3}{2} \; \mathsf{m_{\tilde{u}}}^\mathsf{st} \; \mathsf{y_u}^\mathsf{pt} \; \mathsf{y_u}^\mathsf{st} \; \mathsf{y_u}^\mathsf{st} \; \mathsf{LF_{3,1,-1}} \big[ \; \mathsf{m_{\tilde{u}}}^\mathsf{r} \; , \; \mathsf{m_{\tilde{u}}}^\mathsf{t} \big] \; - \; \frac{3}{2} \; \mathsf{m_{\tilde{u}}}^\mathsf{st} \; \mathsf{y_u}^\mathsf{pt} \; \mathsf{y_u}^\mathsf{st} \; \mathsf{v_u}^\mathsf{st} \; \mathsf{v_u}^\mathsf{s
                                                                                                            \frac{1}{8} g_1^4 \left( c_{\gamma}^4 + 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4 \right) LF_{3,2,-2} [\widetilde{\mu}, m_1]
                                                                                                                                          g_1^4 \left( m_1^2 \left( c_{\gamma}^4 + s_{\gamma}^4 \right) + 6 m_1 s_{\gamma} \tilde{\mu} c_{\gamma} + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 \right) LF_{3,2,-1}[\tilde{\mu}, m_1] - c_{\gamma}^4 \left( m_1^2 \left( c_{\gamma}^4 + s_{\gamma}^4 \right) + 6 m_1 s_{\gamma} \tilde{\mu} c_{\gamma} + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 \right) LF_{3,2,-1}[\tilde{\mu}, m_1] - c_{\gamma}^4 \left( c_{\gamma}^4 + s_{\gamma}^4 \right) + c_{\gamma}^4 \left( c_{\gamma}^4 + c_{\gamma}^4 \right) + c_
                                                                                                                                                    g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-2} \left[\widetilde{\mu}, m_1\right] - \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_{\gamma} \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1,-1} \left[\widetilde{\mu}, m_1\right] + \frac{1}{4} m_1 s_1^2 \widetilde{\mu} c_{\gamma} g_1^2 \left(g_1^2 + 3 g_2^2\right) LF_{4,1} \left(g_1^2 + 3 g
                                                                                                            \frac{1}{4} g_{1}{}^{4} s_{\gamma}{}^{2} c_{\gamma}{}^{2} LF_{4,2,-3} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(m_{1}{}^{2} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) + 4 m_{1} s_{\gamma} \widetilde{\mu} c_{\gamma} + 2 s_{\gamma}{}^{2} \widetilde{\mu}^{2} c_{\gamma}{}^{2}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2,-2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_{1}{}^{4} \left(c_{\gamma}{}^{4} + s_{\gamma}{}^{4}\right) LF_{4,2} [\widetilde{\mu}, m_{1}] + \frac{1}{8} g_
                                                                                                            \frac{1}{4} g_{1}^{4} m_{1}^{2} s_{\gamma}^{2} \tilde{\mu}^{2} c_{\gamma}^{2} LF_{4,2,-1}[\tilde{\mu}, m_{1}] + \frac{1}{6} g_{1}^{2} \left(g_{1}^{2} + 3 g_{2}^{2}\right) LF_{5,1,-3}[\tilde{\mu}, m_{1}] +
                                                                                                            \frac{1}{3} \text{ m}_{1} \text{ s}_{\gamma} \, \widetilde{\mu} \, \text{c}_{\gamma} \, \text{g}_{1}^{2} \, \left( \text{g}_{1}^{2} + 3 \, \text{g}_{2}^{2} \right) \, \text{LF}_{5,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{1} \right] \, + \, 2 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-1} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-1} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-1} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \, \text{m}_{2} \right] \, + \, 3 \, \text{g}_{2}^{\, 4} \, \, \text{LF}_{3,1,-2} \left[ \widetilde{\mu} \, , \, \, \text{LF}_{3,1,-2} \left[
                                                                                                  2\; m_{2}\; s_{\gamma}\; \widetilde{\mu}\; c_{\gamma}\; g_{2}{}^{4}\; \mathsf{LF}_{3,1,0}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right) \; \mathsf{LF}_{3,2,-2}\left[\,\widetilde{\mu}\;,\; m_{2}\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + c_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + 5\; s_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^{2}\,\right)\,\right] \; + \; \frac{1}{8}\; g_{2}{}^{4}\; \left(\,3\; c_{\gamma}{}^{4} + 8\; s_{\gamma}{}^{2} + 3\; s_{\gamma}{}^{4} + 5\; s_{\gamma}{}^{2}\; \left(\,8 - 12\; s_{\gamma}{}^
                                                                                                            \frac{1}{8} \; g_{2}^{\; 4} \; \left(-\, m_{2}^{\; 2} \; \left(c_{\gamma}^{\; 4} - 8 \; s_{\gamma}^{\; 2} \; c_{\gamma}^{\; 2} + s_{\gamma}^{\; 4}\right) \; - \; 2 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; \left(-\, 8 + \; 3 \; c_{\gamma}^{\; 2} + \; 3 \; s_{\gamma}^{\; 2}\right) \; - \; 12 \; s_{\gamma}^{\; 2} \; \widetilde{\mu}^{2} \; c_{\gamma}^{\; 2}\right) \; .
                                                                                                                             \text{LF}_{\text{3,2,-1}}[\,\widetilde{\mu}\,,\,\text{m}_{\text{2}}\,]\,-\,\frac{1}{8}\,\,g_{\text{2}}^{\,\,2}\,\left(\,5\,\,g_{\text{1}}^{\,\,2}\,+\,27\,\,g_{\text{2}}^{\,\,2}\,\right)\,\,\text{LF}_{\text{4,1,-2}}[\,\widetilde{\mu}\,,\,\text{m}_{\text{2}}\,]\,\,-\,
                                                                                                            \frac{3}{4} \text{ m}_2 \text{ s}_{\gamma} \, \widetilde{\mu} \, \text{c}_{\gamma} \, \text{g}_2^{\, 2} \, \left( \text{g}_1^{\, 2} + 7 \, \text{g}_2^{\, 2} \right) \, \text{LF}_{4,1,-1} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{g}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} - 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{s}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} + 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{s}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} + 2 \, \text{s}_{\gamma}^{\, 4} \right) \, \text{LF}_{4,2,-3} \left[ \widetilde{\mu} \, , \, \text{m}_2 \, \right] \, + \, \frac{1}{4} \, \text{s}_2^{\, 4} \, \left( -2 \, \text{c}_{\gamma}^{\, 4} + \text{s}_{\gamma}^{\, 2} \, \text{c}_{\gamma}^{\, 2} + 2 \, \text{s}_{\gamma}^{\, 4} \right) \, + \, \frac{1}{4} \, \text{s}_2^{\, 4} \, + \, \frac{1}{4} \, 
                                                                                                            \frac{1}{8} \; g_{2}{}^{4} \; \left(m_{2}{}^{2} \; \left(c_{\gamma}{}^{4} - 8 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; - \; 6 \; s_{\gamma}{}^{2} \; \widetilde{\mu}^{2} \; c_{\gamma}{}^{2}\right) \; \mathsf{LF}_{4,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \; \right] \; - \; 12 \; m_{2} \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; \widetilde{\mu}^{2} \; \widetilde{\mu}^
                                                                                                                                   g_2^4 m_2^2 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 LF_{4,2,-1}[\tilde{\mu}, m_2] + \frac{1}{2} g_2^2 (g_1^2 + 3 g_2^2) LF_{5,1,-3}[\tilde{\mu}, m_2] +
                                                                                                      m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^2 (g_1^2 + 3 g_2^2) LF_{5,1,-2} [\tilde{\mu}, m_2] + g_1^2 g_2^2 LF_{2,2,1,-2} [m_2, \tilde{\mu}, m_1] +
                                                                                                                2\;\mathsf{m_1}\;\mathsf{m_2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{s_\gamma}^2\;\widetilde{\mu}^2\;\mathsf{c_\gamma}^2\;\mathsf{LF_{2,2,1,0}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;-\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_1}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\widetilde{\mu}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{m_2}^2\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;[\mathsf{m_2}\,,\,\mathsf{m_2}]\;+\frac{1}{2}\;\mathsf{m_2}^2\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;+\frac{1}{2}\;\mathsf{m_2}^2\;\mathsf{m_2}^2\;\mathsf{g_2}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,2,1,-3}}\;+\frac{1}{2}\;\mathsf{m_2}^2\;\mathsf{m_2
                                                                                                            \frac{1}{2} g_1^2 g_2^2 \left(-m_1 m_2 - 4 s_Y \tilde{\mu} c_Y (m_1 + m_2) - 4 s_Y^2 \tilde{\mu}^2 c_Y^2\right) LF_{3,2,1,-2}[m_2, \tilde{\mu}, m_1] -
                                                                                                      2 m<sub>1</sub> m<sub>2</sub> g<sub>1</sub><sup>2</sup> g<sub>2</sub><sup>2</sup> s<sub>γ</sub><sup>2</sup> \widetilde{\mu}^2 c<sub>γ</sub><sup>2</sup> LF<sub>3,2,1,-1</sub> [m<sub>2</sub>, \widetilde{\mu}, m<sub>1</sub>] +
                                                                                                                                       c_{\gamma}^{3} \overline{y_{d}}^{\text{st}} y_{d}^{\text{sr}} \left(-s_{\gamma} \widetilde{\mu} \overline{y_{d}}^{\text{pr}} a_{d}^{\text{pt}} + \overline{a_{d}}^{\text{pr}} \left(c_{\gamma} a_{d}^{\text{pt}} - s_{\gamma} \widetilde{\mu} y_{d}^{\text{pt}}\right)\right) LF_{2,1,1,0} \left[m_{\tilde{d}}^{\text{r}}, m_{\tilde{d}}^{\text{t}}, m_{\tilde{q}}^{\text{r}}\right] + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}}\right] + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}}\right] + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}}\right) + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}}\right) + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pt}}\right) + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}}\right) + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}}\right) + c_{\gamma}^{\text{pr}} a_{d}^{\text{pr}} + c_{
                                                                                                         \frac{3}{2} \; c_{\gamma}^{3} \; \overline{y_{d}}^{\text{st}} \; y_{d}^{\text{sr}} \; \left(s_{\gamma} \; \widetilde{\mu} \; \overline{y_{d}}^{\text{pr}} \; a_{d}^{\text{pt}} + \overline{a_{d}}^{\text{pr}} \; \left(-c_{\gamma} \; a_{d}^{\text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\text{pt}}\right) \right) \; \mathsf{LF_{3,1,1,-1}} \left[\mathsf{m}_{\widetilde{d}}^{\; r} \; , \; \mathsf{m}_{\widetilde{d}}^{\; t} \; , \; \mathsf{m}_{\widetilde{q}}^{\; r}\right] \; + \; \mathsf{m}_{\widetilde{d}}^{\; r} \; \mathsf{m}_{\widetilde{d}}^{\; r} \; , \; \mathsf{m}_{\widetilde{d}}^
                                                                                                            \frac{3}{2}\;\mathsf{S_{\gamma}}^2\;\tilde{\mu}^2\;\mathsf{C_{\gamma}}^2\;\overline{y_d}^\mathsf{pr}\;\overline{y_d}^\mathsf{st}\;\mathsf{y_d}^\mathsf{pt}\;\mathsf{y_d}^\mathsf{sr}\;\mathsf{LF_{3,1,1,-1}}\big[\mathsf{m_{\bar{d}}}^\mathsf{r}\;,\;\mathsf{m_{\bar{d}}}^\mathsf{t}\;,\;\mathsf{m_{\bar{q}}}^\mathsf{s}\big]\;+\;
                                                                                                            \frac{3}{4} \; c_{\gamma}^{\; 3} \; \overline{y_{d}}^{\text{st}} \; y_{d}^{\; \text{sr}} \; \left(s_{\gamma} \; \widetilde{\mu} \; \overline{y_{d}}^{\text{pr}} \; a_{d}^{\; \text{pt}} + \overline{a_{d}}^{\text{pr}} \; \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right) \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{r}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right] \; - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right] \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}_{\bar{d}}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{pt}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{m}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{pt}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{pt}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{pt}^{\; \text{pt}}\right) \; + \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} \; , \; \mathsf{pt}^{\; \text{pt}}\right) \; + \left(-c_{\gamma}
                                                                                                                                   s_{\gamma}^{2} \, \tilde{\mu}^{2} \, c_{\gamma}^{2} \, \overline{y_{d}}^{pr} \, \overline{y_{d}}^{st} \, y_{d}^{pt} \, y_{d}^{sr} \, LF_{2,2,1,-1} \big[ \boldsymbol{m}_{\bar{d}}^{-r}, \, \boldsymbol{m}_{\bar{q}}^{-s}, \, \boldsymbol{m}_{\bar{d}}^{-t} \big] \, + \,
                                                                                                                                   c_{\gamma}^{3} \, \overline{y_{d}}^{\text{st}} \, y_{d}^{\text{sr}} \, \left( - \, s_{\gamma} \, \widetilde{\mu} \, \overline{y_{d}}^{\text{pr}} \, a_{d}^{\text{pt}} + \overline{a_{d}}^{\text{pr}} \, \left( \, c_{\gamma} \, a_{d}^{\text{pt}} - \, s_{\gamma} \, \widetilde{\mu} \, y_{d}^{\text{pt}} \right) \, \right) \, \text{LF}_{2,1,1,0} \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_{\tilde{q}}^{\, \text{p}} \, \right] \, + \, \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_{\tilde{d}}^{\, \text{pr}} \, \right] \, + \, \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_{\tilde{d}}^{\, \text{pr}} \, \right] \, + \, \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, \right] \, + \, \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, \right] \, + \, \left[ \, m_{\tilde{d}}^{\, \text{t}} \, , \, m_{\tilde{d}}^{\, \text{r}} \, , \, m_
                                                                                                                                       c_{\text{Y}}^{\text{3}} \, \overline{y_{\text{d}}}^{\text{st}} \, y_{\text{d}}^{\text{sr}} \, \left( s_{\text{Y}} \, \widetilde{\mu} \, \overline{y_{\text{d}}}^{\text{pr}} \, a_{\text{d}}^{\text{pt}} + \overline{a_{\text{d}}}^{\text{pr}} \, \left( - \, c_{\text{Y}} \, a_{\text{d}}^{\text{pt}} + \, s_{\text{Y}} \, \widetilde{\mu} \, y_{\text{d}}^{\text{pt}} \right) \right) \, LF_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{t}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{q}}}^{\text{p}} \big] \, + \, c_{\text{Y}} \, \widetilde{\mu} \, y_{\text{d}}^{\text{pt}} + \, c_{\text{Y}} \, \widetilde{\mu} \, y_{\text{d}}^{\text{pt}} \big) \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{t}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{p}} \, \big] \, + \, c_{\text{Y}} \, \widetilde{\mu} \, y_{\text{d}}^{\text{pt}} \, \big) \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{t}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{p}} \, \big] \, + \, c_{\text{Y}} \, \widetilde{\mu} \, y_{\text{d}}^{\text{pt}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{t}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{p}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{t}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{p}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{p}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, , \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1,-1} \big[ \, m_{\tilde{\text{d}}}^{\text{r}} \, \big] \, A_{3,1,1
                                                                                                            \frac{3}{2}\;{\rm S_{\gamma}}^{2}\;\tilde{\mu}^{2}\;{\rm C_{\gamma}}^{2}\;\overline{y_{\rm d}}^{\rm pr}\;\overline{y_{\rm d}}^{\rm st}\;{\rm y_{\rm d}}^{\rm pt}\;{\rm y_{\rm d}}^{\rm sr}\;{\rm LF_{2,1,1,0}}\big[{\rm m_{\tilde{\rm d}}}^{\rm t},\,{\rm m_{\tilde{\rm d}}}^{\rm r},\,{\rm m_{\tilde{\rm q}}}^{\rm s}\big]\;-\;
                                                                                                            \frac{3}{4} \; c_{\gamma}^{\; 3} \; \overline{y_{d}}^{\text{st}} \; y_{d}^{\; \text{sr}} \; \left(s_{\gamma} \; \widetilde{\mu} \; \overline{y_{d}}^{\text{pr}} \; a_{d}^{\; \text{pt}} + \overline{a_{d}}^{\text{pr}} \; \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right) \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{q}}^{\; \text{p}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{q}}^{\; \text{p}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] - \left(-c_{\gamma} \; a_{d}^{\; \text{pt}} + s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\; \text{pt}}\right) \right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{q}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{q}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{pr}}, \; \mathsf{m}_{\bar{d}}^{\; \text{r}}\right] \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; \mathsf{LF}_{2,2,2,1,-1} \left[\mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}, \; \mathsf{m}_{\bar{d}}^{\; \text{t}}\right] \; \mathsf{LF}_{2,2,2,2,1} \; \mathsf{LF}_{2,2,2,2,2} \; \mathsf{LF}_{2,2,2,2} \; \mathsf{LF}_{2,2,2} \; \mathsf{LF}_{2,2} \; \mathsf{LF}
                                                                                                            c_{\text{Y}}^{\text{3}} \, \overline{y_{\text{e}}}^{\text{st}} \, y_{\text{e}}^{\text{sr}} \, \left( s_{\text{Y}} \, \widetilde{\mu} \, \overline{y_{\text{e}}}^{\text{pr}} \, a_{\text{e}}^{\text{pt}} + \overline{a_{\text{e}}}^{\text{pr}} \, \left( - \, c_{\text{Y}} \, a_{\text{e}}^{\text{pt}} + \, s_{\text{Y}} \, \widetilde{\mu} \, y_{\text{e}}^{\text{pt}} \right) \right) \, \text{LF}_{3,1,1,-1} \big[ \, m_{\tilde{\text{e}}}^{\,\, \text{r}} \, , \, m_{\tilde{\text{e}}}^{\,\, \text{t}} \, , \, m_{\tilde{\text{e}}}^{\,\, \text{f}} \big] \, + \, \left[ \, m_{\tilde{\text{e}}}^{\,\, \text{r}} \, , \, m_{\tilde{\text{e}}}^{\,\, \text{f}} \, ,
                                                                                                                rac{1}{2} \, s_{_{
m Y}}^{2} \, 	ilde{\mu}^{2} \, c_{_{
m Y}}^{2} \, \overline{y_{
m e}}^{
m pr} \, \overline{y_{
m e}}^{
m st} \, y_{
m e}^{
m pt} \, y_{
m e}^{
m sr} \, {\sf LF}_{2,1,1,0} ig[ {\sf m}_{
m e}^{
m r}, \, {\sf m}_{
m e}^{
m t}, \, {\sf m}_{
m i}^{
m s} ig] - 1
                                                                                                            \frac{1}{4} \, s_{\gamma}^{\, 2} \, \widetilde{\mu}^{2} \, c_{\gamma}^{\, 2} \, \overline{y_{e}}^{pr} \, \overline{y_{e}}^{st} \, y_{e}^{pt} \, y_{e}^{\, sr} \, \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\check{e}}^{\, r}, \, \mathsf{m}_{\check{l}}^{\, s}, \, \mathsf{m}_{\check{e}}^{\, t} \big] + 
                                                                                                            \frac{1}{2} c_{\gamma}^{3} \overline{y_{e}}^{st} y_{e}^{sr} \left(s_{\gamma} \widetilde{\mu} \overline{y_{e}}^{pr} a_{e}^{pt} + \overline{a_{e}}^{pr} \left(-c_{\gamma} a_{e}^{pt} + s_{\gamma} \widetilde{\mu} y_{e}^{pt}\right)\right) LF_{3,1,1,-1} \left[\mathtt{m_{\tilde{e}}}^{t}, \mathtt{m_{\tilde{e}}}^{r}, \mathtt{m_{\tilde{e}}}^{r}\right] +
                                                                                                            \frac{1}{2} \, s_{\gamma}^{\, 2} \, \tilde{\mu}^{2} \, c_{\gamma}^{\, 2} \, \overline{y_{e}}^{pr} \, \overline{y_{e}}^{st} \, y_{e}^{\, pt} \, y_{e}^{\, sr} \, \mathsf{LF}_{3,1,1,-1} \big[ \, \mathsf{m}_{\tilde{e}}^{\, t}, \, \mathsf{m}_{\tilde{e}}^{\, r}, \, \mathsf{m}_{\tilde{\tilde{e}}}^{\, r}, \, \mathsf{m}_{\tilde{\tilde{e}}}^{\, s} \big] \, + \, c_{\gamma}^{\, 2} \, (1 + 1)^{-1} \, [\, \mathsf{m}_{\tilde{e}}^{\, t}, \, \mathsf{m}_{\tilde{e}}^{\, r}, \, \mathsf{m}_{\tilde{\tilde{e}}}^{\, r}, \, \mathsf{m}_{\tilde{e}}^{\, r
                                                                                                                rac{1}{4} \, c_{\gamma}^{3} \, \overline{y_{e}}^{st} \, y_{e}^{sr} \, \left( s_{\gamma} \, \widetilde{\mu} \, \overline{y_{e}}^{pr} \, a_{e}^{pt} + \overline{a_{e}}^{pr} \, \left( - c_{\gamma} \, a_{e}^{pt} + s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pt} 
ight) 
ight) \, \mathsf{LF}_{2,2,1,-1} \left[ \mathsf{m}_{\widetilde{e}}^{\,\,t}, \, \mathsf{m}_{\widetilde{1}}^{\,\,p}, \, \mathsf{m}_{\widetilde{e}}^{\,\,r} \right] - c_{\gamma}^{\,\,t} \, a_{e}^{\,\,t} \, a_{e}^{\,\,t
                                                                                                            \frac{3}{2} \; s_{\gamma}^{\; 2} \; \overline{y_{u}}^{\text{st}} \; y_{u}^{\; \text{pt}} \; \left(-\, c_{\gamma} \; \overline{a_{d}}^{\text{pr}} + \, s_{\gamma} \, \widetilde{\mu} \; \overline{y_{d}}^{\text{pr}}\right) \; \left(-\, c_{\gamma} \; a_{d}^{\; \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \; y_{d}^{\; \text{sr}}\right) \; \mathsf{LF}_{2,2,1,-1} \left[\, \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{s}} \,, \; \mathsf{m}_{\widetilde{\mathsf{d}}}^{\; \mathsf{r}}\,\right] \; + \; \mathsf{LF}_{2,2,1,-1} \left[\, \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{s}} \,, \; \mathsf{m}_{\widetilde{\mathsf{d}}}^{\; \mathsf{r}}\,\right] \; + \; \mathsf{LF}_{2,2,1,-1} \left[\, \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{s}} \,, \; \mathsf{m}_{\widetilde{\mathsf{d}}}^{\; \mathsf{r}}\,\right] \; + \; \mathsf{LF}_{2,2,1,-1} \left[\, \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{s}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{r}}\,\right] \; + \; \mathsf{LF}_{2,2,1,-1} \left[\, \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}} \,, \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; \mathsf{p}}\,, \; \mathsf{
                                                                                                            \frac{3}{2} \operatorname{s_{\gamma}} \operatorname{c_{\gamma}}^2 \overline{\operatorname{y_d}}^{\operatorname{st}} \operatorname{y_d}^{\operatorname{pt}} \overline{\operatorname{a_u}}^{\operatorname{pr}} \left( -\operatorname{s_{\gamma}} \operatorname{a_u}^{\operatorname{sr}} + \widetilde{\mu} \operatorname{c_{\gamma}} \operatorname{y_u}^{\operatorname{sr}} \right) \operatorname{LF_{3,1,1,-1}} \left[ \operatorname{m_{\tilde{a}}}^{\operatorname{p}}, \operatorname{m_{\tilde{a}}}^{\operatorname{s}}, \operatorname{m_{\tilde{u}}}^{\operatorname{r}} \right] +
                                                                                                                                          \widetilde{\mu} \; c_{\text{Y}}^{\; 3} \; \overline{y_{\text{d}}}^{\text{pr}} \; y_{\text{d}}^{\; \text{sr}} \; \overline{y_{\text{u}}}^{\text{st}} \; \left( s_{\text{Y}} \; a_{\text{u}}^{\; \text{pt}} - \widetilde{\mu} \; c_{\text{Y}} \; y_{\text{u}}^{\; \text{pt}} \right) \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \text{, } \mathsf{m}_{\tilde{q}}^{\; \text{s}} \text{, } \mathsf{m}_{\tilde{u}}^{\; \text{t}} \big] \; + \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{u}}^{\; \text{t}} \big] \; + \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{u}}^{\; \text{t}} \big] \; + \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{u}}^{\; \text{t}} \big] \; + \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \; \mathsf{m}_{\tilde{q}}^{\; \text{s}} \, \mathsf{m}_{\tilde{q}}^{\; \text{s}} \big] \; + \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; p} \, \mathsf{m}_{\tilde{q}}^{\; p} \, \mathsf{m}_{\tilde{q}}^{\; p} \; \mathsf{m}_{\tilde{q}}^{\; p} \, \mathsf{m}_{\tilde{q}}^{
                                                                                                                \frac{3}{4} \operatorname{s_{\scriptscriptstyle Y}} \operatorname{c_{\scriptscriptstyle Y}}^2 \overline{\operatorname{y_d}}^{\operatorname{st}} \operatorname{y_d}^{\operatorname{pt}} \overline{\operatorname{a_u}}^{\operatorname{pr}} \left( -\operatorname{s_{\scriptscriptstyle Y}} \operatorname{a_u}^{\operatorname{sr}} + \widetilde{\mu} \operatorname{c_{\scriptscriptstyle Y}} \operatorname{y_u}^{\operatorname{sr}} \right) \operatorname{LF}_{2,2,1,-1} \left[ \operatorname{m_{\tilde{\operatorname{q}}}}^{\operatorname{p}}, \operatorname{m_{\tilde{\operatorname{u}}}}^{\operatorname{r}}, \operatorname{m_{\tilde{\operatorname{q}}}}^{\operatorname{s}} \right] +
                                                                                                                                          \widetilde{\mu} \; c_{\text{Y}}^{\; 3} \; \overline{y_{\text{d}}}^{\text{pr}} \; y_{\text{d}}^{\; \text{sr}} \; \overline{y_{\text{u}}}^{\text{st}} \; \left( s_{\text{Y}} \; a_{\text{u}}^{\; \text{pt}} - \widetilde{\mu} \; c_{\text{Y}} \; y_{\text{u}}^{\; \text{pt}} \right) \; \mathsf{LF}_{2,2,1,-1} \big[ \mathsf{m}_{\tilde{q}}^{\; p}, \; \mathsf{m}_{\tilde{u}}^{\; \text{t}}, \; \mathsf{m}_{\tilde{q}}^{\; \tilde{s}} \big] \; + \\
                                                                                                                                             s_{\gamma}\;c_{\gamma}^{\;2}\;\overline{y_{d}}^{\text{st}}\;y_{d}^{\;p\text{t}}\;\overline{a_{u}}^{\text{pr}}\;\left(s_{\gamma}\;a_{u}^{\;\text{sr}}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{sr}}\right)\;\mathsf{LF}_{2,\text{l,l,0}}\!\left[\,\mathsf{m}_{\tilde{q}}^{\;s}\,,\;\mathsf{m}_{\tilde{q}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;r}\,\right]\;+
                                                                                                                                          s_{\Upsilon} c_{\Upsilon}^{2} \overline{y_{d}}^{st} y_{d}^{pt} \overline{a_{u}}^{pr} \left(-s_{\Upsilon} a_{u}^{sr} + \widetilde{\mu} c_{\Upsilon} y_{u}^{sr}\right) LF_{3,1,1,-1} \left[m_{\tilde{a}}^{s}, m_{\tilde{a}}^{p}, m_{\tilde{u}}^{r}\right] +
                                                                                                                                          \widetilde{\mu} \; c_{\gamma}^{\; 3} \; \overline{y_{d}}^{\text{pr}} \; y_{d}^{\; \text{sr}} \; \overline{y_{u}}^{\text{st}} \; \left( s_{\gamma} \; a_{u}^{\; \text{pt}} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{u}}^{\; \text{t}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[ \mathsf{m}_{\bar{q}}^{\; \text{s}} \, , \; \mathsf{m}_{\bar{q}}^{\; \text{p}} \, , \; \mathsf{m}_{\bar{q}}^{\;
                                                                                                                                                 s_{\gamma} c_{\gamma}^{2} \overline{y_{d}}^{st} y_{d}^{pt} \overline{a_{u}}^{pr} \left(-s_{\gamma} a_{u}^{sr} + \widetilde{\mu} c_{\gamma} y_{u}^{sr}\right) LF_{2,2,1,-1} \left[m_{\tilde{q}}^{s}, m_{\tilde{u}}^{r}, m_{\tilde{q}}^{p}\right] +
                                                                                                            s_{_{Y}}{^{3}}\,\overline{y_{u}}^{\text{st}}\,y_{u}{^{\text{sr}}}\,\left(-\widetilde{\mu}\,\,c_{_{Y}}\,\overline{y_{u}}^{\text{pr}}\,a_{u}{^{\text{pt}}}+\overline{a_{u}}^{\text{pr}}\,\left(s_{_{Y}}\,a_{u}{^{\text{pt}}}-\widetilde{\mu}\,\,c_{_{Y}}\,y_{u}{^{\text{pt}}}\right)\right)\,\text{LF}_{2,2,1,-1}\big[\,\mathsf{m}_{\tilde{u}}{^{\text{r}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{t}}}\,,\,\mathsf{m}_{\tilde{q}}{^{\text{p}}}\,\big]\,+\,\left[\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}}\,,\,\mathsf{m}_{\tilde{u}}{^{\text{pt}}
                                                                                                                                       s_{_{Y}}^{_{2}}\,\tilde{\mu}^{2}\,c_{_{Y}}^{_{2}}\,\overline{y_{u}}^{pr}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\,y_{u}^{sr}\,LF_{2,2,1,_{-1}}\big[\,m_{_{\tilde{u}}}^{\,\,r},\,m_{_{\tilde{u}}}^{\,\,t},\,m_{_{\tilde{u}}}^{\,\,s}\,\big]\,-
                                                                                                                                          g_1^2 g_2^2 (c_{\gamma}^4 + 5 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4) LF_{2,1,1,-1}[\tilde{\mu}, m_1, m_2] +
                                                                                                            \frac{1}{4} m<sub>1</sub> g<sub>1</sub><sup>2</sup> g<sub>2</sub><sup>2</sup> (m<sub>2</sub> (c<sub>Y</sub><sup>4</sup> - 4 s<sub>Y</sub><sup>2</sup> c<sub>Y</sub><sup>2</sup> + s<sub>Y</sub><sup>4</sup>) - 4 s<sub>Y</sub> \tilde{\mu} c<sub>Y</sub>) LF<sub>2,1,1,0</sub>[\tilde{\mu}, m<sub>1</sub>, m<sub>2</sub>] +
                                                                                                            \frac{3}{1} g_1^2 g_2^2 (c_{\gamma}^4 + s_{\gamma}^4) LF_{3,1,1,-2} [\tilde{\mu}, m_1, m_2] +
                                                                                                            \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu} c_{\gamma} \left(5 m_1 + m_2\right) + 4 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) \text{LF}_{3,1,1,-1}[\tilde{\mu}, m_1, m_2] - \frac{1}{4} g_1^2 g_2^2 \left(-m_1 m_2 \left(c_{\gamma}^4 - 4 s_{\gamma}^2 c_{\gamma}^2 + s_{\gamma}^4\right) + s_{\gamma} \tilde{\mu}^2 c_{\gamma}^2 c_{\gamma}^2\right) + s_{\gamma} \tilde{\mu}^2 c_{\gamma}^2 c_{\gamma}^2 c_{\gamma}^2\right)
                                                                                                                                          g_{1}^{2} g_{2}^{2} \left(c_{\gamma}^{4} - s_{\gamma}^{2} c_{\gamma}^{2} + s_{\gamma}^{4}\right) LF_{4,1,1,-3}[\tilde{\mu}, m_{1}, m_{2}] +
                                                                                                            \frac{1}{4} g_{1}^{2} g_{2}^{2} \left(m_{1} m_{2} \left(c_{\gamma}^{4} - 4 s_{\gamma}^{2} c_{\gamma}^{2} + s_{\gamma}^{4}\right) - 2 s_{\gamma} \widetilde{\mu} c_{\gamma} \left(m_{1} + m_{2}\right) - 2 s_{\gamma}^{2} \widetilde{\mu}^{2} c_{\gamma}^{2}\right) LF_{4,1,1,-2}[\widetilde{\mu}, m_{1}, m_{2}] - 2 s_{\gamma}^{2} \widetilde{\mu}^{2} c_{\gamma}^{2}
                                                                                                                                          \mathsf{m_1} \; \mathsf{m_2} \; \mathsf{g_1}^2 \; \mathsf{g_2}^2 \; \mathsf{s_7}^2 \; \widetilde{\mu}^2 \; \mathsf{c_7}^2 \; \mathsf{LF_{4,1,1,-1}} \left[\widetilde{\mu} \;, \; \mathsf{m_1} \;, \; \mathsf{m_2} \right] \; - \; \frac{1}{2} \; \mathsf{g_1}^2 \; \mathsf{g_2}^2 \; \mathsf{LF_{3,2,1,-3}} \left[\widetilde{\mu} \;, \; \mathsf{m_2} \;, \; \mathsf{m_1} \right] \; + \; \widetilde{\mathsf{m_1}} \; \mathsf{m_2} \; \widetilde{\mathsf{m_2}} \; \widetilde{\mathsf{m_
                                                                                                                                       g_1^2 g_2^2 \left( -m_1 m_2 - 4 s_Y \tilde{\mu} c_Y (m_1 + m_2) - 4 s_Y^2 \tilde{\mu}^2 c_Y^2 \right) LF_{3,2,1,-2} [\tilde{\mu}, m_2, m_1] -
                                                                                                         2 m_1 m_2 g_1^2 g_2^2 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 LF_{3,2,1,-1} [\tilde{\mu}, m_2, m_1] +
                                                                                                            \frac{3}{2}\left(s_{\gamma}^{2}\,\widetilde{\mu}^{2}\,\overline{y_{d}}^{pr}\,\overline{y_{d}}^{st}\,\left(s_{\gamma}^{2}\,\widetilde{\mu}^{2}\,y_{d}^{pt}\,y_{d}^{sr}+c_{\gamma}\,a_{d}^{pt}\,\left(c_{\gamma}\,a_{d}^{sr}-s_{\gamma}\,\widetilde{\mu}\,y_{d}^{sr}\right)\right)\right.\\ +\left.\left(s_{\gamma}^{2}\,\widetilde{\mu}^{2}\,\overline{y_{d}}^{pr}\,\overline{y_{d}}^{st}\right)\right)
                                                                                                                                                                                        c_{\gamma} \, \overline{a_d}^{pr} \, \left( - \, s_{\gamma} \, \widetilde{\mu} \, \overline{y_d}^{st} \, \left( - \, c_{\gamma} \, a_d^{\, pt} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\, pt} \right) \, \left( - \, c_{\gamma} \, a_d^{\, sr} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\, sr} \right) \, + \, c_{\gamma} \, \overline{a_d}^{st}
                                                                                                                                                                                                                                                                                                     \left(s_{\gamma}^{2}\,\tilde{\mu}^{2}\,y_{d}^{\,\text{pt}}\,y_{d}^{\,\text{sr}}+c_{\gamma}\,a_{d}^{\,\text{pt}}\,\left(c_{\gamma}\,a_{d}^{\,\text{sr}}-s_{\gamma}\,\tilde{\mu}\,y_{d}^{\,\text{sr}}\right)\right)\right)\,\mathsf{LF}_{2,1,1,1,0}\left[\mathfrak{m}_{\tilde{d}}^{\,\,\text{r}},\,\mathfrak{m}_{\tilde{d}}^{\,\,\text{t}},\,\mathfrak{m}_{\tilde{q}}^{\,\,\text{p}},\,\mathfrak{m}_{\tilde{q}}^{\,\,\text{s}}\right]-\left(s_{\gamma}^{\,\,\text{s}}\,a_{d}^{\,\,\text{sr}}+c_{\gamma}\,a_{d}^{\,\,\text{pt}},\,\mathfrak{m}_{\tilde{q}}^{\,\,\text{s}}\right)\right)
                                                                                                            \frac{3}{2}\left(s_{\gamma}^{2}\widetilde{\mu}^{2}\overline{y_{d}}^{pr}\overline{y_{d}}^{st}\left(s_{\gamma}^{2}\widetilde{\mu}^{2}y_{d}^{pt}y_{d}^{sr}+c_{\gamma}a_{d}^{pt}\left(c_{\gamma}a_{d}^{sr}-s_{\gamma}\widetilde{\mu}y_{d}^{sr}\right)\right)+
                                                                                                                                                                                        c_{\gamma} \, \overline{a_d}^{pr} \, \left( - \, s_{\gamma} \, \widetilde{\mu} \, \overline{y_d}^{st} \, \left( - \, c_{\gamma} \, a_d^{\, pt} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\, pt} \right) \, \left( - \, c_{\gamma} \, a_d^{\, sr} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\, sr} \right) \, + \, c_{\gamma} \, \overline{a_d}^{st}
                                                                                                                                                                                                                                                                                                        \left(s_{\gamma}^{2}\; \tilde{\mu}^{2}\; y_{d}^{\text{pt}}\; y_{d}^{\text{sr}} + c_{\gamma}\; a_{d}^{\text{pt}}\; \left(c_{\gamma}\; a_{d}^{\text{sr}} - s_{\gamma}\; \tilde{\mu}\; y_{d}^{\text{sr}}\right)\right)\right)\; LF_{3,1,1,1,-1}\left[m_{\bar{d}}^{\text{r}}\; ,\; m_{\bar{d}}^{\text{-t}}\; ,\; m_{\bar{q}}^{\text{-p}}\; ,\; m_{\bar{q}}^{\text{-s}}\right] \; - \; \left(s_{\gamma}^{\text{-s}}\; \tilde{\mu}\; y_{d}^{\text{-sr}}\right)\right] \; LF_{3,1,1,1,-1}\left[m_{\bar{d}}^{\text{-r}}\; ,\; m_{\bar{d}}^{\text{-t}}\; ,\; m_{\bar{q}}^{\text{-p}}\; ,\; m_{\bar{q}}^{\text{-s}}\right] \; - \; \left(s_{\gamma}^{\text{-s}}\; \tilde{\mu}\; y_{d}^{\text{-sr}}\right) \; + \; 
                                                                                                            \frac{3}{4}\left(s_{\gamma}^{2}\widetilde{\mu}^{2}\overline{y_{d}}^{pr}\overline{y_{d}}^{st}\left(s_{\gamma}^{2}\widetilde{\mu}^{2}y_{d}^{pt}y_{d}^{sr}+c_{\gamma}a_{d}^{pt}\left(c_{\gamma}a_{d}^{sr}-s_{\gamma}\widetilde{\mu}y_{d}^{sr}\right)\right)+
                                                                                                                                                                                        c_{\gamma} \, \overline{a_d}^{pr} \, \left( - \, s_{\gamma} \, \widetilde{\mu} \, \overline{y_d}^{st} \, \left( - \, c_{\gamma} \, a_d^{\,pt} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\,pt} \right) \, \left( - \, c_{\gamma} \, a_d^{\,sr} + \, s_{\gamma} \, \widetilde{\mu} \, y_d^{\,sr} \right) \, + \, c_{\gamma} \, \overline{a_d}^{st}
                                                                                                                                                                                                                                                                                                        \left(\,s_{_{Y}}^{^{\,2}}\,\,\tilde{\mu}^{2}\,\,y_{_{d}}^{\,pt}\,\,y_{_{d}}^{\,sr}\,+\,c_{_{Y}}\,\,a_{_{d}}^{\,pt}\,\,\left(\,c_{_{Y}}\,\,a_{_{d}}^{\,sr}\,-\,s_{_{Y}}\,\,\tilde{\mu}\,\,y_{_{d}}^{\,sr}\,\right)\,\right)\,\right)\,\,LF_{2,2,1,1,-1}\!\left[\,m_{_{\tilde{d}}}^{\,\,r}\,,\,\,m_{_{\tilde{q}}}^{\,\,p}\,,\,\,m_{_{\tilde{d}}}^{\,\,t}\,,\,\,m_{_{\tilde{q}}}^{\,\,s}\,\right]\,-\,c_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{\,\,sh}\,\,a_{_{Y}}^{
                                                                                                            \frac{3}{4} \left( \mathsf{S}_{\mathsf{Y}}^{2} \, \widetilde{\mu}^{2} \, \overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{pr}} \, \overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{st}} \, \left( \mathsf{S}_{\mathsf{Y}}^{2} \, \widetilde{\mu}^{2} \, \mathsf{y}_{\mathsf{d}}^{\mathsf{pt}} \, \mathsf{y}_{\mathsf{d}}^{\mathsf{sr}} + \mathsf{c}_{\mathsf{Y}} \, \mathsf{a}_{\mathsf{d}}^{\mathsf{pt}} \, \left( \mathsf{c}_{\mathsf{Y}} \, \mathsf{a}_{\mathsf{d}}^{\mathsf{sr}} - \mathsf{s}_{\mathsf{Y}} \, \widetilde{\mu} \, \mathsf{y}_{\mathsf{d}}^{\mathsf{sr}} \right) \right) + \\
                                                                                                                                                                                        c_{\gamma} \; \overline{a_d}^{pr} \; \left( - \, s_{\gamma} \; \widetilde{\mu} \; \overline{y_d}^{st} \; \left( - \, c_{\gamma} \; a_d^{\; pt} + \, s_{\gamma} \; \widetilde{\mu} \; y_d^{\; pt} \right) \; \left( - \, c_{\gamma} \; a_d^{\; sr} + \, s_{\gamma} \; \widetilde{\mu} \; y_d^{\; sr} \right) \; + \\
                                                                                                                                                                                                                                                                       c_{\gamma} \overline{a_d}^{st} \left( s_{\gamma}^2 \widetilde{\mu}^2 y_d^{pt} y_d^{sr} + c_{\gamma} a_d^{pt} \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right) \right)
                                                                                                                                \mathsf{LF}_{2,2,1,1,-1}\big[\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{r}},\,\mathsf{m}_{\bar{\mathsf{q}}}^{\mathsf{s}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{t}},\,\mathsf{m}_{\bar{\mathsf{q}}}^{\mathsf{p}}\big] - \frac{3}{2}\,\mathsf{s}_{\mathsf{Y}}\,\widetilde{\mu}\,\mathsf{c}_{\mathsf{Y}}\,\big(\mathsf{s}_{\mathsf{Y}}^{2}\,\widetilde{\mu}^{2}\,\overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{pr}}\,\overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{st}}\,\mathsf{y}_{\mathsf{d}}^{\mathsf{sr}}\,\mathsf{a}_{\mathsf{d}}^{\mathsf{pt}} + \\
                                                                                                                                                                                        \overline{a_d}^{pr} \left( c_{\gamma}^2 y_d^{sr} \overline{a_d}^{st} a_d^{pt} + \overline{y_d}^{st} \left( c_{\gamma} a_d^{pt} - s_{\gamma} \widetilde{\mu} y_d^{pt} \right) \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right) \right)
                                                                                                                                \overline{a_d}^{pr} \left( c_{\gamma}^2 y_d^{sr} \overline{a_d}^{st} a_d^{pt} + \overline{y_d}^{st} \left( c_{\gamma} a_d^{pt} - s_{\gamma} \widetilde{\mu} y_d^{pt} \right) \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right)
                                                                                                                                \mathsf{LF_{3,1,1,1,-1}}\big[\mathsf{m_{\tilde{d}}}^\mathsf{t},\,\mathsf{m_{\tilde{d}}}^\mathsf{r},\,\mathsf{m_{\tilde{q}}}^\mathsf{p},\,\mathsf{m_{\tilde{q}}}^\mathsf{s}\big] \,+\, \tfrac{3}{4}\,\,\mathsf{s_{\scriptscriptstyle Y}}\,\widetilde{\mu}\,\,\mathsf{c_{\scriptscriptstyle Y}}\,\,\big(\mathsf{s_{\scriptscriptstyle Y}}^2\,\,\widetilde{\mu}^2\,\,\overline{\mathsf{y_d}}^\mathsf{pr}\,\,\overline{\mathsf{y_d}}^\mathsf{st}\,\,\mathsf{y_d}^\mathsf{sr}\,\,\mathsf{a_d}^\mathsf{pt}\,+\, \mathsf{a_d}^\mathsf{pt}\,\,\mathsf{v_d}^\mathsf{sr}\,\,\mathsf{a_d}^\mathsf{pt}\,\,\mathsf{v_d}^\mathsf{sr}\,\,\mathsf{a_d}^\mathsf{pt}\,\,\mathsf{v_d}^\mathsf{sr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf{v_d}^\mathsf{pr}\,\,\mathsf
                                                                                                                                                                                        \overline{a_d}^{pr} \left( c_{\gamma}^2 y_d^{sr} \overline{a_d}^{st} a_d^{pt} + \overline{y_d}^{st} \left( c_{\gamma} a_d^{pt} - s_{\gamma} \widetilde{\mu} y_d^{pt} \right) \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right)
                                                                                                                                \overline{a_d}^{\text{pr}} \left( c_{\gamma}^{\ 2} \ y_d^{\text{sr}} \ \overline{a_d}^{\text{st}} \ a_d^{\text{pt}} + \overline{y_d}^{\text{st}} \left( c_{\gamma} \ a_d^{\text{pt}} - s_{\gamma} \ \widetilde{\mu} \ y_d^{\text{pt}} \right) \ \left( c_{\gamma} \ a_d^{\text{sr}} - s_{\gamma} \ \widetilde{\mu} \ y_d^{\text{sr}} \right) \right) \right) \ LF_{2,2,1,1,-1} \left[ m_{\widetilde{d}}^{\text{t}}, m_{\widetilde{d}}^{\text
                                                                                                                                                          \left(\mathbf{m}_{\mathbf{q}}^{\mathsf{s}}, \mathbf{m}_{\mathbf{d}}^{\mathsf{r}}, \mathbf{m}_{\mathbf{q}}^{\mathsf{p}}\right) + \frac{1}{2} \left(\mathbf{s}_{\gamma}^{2} \widetilde{\mu}^{2} \overline{\mathbf{y}_{e}}^{\mathsf{pr}} \overline{\mathbf{y}_{e}}^{\mathsf{st}} \left(\mathbf{s}_{\gamma}^{2} \widetilde{\mu}^{2} \mathbf{y}_{e}^{\mathsf{pt}} \mathbf{y}_{e}^{\mathsf{sr}} + \mathbf{c}_{\gamma} \mathbf{a}_{e}^{\mathsf{pt}} \left(\mathbf{c}_{\gamma} \mathbf{a}_{e}^{\mathsf{sr}} - \mathbf{s}_{\gamma} \widetilde{\mu} \mathbf{y}_{e}^{\mathsf{sr}}\right)\right) + \mathbf{v}_{\mathbf{q}}^{\mathsf{pt}} \mathbf{v}_{\mathbf{q}}^{\mathsf
                                                                                                                                                                                        c_{\gamma} \, \overline{a_{e}}^{\text{pr}} \, \left( - \, s_{\gamma} \, \widetilde{\mu} \, \overline{y_{e}}^{\text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{pt}} \right) \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{sr}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{sr}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, \left( - \, c_{\gamma} \, a_{e}^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} \right) \, + \, c_{\gamma} \, \overline{a_{e}}^{\, \text{st}} \, + \, s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{st}} + \, s_{\gamma} \, \widetilde{\mu} \, y
                                                                                                                                                                                                                                                                                                        \left(\,{s_{_{Y}}}^{2}\,\,\tilde{\mu}^{2}\,\,{y_{e}}^{\text{pt}}\,\,{y_{e}}^{\text{sr}}\,\,+\,\,{c_{_{Y}}}\,\,{a_{e}}^{\text{pt}}\,\,\left(\,{c_{_{Y}}}\,\,{a_{e}}^{\text{sr}}\,\,-\,\,{s_{_{Y}}}\,\,\tilde{\mu}\,\,{y_{e}}^{\text{sr}}\,\right)\,\right)\,\right)\,\,\mathsf{LF}_{2,1,1,1,0}\left[\,{m_{\tilde{e}}}^{\,\text{r}}\,,\,\,{m_{\tilde{e}}}^{\,\text{t}}\,,\,\,{m_{\tilde{1}}}^{\,\text{p}}\,,\,\,{m_{\tilde{1}}}^{\,\text{s}}\,\,\right]\,\,+\,\,{a_{\tilde{e}}}^{\,\text{t}}\,\,\,
                                                                                                            \frac{1}{2}\left(-s_{\gamma}^{2}\widetilde{\mu}^{2}\overline{y_{e}}^{pr}\overline{y_{e}}^{st}\left(s_{\gamma}^{2}\widetilde{\mu}^{2}y_{e}^{pt}y_{e}^{sr}+c_{\gamma}a_{e}^{pt}\left(c_{\gamma}a_{e}^{sr}-s_{\gamma}\widetilde{\mu}y_{e}^{sr}\right)\right)+
                                                                                                                                                                                        c_{\gamma} \, \overline{a_e}^{pr} \, \left( s_{\gamma} \, \widetilde{\mu} \, \overline{y_e}^{st} \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, \left( - \, c_{\gamma} \, a_e^{\, sr} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, sr} \right) \, - \, c_{\gamma} \, \overline{a_e}^{st} + \, c_{\gamma} \, \overline{a_e}^{\, st} + 
                                                                                                                                                                                                                                                                                                        \frac{1}{4} \left(-s_{\gamma}^{2} \widetilde{\mu}^{2} \overline{y_{e}}^{pr} \overline{y_{e}}^{st} \left(s_{\gamma}^{2} \widetilde{\mu}^{2} y_{e}^{pt} y_{e}^{sr} + c_{\gamma} a_{e}^{pt} \left(c_{\gamma} a_{e}^{sr} - s_{\gamma} \widetilde{\mu} y_{e}^{sr}\right)\right) +
                                                                                                                                                                                        c_{\gamma} \; \overline{a_{e}}^{\text{pr}} \; \left( s_{\gamma} \; \widetilde{\mu} \; \overline{y_{e}}^{\text{st}} \; \left( - \, c_{\gamma} \; a_{e}^{\; \text{pt}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{pt}} \right) \; \left( - \, c_{\gamma} \; a_{e}^{\; \text{sr}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{sr}} \right) \; - \, c_{\gamma} \; \overline{a_{e}}^{\; \text{st}} \; \left( - \, c_{\gamma} \; a_{e}^{\; \text{pt}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \right) \; - \; c_{\gamma} \; \overline{a_{e}}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_{e}^{\; \text{st}} \;
                                                                                                                                                                                                                                                                                                     \left(\,{{{\mathsf{S}_{\mathsf{Y}}}^{2}}}\,\,{{{\tilde{\mu}}^{2}}}\,\,{{{\mathsf{y}}_{\mathsf{e}}}^{\mathsf{pt}}}\,\,{{{\mathsf{y}}_{\mathsf{e}}}^{\mathsf{sr}}}\,\,+\,\,{{\mathsf{c}}_{\mathsf{Y}}}\,\,{{{\mathsf{a}}_{\mathsf{e}}}^{\mathsf{pt}}}\,\,\left(\,{{\mathsf{c}}_{\mathsf{Y}}}\,\,{{{\mathsf{a}}_{\mathsf{e}}}^{\mathsf{sr}}}\,\,-\,\,{{\mathsf{s}}_{\mathsf{Y}}}\,\,\tilde{\mu}}\,\,{{{\mathsf{y}}_{\mathsf{e}}}^{\mathsf{sr}}}\,\right)\,\right)\,\right)\,\,{{\mathsf{LF}}_{\mathsf{2,2,1,1,-1}}}\!\left[\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{r}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{1}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{t}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{1}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{r}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{1}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{r}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{m}}_{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{\mathsf{p}}}\,,\,\,{{{\mathsf{e}}}^{
                                                                                                            \frac{1}{4} \left( - s_{\gamma}^2 \widetilde{\mu}^2 \overline{y_e}^{pr} \overline{y_e}^{st} \left( s_{\gamma}^2 \widetilde{\mu}^2 y_e^{pt} y_e^{sr} + c_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) + C_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^
                                                                                                                                                                                        c_{\gamma} \, \overline{a_e}^{\text{pr}} \, \left( s_{\gamma} \, \widetilde{\mu} \, \overline{y_e}^{\text{st}} \, \left( - \, c_{\gamma} \, a_e^{\, \text{pt}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{pt}} \right) \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, \left( - \, c_{\gamma} \, a_e^{\, \text{sr}} + \, s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \, - \, 
                                                                                                                                                                                                                                                                       c_{\gamma} \overline{a_e}^{st} \left( s_{\gamma}^2 \widetilde{\mu}^2 y_e^{pt} y_e^{sr} + c_{\gamma} a_e^{pt} \left( c_{\gamma} a_e^{sr} - s_{\gamma} \widetilde{\mu} y_e^{sr} \right) \right) \right)
                                                                                                                                \mathsf{LF}_{2,2,1,1,-1}\big[\mathsf{m}_{\tilde{\mathsf{e}}}^{\mathsf{r}}\,,\,\mathsf{m}_{\tilde{\mathsf{e}}}^{\mathsf{s}}\,,\,\mathsf{m}_{\tilde{\mathsf{e}}}^{\mathsf{t}}\,,\,\mathsf{m}_{\tilde{\mathsf{e}}}^{\mathsf{p}}\big] - \tfrac{1}{2}\;\mathsf{s}_{\gamma}\;\widetilde{\mu}\;\mathsf{c}_{\gamma}\;\big(\mathsf{s}_{\gamma}^{\;2}\;\widetilde{\mu}^{2}\;\overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}}\;\overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{st}}\,\mathsf{y}_{\mathsf{e}}^{\mathsf{sr}}\;\mathsf{a}_{\mathsf{e}}^{\mathsf{pt}} + \mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pr}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pr}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}} + \mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{\mathsf{e}}^{\mathsf{pt}}\,\mathsf{v}_{
                                                                                                                                                                                        \overline{a_{e}}^{pr}\left(c_{\gamma}^{2}y_{e}^{sr}\overline{a_{e}}^{st}a_{e}^{pt}+\overline{y_{e}}^{st}\left(c_{\gamma}a_{e}^{pt}-s_{\gamma}\widetilde{\mu}y_{e}^{pt}\right)\left(c_{\gamma}a_{e}^{sr}-s_{\gamma}\widetilde{\mu}y_{e}^{sr}\right)\right)\right)
                                                                                                                                \overline{a_{e}}^{pr}\left(c_{\gamma}^{2} y_{e}^{sr} \overline{a_{e}}^{st} a_{e}^{pt} + \overline{y_{e}}^{st} \left(c_{\gamma} a_{e}^{pt} - s_{\gamma} \widetilde{\mu} y_{e}^{pt}\right) \left(c_{\gamma} a_{e}^{sr} - s_{\gamma} \widetilde{\mu} y_{e}^{sr}\right)\right)\right)
                                                                                                                                \overline{a_{e}}^{pr}\left(c_{\gamma}^{2} y_{e}^{sr} \overline{a_{e}}^{st} a_{e}^{pt} + \overline{y_{e}}^{st} \left(c_{\gamma} a_{e}^{pt} - s_{\gamma} \widetilde{\mu} y_{e}^{pt}\right) \left(c_{\gamma} a_{e}^{sr} - s_{\gamma} \widetilde{\mu} y_{e}^{sr}\right)\right)\right)
                                                                                                                                \mathsf{LF_{2,2,1,1,-1}}\big[\mathsf{m_{\tilde{e}}}^\mathsf{t},\,\mathsf{m_{\tilde{l}}}^\mathsf{p},\,\mathsf{m_{\tilde{e}}}^\mathsf{r},\,\mathsf{m_{\tilde{l}}}^\mathsf{s}\big] + \tfrac{1}{4}\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{c_{\gamma}}\,\left(\mathsf{s_{\gamma}}^2\,\widetilde{\mu}^2\,\overline{\mathsf{y_e}}^\mathsf{pr}\,\overline{\mathsf{y_e}}^\mathsf{st}\,\mathsf{y_e}^\mathsf{sr}\,\mathsf{a_e}^\mathsf{pt} + \mathsf{v_{e}}^\mathsf{st}\,\mathsf{v_{e}}^\mathsf{sr}\,\mathsf{a_e}^\mathsf{pt}\right)
                                                                                                                                                                                        \overline{a_{e}}^{pr}\left(c_{\gamma}^{2} y_{e}^{sr} \overline{a_{e}}^{st} a_{e}^{pt} + \overline{y_{e}}^{st} \left(c_{\gamma} a_{e}^{pt} - s_{\gamma} \widetilde{\mu} y_{e}^{pt}\right) \left(c_{\gamma} a_{e}^{sr} - s_{\gamma} \widetilde{\mu} y_{e}^{sr}\right)\right)\right)
                                                                                                                                \mathsf{LF_{2,2,1,1,-1}}\big[\mathsf{m_{\tilde{e}}}^\mathsf{t},\,\mathsf{m_{\tilde{e}}}^\mathsf{s},\,\mathsf{m_{\tilde{e}}}^\mathsf{r},\,\mathsf{m_{\tilde{e}}}^\mathsf{p}\big] \,+\, \frac{3}{2}\,\,c_{\mathsf{Y}}\,\left(c_{\mathsf{Y}}\,\,a_{\mathsf{d}}^{\,\mathsf{sr}} - s_{\mathsf{Y}}\,\widetilde{\mu}\,\,y_{\mathsf{d}}^{\,\mathsf{sr}}\right)\,\left(s_{\mathsf{Y}}\,a_{\mathsf{u}}^{\,\mathsf{pt}} - \widetilde{\mu}\,\,c_{\mathsf{Y}}\,y_{\mathsf{u}}^{\,\mathsf{pt}}\right)
                                                                                                                                   \left(s_{\gamma}\;\widetilde{\mu}^{2}\;\overline{y_{d}}^{pr}\;\overline{y_{u}}^{st}+\overline{a_{d}}^{pr}\;\left(s_{\gamma}\;\overline{a_{u}}^{st}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{st}\right)\right)\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\bar{q}}^{\;p},\;\mathsf{m}_{\bar{q}}^{\;s},\;\mathsf{m}_{\bar{d}}^{\;r},\;\mathsf{m}_{\bar{u}}^{\;t}\right]\;+
                                                                                                            \frac{3}{2} \, \tilde{\mu} \, \mathsf{s_{\gamma}}^2 \, \overline{\mathsf{y_d}}^{\mathsf{st}} \, \overline{\mathsf{a_u}}^{\mathsf{pr}} \, \left( -\, \mathsf{c_{\gamma}} \, \mathsf{a_d}^{\mathsf{pt}} + \, \mathsf{s_{\gamma}} \, \tilde{\mu} \, \mathsf{y_d}^{\mathsf{pt}} \right) \, \left( \mathsf{s_{\gamma}} \, \mathsf{a_u}^{\mathsf{sr}} - \tilde{\mu} \, \mathsf{c_{\gamma}} \, \mathsf{y_u}^{\mathsf{sr}} \right) \, \mathsf{LF_{2,2,1,1,-1}} \big[ \, \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \, , \, \mathsf{m_{\tilde{q}}}^{\mathsf{t}} \, , \, \mathsf{m_{\tilde{u}}}^{\mathsf{t}} \, , \, \mathsf{m_{\tilde{u}}}^{\mathsf{r}} \big] \, + \, \mathsf{h_{\tilde{u}}}^{\mathsf{pr}} \, + \, \mathsf{h_{\tilde{u}}}^{\mathsf{pr}} \, , \, \mathsf{h_{\tilde{u}}}^{\mathsf
                                                                                                            \frac{3}{4} \left( \widetilde{\mu}^2 \; \mathbf{c}_{\gamma}^{\; 2} \; \overline{\mathbf{y}_{\mathsf{u}}}^{\mathsf{pr}} \; \overline{\mathbf{y}_{\mathsf{u}}}^{\mathsf{st}} \; \left( \widetilde{\mu}^2 \; \mathbf{c}_{\gamma}^{\; 2} \; \mathbf{y}_{\mathsf{u}}^{\; \mathsf{pt}} \; \mathbf{y}_{\mathsf{u}}^{\; \mathsf{sr}} + \mathbf{s}_{\gamma} \; \mathbf{a}_{\mathsf{u}}^{\; \mathsf{pt}} \; \left( \mathbf{s}_{\gamma} \; \mathbf{a}_{\mathsf{u}}^{\; \; \mathsf{sr}} - 2 \; \widetilde{\mu} \; \mathbf{c}_{\gamma} \; \mathbf{y}_{\mathsf{u}}^{\; \; \mathsf{sr}} \right) \right) \; + \\
                                                                                                                                                                                        s_{\gamma} \; \overline{a_{u}}^{pr} \; \left( -2 \; \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; pt} \right) \; \left( -s_{\gamma} \; a_{u}^{\; sr} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; pt} \right) \; \left( -s_{\gamma} \; a_{u}^{\; sr} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; pt} \right) \; \left( -s_{\gamma} \; a_{u}^{\; sr} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; st} \right) \; + \\ s_{\gamma} \; \overline{a_{u}}^{\; st} \; + \\ s_{\gamma} \; \overline{a_{u}}^{\; st} \; + \\ s_{\gamma}
                                                                                                                                                                                                                                                                                                     \left(\tilde{\mu}^{2}\;c_{\gamma}^{\;2}\;y_{u}^{\;pt}\;y_{u}^{\;sr}+s_{\gamma}\;a_{u}^{\;pt}\;\left(s_{\gamma}\;a_{u}^{\;sr}-2\;\tilde{\mu}\;c_{\gamma}\;y_{u}^{\;sr}\right)\right)\right)\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{u}}^{\;r},\;\mathsf{m}_{\tilde{u}}^{\;t},\;\mathsf{m}_{\tilde{q}}^{\;p},\;\mathsf{m}_{\tilde{q}}^{\;s}\right]\right)
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