```
 C_{HD} \rightarrow \hbar \ \left( \frac{2}{27} \, \sum_{p} \, g_{1}{}^{4} \, LF_{3,0} \left[ \, m_{\tilde{d}}^{\,\, p} \, \right] \, - \, \frac{5}{36} \, \sum_{p} \, g_{1}{}^{4} \, LF_{4,-1} \left[ \, m_{\tilde{d}}^{\,\, p} \, \right] \, + \, \frac{8}{135} \, \sum_{p} \, g_{1}{}^{4} \, LF_{5,-2} \left[ \, m_{\tilde{d}}^{\,\, p} \, \right] \, + \, \frac{1}{100} \, \left[ \, m_{\tilde{d}}^{\,\, p} \, m_{
                                                                                             \left(-\,c_{2\,\gamma}\,g_{2}^{\,2}\,\,c_{\gamma}^{\,2}\,\overline{\,y_{e}}^{pr}\,\,y_{e}^{\,pr}\,+\frac{1}{36}\,\sum_{p}\,\left(4\,g_{1}^{\,4}\,+\,9\,g_{2}^{\,4}\,\,c_{2\,\gamma}^{\,2}\right)\right)\,LF_{3,0}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\,+\frac{1}{36}\,\left(-\,c_{2\,\gamma}\,g_{2}^{\,\,2}\,\,c_{2\,\gamma}^{\,\,2}\right)
                                                                                                   \left(c_{2\,\gamma}\;g_{2}^{\,\,2}\;c_{\gamma}^{\,\,2}\,\overline{y_{e}}^{pr}\;y_{e}^{\,\,pr}\;-\tfrac{1}{24}\;\sum_{p}\;\left(5\;g_{1}^{\,\,4}+6\;g_{2}^{\,\,4}\;c_{2\,\gamma}^{\,\,2}\right)\right)\;LF_{4\,,-1}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\tfrac{4}{45}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,4}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}\;LF_{5\,,-2}\!\left[\,m_{\tilde{l}}^{\,\,p}\,\right]\;+\;\frac{1}{24}\;\sum_{p}g_{1}^{\,\,p}
                                                                                                \left(\frac{1}{27}\,\sum_{p}\,g_{1}{}^{4}+\frac{3}{4}\,\,c_{2\,\gamma}\,g_{2}{}^{2}\,\left(-\,4\,\,c_{\gamma}{}^{2}\,\overline{y_{d}}{}^{pr}\,\,y_{d}{}^{pr}+4\,\,s_{\gamma}{}^{2}\,\overline{y_{u}}{}^{pr}\,\,y_{u}{}^{pr}+\sum_{p}\,c_{2\,\gamma}\,g_{2}{}^{2}\right)\right)\,LF_{3,0}\!\left[\,m_{\tilde{q}}^{\,\,p}\,\right]\,+\frac{1}{2}\,\left(-\,4\,\,c_{\gamma}{}^{2}\,\overline{y_{d}}{}^{pr}\,\,y_{d}{}^{pr}+4\,\,s_{\gamma}{}^{2}\,\overline{y_{u}}{}^{pr}\,\,y_{u}{}^{pr}+\sum_{p}\,c_{2\,\gamma}\,g_{2}{}^{2}\right)\right)\,LF_{3,0}\!\left[\,m_{\tilde{q}}^{\,\,p}\,\right]\,+\frac{1}{2}\,\left(-\,4\,\,c_{\gamma}{}^{2}\,\overline{y_{d}}{}^{pr}\,\,y_{d}{}^{pr}+4\,\,s_{\gamma}{}^{2}\,\overline{y_{u}}{}^{pr}\,\,y_{u}{}^{pr}+\sum_{p}\,c_{2\,\gamma}\,g_{2}{}^{2}\right)
                                                                                                \left(3\;c_{2\;\gamma}\;g_{2}^{\;2}\;\left(c_{\gamma}^{\;2}\;\overline{y_{d}}^{pr}\;y_{d}^{\;pr}\;-s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\right)\;-\frac{1}{72}\;\sum_{p}\;\left(5\;g_{1}^{\;4}\;+54\;g_{2}^{\;4}\;c_{2\;\gamma}^{\;2}\right)\right)\;LF_{4\;,-1}\left[m_{\tilde{q}}^{\;p}\right]\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde{q}}^{\;p}\right)\;+\frac{1}{72}\left(m_{\tilde
                                                                                                \frac{4}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{q}}{}^{p} \right] \\ + \frac{8}{27} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{3,9} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ - \frac{5}{9} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{4,-1} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{32}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{8}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1}{}^{4} \ \mathsf{LF}_{5,-2} \left[ \mathsf{m}_{\tilde{u}}{}^{p} \right] \\ + \frac{1}{135} \sum_{p} g_{1} \left[ \mathsf{m}
                                                                                                \frac{1}{576} \left( g_{1}{}^{4} \left( 73+9 \; c_{4\, \gamma} \; \left( -2+c_{4\, \gamma} \right) \right. -36 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right. -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right. -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right. -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma} \right) \right) \; -4 \; s_{2\, \gamma}{}^{4} \right) \; +18 \; g_{1}{}^{2} \; g_{2}{}^{2} \; \left( -3+c_{4\, \gamma} \; \left( 2+c_{4\, \gamma
                                                                                                                                                                         9\;{g_{2}}^{4}\;\left(\;\left(3+{c_{4}}_{\gamma}\right)^{\;2}-4\;{s_{2}}_{\gamma}^{\;4}\right)\left)\;LF_{3,\,0}\left[\,m_{_{\!\!\!D}}\,\right]\;+\;\frac{1}{_{192}}\;\left(-\,6\;{g_{1}}^{2}\;{g_{2}}^{2}\;\left(-\,3+{c_{4}}_{\gamma}\;\left(2+{c_{4}}_{\gamma}\right)\;-4\;{s_{2}}_{\gamma}^{\;4}\right)\;+\;2.5\,\left(-\,6\,{g_{1}}^{2}\;{g_{2}}^{2}\;\left(-\,3+{c_{4}}_{\gamma}\;\left(2+{c_{4}}_{\gamma}\right)\;-4\;{s_{2}}_{\gamma}^{\;4}\right)\;+\;2.5\,\left(-\,6\,{g_{1}}^{2}\;{g_{2}}^{2}\;\left(-\,3+{c_{4}}_{\gamma}\;\left(2+{c_{4}}_{\gamma}\right)\;-4\;{s_{2}}_{\gamma}^{\;4}\right)\;\right)\;
                                                                                                                                                                            3 g_2^4 \left(-\left(3+c_{4\,\gamma}\right)^2+4 s_{2\,\gamma}^4\right)+g_1^4 \left(-43-3 c_{4\,\gamma} \left(-2+c_{4\,\gamma}\right)+12 s_{2\,\gamma}^4\right)\right) LF_{4,-1}[m_{\Phi}]+12 c_{4\,\gamma}^4
                                                                                                \frac{4}{45} g_{1}^{4} LF_{5,-2}[m_{\oplus}] + \frac{1}{9} g_{1}^{4} LF_{3,0}[\tilde{\mu}] + \frac{1}{6} g_{1}^{4} LF_{4,-1}[\tilde{\mu}] - \frac{8}{45} g_{1}^{4} LF_{5,-2}[\tilde{\mu}] +
                                                                                                                       [g_1^4 LF_{2,2,-1}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^4 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_1^2 m_1^2 LF_{2,2,0}[m_1, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_
                                                                                                \frac{17}{8} g_2^4 LF_{2,2,-1}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 - \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{2,2,0}[m_2, \widetilde{\mu}] \left(c_{\gamma}^{\ 2} - s_{\gamma}^{\ 2}\right)^
                                                                                          4 g_2^4 LF_{3,2,-2}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 + 3 g_2^4 m_2^2 LF_{3,2,-1}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 +
                                                                                          2 g_2^4 LF_{3,3,-3}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 - 2 g_2^4 m_2^2 LF_{3,3,-2}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 +
                                                                                             2 g_2^4 LF_{4,2,-3}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 - 2 g_2^4 m_2^2 LF_{4,2,-2}[m_2, \tilde{\mu}] (c_{\gamma}^2 - s_{\gamma}^2)^2 +
                                                                                                \frac{2}{3} 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_{2,2,0} \left[ m_{\widetilde{d}}^{r}, m_{\widetilde{q}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{d}}^{r}, m_{\widetilde{q}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{d}}^{r}, m_{\widetilde{q}}^{p} \right] + \frac{1}{3} \left[ m_{\widetilde{d}}^{r}, m_{\widetilde{q}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{d}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{d}}^{p}, m_{\widetilde{q}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{d}}^{p} \right] - \frac{1}{3} \left[ m_{\widetilde{q}}^{p} \right] -
                                                                                                   \frac{1}{3} 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_{3,2,-1} \left[ m_{\tilde{d}}^{r}, m_{\tilde{q}}^{p} \right] +
                                                                                                \frac{2}{3}~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}_{2,2,0}\left[\,\mathsf{m_{\tilde{e}}}^{r}\,,~\mathsf{m_{\tilde{l}}}^{p}\,\right]~-
                                                                                                \frac{1}{3} \ 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{e}}}^r, \ \mathsf{m_{\tilde{l}}}^p \right] - \mathsf{m_{\tilde{e}}}^r \right) \ \mathsf{LF}_{3,2,-1} \left[ \mathsf{m_{\tilde{e}}}^r, \ \mathsf{m_{\tilde{l}}}^p \right] - \mathsf{l}_{3,2,-1} \left[ \mathsf{m_{\tilde{e}}}^r, \ \mathsf{m_{\tilde{e}}}^r \right] - \mathsf{l}_{3,2,-1} \left[ \mathsf{m_{\tilde{e}}}^r, \ \mathsf{l_{1,2}}^r \right] - \mathsf{l}_{3,2,-1} \left[ \mathsf{l_{2,2}}^r, \ \mathsf{l_{2,2}}^r \right] \right] - \mathsf{l_{2,2}} \left[ \mathsf{l_{2,2}}^r, \ \mathsf{l_{2,2}}^r \right] - \mathsf{l_{2,2}}^r, 
                                                                                                \frac{2}{3}\;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{2}{3} \; {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} \big[ \mathsf{m}_{\widetilde{l}}^{\; p} \, , \; \mathsf{m}_{\widetilde{e}}^{\; r} \big] \; + \; \mathsf{m}_{\widetilde{e}}^{\; r} \; + \;
                                                                                                                                 \left(3\,g_{1}^{\,2}-c_{2\,\gamma}\,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}\big[\,\mathsf{m}_{\tilde{1}}^{\,\,p}\,,\,\,\mathsf{m}_{\tilde{e}}^{\,\,r}\,\big]\,-\,\left(3\,g_{1}^{\,\,2}-c_{2\,\gamma}\,g_{2}^{\,\,2}\right)\,\left(c_{\gamma}\,\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,pr}\right)\,LF_{4,1,-1}\big[\,\mathsf{m}_{\tilde{1}}^{\,\,p}\,,\,\,\mathsf{m}_{\tilde{e}}^{\,\,r}\,\big]\,-\,\left(3\,g_{1}^{\,\,2}-c_{2\,\gamma}\,g_{2}^{\,\,2}\right)\,\left(c_{\gamma}\,\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,\,pr}\right)\,LF_{4,1,-1}\big[\,\mathsf{m}_{\tilde{1}}^{\,\,p}\,,\,\,\mathsf{m}_{\tilde{e}}^{\,\,r}\,\big]\,-\,\left(3\,g_{1}^{\,\,2}-c_{2\,\gamma}\,g_{2}^{\,\,2}\right)\,\left(c_{\gamma}\,\overline{a_{e}}^{pr}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,\,pr}\right)\,LF_{4,1,-1}\big[\,\mathsf{m}_{\tilde{1}}^{\,\,p}\,,\,\,\mathsf{m}_{\tilde{e}}^{\,\,r}\,\big]\,
                                                                                                \frac{2}{3} \; {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}_{5,1,-2} \big[ \mathsf{m}_{\widetilde{l}}{}^p, \; \mathsf{m}_{\widetilde{e}}{}^r \big] \; + \; \mathsf{m}_{\widetilde{e}}^{r} \; 
                                                                                          c_{\gamma}^{\phantom{\gamma}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{2,1,0}\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{3,1,-1}\!\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{3,1,-1}\!\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{3,1,-1}\!\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{3,1,-1}\!\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,LF_{3,1,-1}\!\left[m_{\tilde{l}}^{\phantom{e}p},\,m_{\tilde{l}}^{\phantom{e}s}\right] - c_{\gamma}^{\phantom{e}4}\,\overline{y_{e}}^{\phantom{e}\text{pr}}\,y_{e}^{\phantom{e}\text{st}}\,y_{e}^{\phantom{e}\text{pt}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y_{e}^{\phantom{e}\text{sr}}\,y
                                                                                                \frac{2}{3} \ 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_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{-p}, \ m_{\tilde{d}}^{-r}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{d}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{d}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{d}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{d}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{d}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{q}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr} - s_{\gamma} \ \widetilde{\mu} \ y_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{q}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}^{pr}, \ m_{\tilde{q}}^{pr}\right] - \left(c_{\gamma} \ a_{d}^{pr}\right) \ LF_{3,1,\theta}\left[m_{\tilde{q}}, \ m_{\tilde{q}}\right] - \left(c_{\gamma} \ a_{d}^{pr}\right) \ LF
                                                                                                \frac{2}{3} \; g_{1}^{\; 2} \; \left( c_{\curlyvee} \; \overline{a_{d}}^{pr} - s_{\curlyvee} \; \widetilde{\mu} \; \overline{y_{d}}^{pr} \right) \; \left( c_{\curlyvee} \; a_{d}^{pr} - s_{\curlyvee} \; \widetilde{\mu} \; y_{d}^{pr} \right) \; \mathsf{LF}_{3,2,-1} \left[ \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; p} \, , \; \mathsf{m}_{\widetilde{\mathsf{d}}}^{\; r} \right] \; + \; \mathsf{m}_{\widetilde{\mathsf{q}}}^{\; p} \; \mathsf{m}_{\widetilde{\mathsf{q}
                                                                                                \frac{1}{2} \left( 5 g_1^2 - 3 c_{2 \gamma} g_2^2 \right) \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{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{r} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}}^{p}, m_{\tilde{d}}^{pr} \right] - \frac{1}{2} \left( c_{\gamma} a_d^{pr} - s_{\gamma} \widetilde{\mu} y_d^{pr} \right) LF_{4,1,-1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1,-1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1,-1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1,-1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1,-1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_{4,1} \left[ m_{\tilde{q}} m_{\tilde{q}} + s_{\gamma} \widetilde{\mu} y_d^{pr} \right] LF_
                                                                                          2\;g_{1}^{\;2}\;\left(c_{\curlyvee}\;\overline{a_{d}}^{pr}-s_{\curlyvee}\;\widetilde{\mu}\;\overline{y_{d}}^{pr}\right)\;\left(c_{\curlyvee}\;a_{d}^{\;pr}-s_{\curlyvee}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;\mathsf{LF_{5,1,-2}}\!\left[\mathsf{m}_{\bar{q}}^{\;\;p}\,,\;\mathsf{m}_{\bar{d}}^{\;\;r}\right]\;\mathsf{+}
                                                                                      3\left(c_{\gamma}^{2}\,\overline{y_{d}}^{pr}\,y_{d}^{sr}\left(c_{\gamma}^{2}\,\overline{y_{d}}^{st}\,y_{d}^{pt}-s_{\gamma}^{2}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\right)+s_{\gamma}^{4}\,\overline{y_{u}}^{pr}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\,y_{u}^{sr}\right)\,LF_{2,1,0}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]-m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{p}^{2}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{p}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a}}^{p}\left[m_{\tilde{a}}^{p},\,m_{\tilde{a}}^{s}\right]+m_{\tilde{a
                                                                                          3\left(c_{\gamma}^{2}\,\overline{y_{d}}^{pr}\,y_{d}^{sr}\,\left(c_{\gamma}^{2}\,\overline{y_{d}}^{st}\,y_{d}^{pt}-s_{\gamma}^{2}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\right)+s_{\gamma}^{4}\,\overline{y_{u}}^{pr}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\,y_{u}^{sr}\right)\,\text{LF}_{3,1,-1}\big[\,\text{m}_{\tilde{q}}^{\,\,p}\,,\,\,\text{m}_{\tilde{q}}^{\,\,s}\big]\,-\frac{1}{2}\,\left(c_{\gamma}^{2}\,\overline{y_{d}}^{sr}\,y_{d}^{\,\,pt}-s_{\gamma}^{2}\,\overline{y_{u}}^{st}\,y_{u}^{\,\,pt}\right)+s_{\gamma}^{4}\,\overline{y_{u}}^{pr}\,\overline{y_{u}}^{st}\,y_{u}^{pt}\,y_{u}^{sr}\big]\,\text{LF}_{3,1,-1}\big[\,\text{m}_{\tilde{q}}^{\,\,p}\,,\,\,\text{m}_{\tilde{q}}^{\,\,s}\big]\,-\frac{1}{2}\,\left(c_{\gamma}^{2}\,\overline{y_{d}}^{sr}\,y_{u}^{\,\,pt}-s_{\gamma}^{2}\,\overline{y_{u}}^{sr}\,y_{u}^{\,\,pt}\right)+s_{\gamma}^{4}\,\overline{y_{u}}^{pr}\,y_{u}^{\,\,pt}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,p
                                                                                                \frac{1}{3} g_1^2 \left( s_{\gamma} \overline{a_u}^{pr} - \widetilde{\mu} c_{\gamma} \overline{y_u}^{pr} \right) \left( s_{\gamma} a_u^{pr} - \widetilde{\mu} c_{\gamma} y_u^{pr} \right) LF_{2,2,0} \left[ m_{\tilde{q}}^{p}, m_{\tilde{u}}^{r} \right] +
                                                                                          3\;c_{2\;\gamma}\;g_{2}^{\;2}\;\left(s_{\gamma}\;\overline{a_{u}}^{pr}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\;\left(s_{\gamma}\;a_{u}^{\;pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;LF_{3,1,0}\left[\mathfrak{m}_{\tilde{q}}^{\;p},\;\mathfrak{m}_{\tilde{u}}^{\;r}\right]\;+
                                                                                                \frac{1}{6} \left( \mathsf{g_1}^2 - 9 \; \mathsf{c_2}_{\, \Upsilon} \; \mathsf{g_2}^2 \right) \left( \mathsf{s_{\Upsilon}} \; \overline{\mathsf{a_u}}^{\mathsf{pr}} - \widetilde{\mu} \; \mathsf{c_{\Upsilon}} \; \overline{\mathsf{y_u}}^{\mathsf{pr}} \right) \left( \mathsf{s_{\Upsilon}} \; \mathsf{a_u}^{\mathsf{pr}} - \widetilde{\mu} \; \mathsf{c_{\Upsilon}} \; \mathsf{y_u}^{\mathsf{pr}} \right) \; \mathsf{LF_{3,2,-1}} \left[ \mathsf{m_{\widetilde{\mathsf{q}}}}^{\mathsf{p}} \; , \; \mathsf{m_{\widetilde{\mathsf{u}}}}^{\mathsf{r}} \right] - \widetilde{\mathsf{pr}} \left( \mathsf{m_{\widetilde{\mathsf{q}}}}^{\mathsf{p}} \; , \; \mathsf{m_{\widetilde{\mathsf{u}}}}^{\mathsf{pr}} \right) \left( \mathsf{s_{\Upsilon}} \; \mathsf{a_u}^{\mathsf{pr}} - \widetilde{\mu} \; \mathsf{c_{\Upsilon}} \; \mathsf{y_u}^{\mathsf{pr}} \right) \left( \mathsf{s_{\Upsilon}} \; \mathsf{a_u}^{\mathsf{pr}} \right) \left( \mathsf{s_{\Upsilon}}
                                                                                          3\;c_{2\;\gamma}\;g_{2}^{\;2}\;\left(s_{\gamma}\;\overline{a_{u}}^{pr}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\;\left(s_{\gamma}\;a_{u}^{\;pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;\mathsf{LF_{4,1,-1}}\!\left[\mathfrak{m}_{\tilde{q}}^{\;p}\;,\;\mathfrak{m}_{\tilde{u}}^{\;r}\right]\;-2\;\mathsf{LF_{4,1,-1}}\left[\mathfrak{m}_{\tilde{q}}^{\;p}\;,\;\mathfrak{m}_{\tilde{u}}^{\;r}\right]\;
                                                                                             3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; 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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; s_{\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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;p}\,\right] \; + \; 3\; s_{\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}}^{\;s}\,,\; \mathsf{m}_{\tilde{q}}^{\;pr}\,\right] \; + \; 3\; s_{\gamma}^{\;pr}\; y_{d}^{\;sr}\; \overline{y_{u}}^{\;sr}\; y_{u}^{\;pt}\; y_{u}
                                                                                                \frac{1}{3} \ g_{1}^{2} \ \left(s_{\gamma} \ \overline{a_{u}}^{pr} - \widetilde{\mu} \ c_{\gamma} \ \overline{y_{u}}^{pr}\right) \ \left(s_{\gamma} \ a_{u}^{pr} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{pr} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{pr} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{pr} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{pr} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{r}, \ \tilde{\mathsf{m}_{\tilde{q}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}, \ \tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,1,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}, \ \tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}, \ \tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}, \ \tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{p}\right) \ \mathsf{LF}_{3,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p}\right) \ \mathsf{LF}_{3,\theta}\left[\tilde{\mathsf{m}_{\tilde{u}}^{p}\right] + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p}\right) + \frac{1}{2} \left(s_{\gamma} \ a_{u}^{p}
                                                                                                                       \mathsf{g_1}^2 \left( \mathsf{s_{\gamma}} \ \overline{\mathsf{a_u}}^\mathsf{pr} - \widetilde{\mu} \ \mathsf{c_{\gamma}} \ \overline{\mathsf{y_u}}^\mathsf{pr} \right) \ \left( \mathsf{s_{\gamma}} \ \mathsf{a_u}^\mathsf{pr} - \widetilde{\mu} \ \mathsf{c_{\gamma}} \ \mathsf{y_u}^\mathsf{pr} \right) \ \mathsf{LF_{3,2,-1}} \big[ \mathsf{m_{\tilde{u}}}^\mathsf{r}, \ \mathsf{m_{\tilde{q}}}^\mathsf{p} \big] \ + \\
                                                                                          \mathbf{g_{1}}^{2} \; \left( \mathbf{s_{\gamma}} \; \overline{\mathbf{a_{u}}}^{\text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\gamma}} \; \overline{\mathbf{y_{u}}}^{\text{pr}} \right) \; \left( \mathbf{s_{\gamma}} \; \mathbf{a_{u}}^{\text{pr}} - \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\gamma}} \; \mathbf{y_{u}}^{\text{pr}} \right) \; \mathsf{LF_{4,1,-1}} \left[ \mathbf{m_{\tilde{u}}}^{\text{r}} \, , \; \mathbf{m_{\tilde{q}}}^{\text{p}} \right] \; - \; \widetilde{\boldsymbol{\mu}} \; \mathbf{c_{\gamma}} \; \mathbf{y_{u}}^{\text{pr}} \right] \; .
                                                                                          2\;g_{1}^{\;2}\;\left(s_{\gamma}\;\overline{a_{u}}^{pr}-\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\;\left(s_{\gamma}\;a_{u}^{\;pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;\mathsf{LF_{5,1,-2}}\!\left[\mathsf{m_{\tilde{u}}}^{\;r},\;\mathsf{m_{\tilde{q}}}^{\;p}\right]\;\mathsf{+}\;
                                                                                                \frac{1}{4} \; {g_{1}}^{4} \; LF_{3,2,-2} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{4} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{1} \right] \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right)^{2} - \frac{1}{4} \; {g_{1}}^{\; 2} \; m_{1}^{\; 2} \; m_{1}^
                                                                                                \frac{5}{6} g_{1}^{4} \left(c_{\gamma}^{2} + s_{\gamma}^{2}\right) LF_{4,1,-2}[\tilde{\mu}, m_{1}] - m_{1} s_{\gamma} \tilde{\mu} c_{\gamma} g_{1}^{4} LF_{4,1,-1}[\tilde{\mu}, m_{1}] -
                                                                                                \frac{2}{3}\;{\rm g_{1}}^{4}\;\left({\rm c_{\gamma}}^{2}+{\rm s_{\gamma}}^{2}\right)\;{\rm LF_{5,1,-3}}\left[\widetilde{\mu}\,,\;{\rm m_{1}}\right]\,+\,\frac{4}{3}\;{\rm m_{1}}\;{\rm s_{\gamma}}\;\widetilde{\mu}\;{\rm c_{\gamma}}\;{\rm g_{1}}^{4}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\,,\;{\rm m_{1}}\right]\,-\,\frac{4}{3}\;{\rm m_{1}}\;{\rm c_{\gamma}}\;{\rm c_{\gamma}}
                                                                                                \frac{3}{4} \; {g_{2}}^{4} \; LF_{3,2,-2} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{4} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} - \frac{1}{4} \; {g_{2}}^{2} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} + \frac{1}{4} \; {g_{2}}^{2} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} + \frac{1}{4} \; {g_{2}}^{2} \; m_{2}^{2} \; LF_{3,2,-1} \left[\widetilde{\mu} \; , \; m_{2} \right] \; \left({c_{\gamma}}^{2} - {s_{\gamma}}^{2} \right)^{2} + \frac{1}{4} \; {g_{2}}^{2} \; m_{2}^{2} \; m
                                                                                                \frac{5}{2} g_1^2 g_2^2 \left(c_{\gamma}^{\ 2} + s_{\gamma}^{\ 2}\right) LF_{4,1,-2}[\tilde{\mu}, m_2] - 3 m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^2 g_2^2 LF_{4,1,-1}[\tilde{\mu}, m_2] -
                                                                                                \frac{1}{4} g_2^4 LF_{4,2,-3} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^4 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2,-2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2)^2 + \frac{1}{4} g_2^2 m_2^2 + \frac{1}{4} g_2^2 m_2^2 LF_{4,2} [\widetilde{\mu}, m_2] (c_{\gamma}^2 - s_{\gamma}^2
                                                                                          2 g_1^2 g_2^2 (c_{\gamma}^2 + s_{\gamma}^2) LF_{5,1,-3} [\tilde{\mu}, m_2] + 4 m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^2 g_2^2 LF_{5,1,-2} [\tilde{\mu}, m_2] -
                                                                                      4\;g_{1}^{\;2}\;g_{2}^{\;2}\;LF_{2,2,1,-2}\left[\,m_{2}\,,\;\widetilde{\mu}\,,\;m_{1}\,\right]\;\left(\,c_{\gamma}^{\;\;2}\,+\,s_{\gamma}^{\;\;2}\,\right)^{\,2}\,+\,g_{1}^{\;\;2}\;g_{2}^{\;\;2}
                                                                                                                              \left(-3\;\text{m}_1\;\text{m}_2\;\left(\text{c}_{\gamma}^{\;2}+\text{s}_{\gamma}^{\;2}\right)^2-2\;\text{s}_{\gamma}\;\widetilde{\mu}\;\text{c}_{\gamma}\;\left(7\;\text{m}_1+5\;\text{m}_2\right)\;\left(\text{c}_{\gamma}^{\;2}+\text{s}_{\gamma}^{\;2}\right)-12\;\text{s}_{\gamma}^{\;2}\;\widetilde{\mu}^2\;\text{c}_{\gamma}^{\;2}\right)\;\text{LF}_{2,2,1,-1}\left[\text{m}_2\;,\;\widetilde{\mu}\;,\;\text{m}_1\right]-12\;\text{m}_2\left(\text{c}_{\gamma}^{\;2}+\text{s}_{\gamma}^{\;2}\right)^2
                                                                                      8\;\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}\;]\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\left(\mathsf{c_\gamma}^2\;+\;\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}\;[\;\mathsf{m_2}\;,\;\widetilde{\mu}\;,\;\mathsf{m_1}\;]\;\;\mathsf{d_2}\;\mathsf{d_2}\;\mathsf{d_2}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_3}\;\mathsf{d_
                                                                                          2\;g_{1}^{\;2}\;g_{2}^{\;2}\;\left(\mathsf{m}_{1}\;\mathsf{m}_{2}\;\left(\;c_{\gamma}^{\;2}\;+\;s_{\gamma}^{\;2}\;\right)^{\;2}\;+\;4\;s_{\gamma}\;\tilde{\mu}\;c_{\gamma}\;\left(\;\mathsf{m}_{1}\;+\;\mathsf{m}_{2}\right)\;\left(\;c_{\gamma}^{\;2}\;+\;s_{\gamma}^{\;2}\;\right)\;+\;4\;s_{\gamma}^{\;2}\;\tilde{\mu}^{2}\;c_{\gamma}^{\;2}\right)\;\mathsf{LF}_{3,2,1,-2}\left[\;\mathsf{m}_{2}\;,\;\tilde{\mu}\;,\;\mathsf{m}_{1}\;\right]\;+\;2\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^
                                                                                          8 m<sub>1</sub> m<sub>2</sub> g<sub>1</sub><sup>2</sup> g<sub>2</sub><sup>2</sup> s<sub>\gamma</sub><sup>2</sup> \widetilde{\mu}^2 c<sub>\gamma</sub><sup>2</sup> LF<sub>3,2,1,-1</sub> [m<sub>2</sub>, \widetilde{\mu}, m<sub>1</sub>] +
                                                                                          c_{_{Y}}{}^{2}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\,\text{pt}}\,\left(s_{_{Y}}{}^{2}\,\widetilde{\mu}^{2}\,\overline{y_{e}}^{\text{pr}}\,y_{e}^{\,\text{sr}}+c_{_{Y}}\,\overline{a_{e}}^{\text{pr}}\,\left(c_{_{Y}}\,a_{e}^{\,\text{sr}}-s_{_{Y}}\,\widetilde{\mu}\,y_{e}^{\,\text{sr}}\right)\right)\,\mathsf{LF}_{2,2,1,-1}\big[\,\mathsf{m}_{\bar{1}}{}^{\text{p}},\,\mathsf{m}_{\bar{\underline{e}}}{}^{\text{r}},\,\mathsf{m}_{\bar{\underline{e}}}{}^{\text{r}}\big]\,-\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{1}}\,\mathsf{m}_{\bar{
                                                                                             s_{\gamma}\,\widetilde{\mu}\,\,c_{\gamma}^{\,\,3}\,\,\overline{y_{e}}^{pr}\,\,\overline{y_{e}}^{st}\,\,y_{e}^{\,\,sr}\,\,a_{e}^{\,\,pt}\,\,\mathsf{LF}_{2,\,2,\,1,\,-1}\big[\,\mathsf{m}_{\tilde{l}}^{\,\,p}\,,\,\,\mathsf{m}_{\tilde{l}}^{\,\,s}\,,\,\,\mathsf{m}_{\tilde{e}}^{\,\,t}\,\big]\,\,+\,\,
                                                                                             3\left(c_{\Upsilon}\overline{a_{d}}^{pr}\left(c_{\Upsilon}^{2}\overline{y_{d}}^{st}y_{d}^{pt}-s_{\Upsilon}^{2}\overline{y_{u}}^{st}y_{u}^{pt}\right)\left(c_{\Upsilon}a_{d}^{sr}-s_{\Upsilon}\widetilde{\mu}y_{d}^{sr}\right)+
                                                                                                                                                                            \tilde{\mu} s_{\gamma}^{2} \overline{y_{d}}^{pr} \left( \tilde{\mu} c_{\gamma}^{2} \overline{y_{d}}^{st} y_{d}^{pt} y_{d}^{sr} + s_{\gamma} \overline{y_{u}}^{st} y_{u}^{pt} \left( c_{\gamma} a_{d}^{sr} - s_{\gamma} \tilde{\mu} y_{d}^{sr} \right) \right) \right)
                                                                                                                    \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_{\tilde{q}}}^{\, p} \,, \, \, \mathsf{m_{\tilde{q}}}^{\, s} \,, \, \, \mathsf{m_{\tilde{d}}}^{\, r} \, \big] \, - \, 3 \, \, \mathsf{s_{\tilde{\gamma}}} \, \, \widetilde{\mu} \, \, c_{\tilde{\gamma}}^{\, 3} \, \, \overline{y_d}^{pr} \, \, \overline{y_d}^{st} \, \, \mathsf{y_d}^{sr} \, \, \mathsf{a_d}^{pt} \, \, \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_{\tilde{q}}}^{\, p} \,, \, \, \mathsf{m_{\tilde{q}}}^{\, s} \,, \, \, \mathsf{m_{\tilde{q}}}^{\, t} \, \big] \, + \, (\mathsf{m_{\tilde{q}}}^{\, p}) \, \, \, \mathsf{m_{\tilde{q}}}^{\, s} \, \, \mathsf{m_{\tilde{q}}}^{\, s} \,, \, \, \, \mathsf{m_{\tilde{q}}}^{\, s} \,, \, \, \, \mathsf
                                                                                             3\; s_{\gamma}\; \left(s_{\gamma}\; \widetilde{\mu}^{2}\; c_{\gamma}^{\;2}\; \overline{y_{u}}^{\text{pr}}\; \overline{y_{u}}^{\text{st}}\; y_{u}^{\;\text{pt}}\; y_{u}^{\;\text{sr}}\; +\; \overline{a_{u}}^{\text{pr}}\; \left(c_{\gamma}^{\;2}\; \overline{y_{d}}^{\text{st}}\; y_{d}^{\;\text{pt}}\; -\; s_{\gamma}^{\;2}\; \overline{y_{u}}^{\text{st}}\; y_{u}^{\;\text{pt}}\right) \; \left(-\; s_{\gamma}\; a_{u}^{\;\text{sr}}\; +\; \widetilde{\mu}\; c_{\gamma}\; y_{u}^{\;\text{sr}}\right) \right) \; .
                                                                                                                    \text{LF}_{2,1,1,0}\left[\,\text{m}_{\tilde{q}}^{\,\,\text{p}}\,,\,\,\text{m}_{\tilde{q}}^{\,\,\text{s}}\,,\,\,\text{m}_{\tilde{u}}^{\,\,\text{r}}\,\right]\,-\,3\,\,\text{S}_{\scriptscriptstyle Y}\,\left(\,\text{S}_{\scriptscriptstyle Y}\,\widetilde{\mu}^{2}\,\,\text{c}_{\scriptscriptstyle Y}^{\,\,2}\,\,\overline{\text{y}_{u}}^{\,\,\text{pr}}\,\,\overline{\text{y}_{u}}^{\,\,\text{st}}\,\,\text{y}_{u}^{\,\,\text{pt}}\,\,\text{y}_{u}^{\,\,\text{sr}}\,\,+\,\,
                                                                                                                                                                            \overline{a_u}^{\text{pr}} \left( c_{\gamma}^{\ 2} \, \overline{y_d}^{\text{st}} \, y_d^{\ \text{pt}} - s_{\gamma}^{\ 2} \, \overline{y_u}^{\text{st}} \, y_u^{\ \text{pt}} \right) \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \right) \, \text{LF}_{3,1,1,-1} \big[ \, \text{m}_{\tilde{q}}^{\ p} \, , \, \, \text{m}_{\tilde{u}}^{\ r} \big] \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, \right) \, \text{LF}_{3,1,1,-1} \left[ \, m_{\tilde{q}}^{\ p} \, , \, \, m_{\tilde{u}}^{\ r} \, \right] \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, \right) \, \text{LF}_{3,1,1,-1} \left[ \, m_{\tilde{q}}^{\ p} \, , \, \, m_{\tilde{u}}^{\ r} \, \right] \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{sr}} \right) \, + \, \left( - \, s_{\gamma} \, a_u^{\ \text{sr}} + \widetilde{\mu} \, c_{\gamma} \, y_u^{\ \text{
                                                                                             3\;\widetilde{\mu}\;c_{_{Y}}\;\overline{y_{u}}^{\text{st}}\;\left(c_{_{Y}}^{2}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\text{sr}}-s_{_{Y}}^{2}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\text{sr}}\right)\;\left(-s_{_{Y}}\;a_{u}^{\text{pt}}+\widetilde{\mu}\;c_{_{Y}}\;y_{u}^{\text{pt}}\right)\;\mathsf{LF}_{\mathbf{3,1,1,-1}}\left[\mathsf{m}_{\tilde{\mathsf{q}}}^{\text{p}},\;\mathsf{m}_{\tilde{\mathsf{q}}}^{\text{s}},\;\mathsf{m}_{\tilde{\mathsf{u}}}^{\text{t}}\right]-\mathsf{m}_{\tilde{\mathsf{q}}}^{\text{pr}}\right]
                                                                                                \frac{3}{2} \; s_{\gamma} \; \left( s_{\gamma} \, \widetilde{\mu}^{2} \; c_{\gamma}^{2} \, \overline{y_{u}}^{\text{pr}} \, \overline{y_{u}}^{\text{st}} \, y_{u}^{\text{pt}} \, y_{u}^{\text{sr}} + \overline{a_{u}}^{\text{pr}} \left( c_{\gamma}^{2} \, \overline{y_{d}}^{\text{st}} \, y_{d}^{\text{pt}} - s_{\gamma}^{2} \, \overline{y_{u}}^{\text{st}} \, y_{u}^{\text{pt}} \right) \; \left( - s_{\gamma} \; a_{u}^{\text{sr}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\text{sr}} \right) \right)
                                                                                                                    \mathsf{LF}_{2,2,1,-1}[\mathsf{m}_{\tilde{\mathsf{q}}}^{\mathsf{p}},\mathsf{m}_{\tilde{\mathsf{u}}}^{\mathsf{r}},\mathsf{m}_{\tilde{\mathsf{q}}}^{\mathsf{s}}] +
                                                                                                \frac{3}{2} \widetilde{\mu} c_{\gamma} \overline{y_{u}}^{\text{st}} \left( c_{\gamma}^{2} \overline{y_{d}}^{\text{pr}} y_{d}^{\text{sr}} - s_{\gamma}^{2} \overline{y_{u}}^{\text{pr}} y_{u}^{\text{sr}} \right) \left( -s_{\gamma} a_{u}^{\text{pt}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{pt}} \right) LF_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{p}}, m_{\tilde{u}}^{\text{t}}, m_{\tilde{a}}^{\text{s}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{s}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{a}}^{\text{t}} \right] + C_{2,2,1,-1} \left[ m_{\tilde{a}}^{\text{pr}}, m_{\tilde{a}}^{\text{t}}, m_{\tilde{
                                                                                             3\; s_{\scriptscriptstyle Y} \; \overline{a_u}^{pr} \; \left( c_{\scriptscriptstyle Y}^{\; 2} \; \overline{y_d}^{\text{st}} \; y_d^{\; pt} - s_{\scriptscriptstyle Y}^{\; 2} \; \overline{y_u}^{\text{st}} \; y_u^{\; pt} \right) \; \left( s_{\scriptscriptstyle Y} \; a_u^{\; sr} - \widetilde{\mu} \; c_{\scriptscriptstyle Y} \; y_u^{\; sr} \right) \; \text{LF}_{3,1,1,-1} \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; p} \, , \; m_{\tilde{u}}^{\; r} \, \right] \; - \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r} \, \right] \; - \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r} \, \right] \; - \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r} \, \right] \; - \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; r} \, \right] \; - \left[ \, m_{\tilde{q}}^{\; s} \, , \; m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{q}}^{\; r
                                                                                             3\;\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{st}}\;\left(s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\;\text{sr}}\;a_{u}^{\;\text{pt}}+c_{\gamma}^{\;2}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\;\text{sr}}\;\left(-s_{\gamma}\;a_{u}^{\;\text{pt}}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;\text{LF}_{2,1,1,0}\left[\tilde{m_{\tilde{q}}}^{s},\;\tilde{m_{\tilde{q}}}^{p},\;\tilde{m_{\tilde{u}}}^{t}\right]\;+
                                                                                             3\;\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{st}}\;\left(s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\;\text{sr}}\;a_{u}^{\;\text{pt}}+c_{\gamma}^{\;2}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\;\text{sr}}\;\left(-s_{\gamma}\;a_{u}^{\;\text{pt}}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;LF_{3,1,1,-1}\!\left[\mathfrak{m}_{\tilde{q}}^{\;s},\;\mathfrak{m}_{\tilde{q}}^{\;p},\;\mathfrak{m}_{\tilde{u}}^{\;t}\right]+\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s},\,s_{u}^{\;s}\right)\left(-s_{\gamma}^{\;s}\right)\left
                                                                                                \frac{3}{2} \; s_{\gamma} \; \overline{a_{u}}^{\text{pr}} \; \left( c_{\gamma}^{\; 2} \; \overline{y_{d}}^{\text{st}} \; y_{d}^{\text{pt}} - s_{\gamma}^{\; 2} \; \overline{y_{u}}^{\text{st}} \; y_{u}^{\text{pt}} \right) \; \left( s_{\gamma} \; a_{u}^{\; \text{sr}} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{sr}} \right) \; \text{LF}_{2,2,1,-1} \left[ m_{\widetilde{q}}^{\; \text{s}} \; , \; m_{\widetilde{u}}^{\; \text{r}} \; , \; m_{\widetilde{q}}^{\; \text{p}} \right] \; + \; \left( c_{\gamma}^{\; 2} \; \overline{y_{d}}^{\text{st}} \; y_{d}^{\; \text{pt}} - s_{\gamma}^{\; 2} \; \overline{y_{u}}^{\text{st}} \; y_{u}^{\; \text{pt}} \right) \; \left( s_{\gamma} \; a_{u}^{\; \text{sr}} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{sr}} \right) \; \text{LF}_{2,2,1,-1} \left[ m_{\widetilde{q}}^{\; \text{s}} \; , \; m_{\widetilde{u}}^{\; \text{r}} \; , \; m_{\widetilde{q}}^{\; \text{pt}} \right] \; + \; \left( c_{\gamma}^{\; 2} \; \overline{y_{d}}^{\; \text{st}} \; y_{d}^{\; \text{pt}} - s_{\gamma}^{\; 2} \; \overline{y_{d}}^{\; \text{st}} \; y_{d}^{\; \text{pt}} \right) \; \left( s_{\gamma} \; a_{u}^{\; \text{sr}} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{sr}} \right) \; \text{LF}_{2,2,1,-1} \left[ m_{\widetilde{q}}^{\; \text{s}} \; , \; m_{\widetilde{u}}^{\; \text{r}} \; , \; m_{\widetilde{q}}^{\; \text{pt}} \right] \; + \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; + \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; + \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; + \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; \right) \; + \; \left( s_{\gamma} \; a_{u}^{\; \text{st}} \; , \; m_{\widetilde{q}}^{\; \text{st}} \; , 
                                                                                                \frac{3}{2}\;\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{st}}\;\left(s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\;\text{sr}}\;a_{u}^{\;\text{pt}}+c_{\gamma}^{\;2}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\;\text{sr}}\;\left(-s_{\gamma}\;a_{u}^{\;\text{pt}}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;\text{LF}_{2,2,1,-1}\!\left[m_{\tilde{q}}^{\;s},\;m_{\tilde{u}}^{\;t},\;m_{\tilde{q}}^{\;p}\right]\;+c_{\gamma}^{\;s}\left(-s_{\gamma}^{\;s},\;a_{u}^{\;pt}+\widetilde{\mu}\;c_{\gamma}^{\;s},\;a_{u}^{\;pt}\right)\right)\;\text{LF}_{2,2,1,-1}\!\left[m_{\tilde{q}}^{\;s},\;m_{\tilde{u}}^{\;t},\;m_{\tilde{q}}^{\;p}\right]\;+c_{\gamma}^{\;s}\left(-s_{\gamma}^{\;s},\;a_{u}^{\;pt}+\widetilde{\mu}\;c_{\gamma}^{\;s},\;a_{u}^{\;pt}\right)\right]
                                                                                                rac{7}{4} \; {g_{1}}^{2} \; {g_{2}}^{2} \; {\mathsf{LF}}_{2,1,1,-1} \left[ \, \widetilde{\mu} \, , \; {\mathsf{m}}_{1} \, , \; {\mathsf{m}}_{2} \, \right] \; \left( \, {\mathsf{c}_{\gamma}}^{2} \, + \, {\mathsf{s}_{\gamma}}^{2} \, \right)^{2} \, + \,
                                                                                                \frac{1}{2}\;\mathsf{m_1}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\left(\mathsf{c_{\gamma}}^2+\mathsf{s_{\gamma}}^2\right)\;\left(\mathsf{m_2}\;\left(\mathsf{c_{\gamma}}^2+\mathsf{s_{\gamma}}^2\right)+8\;\mathsf{s_{\gamma}}\;\widetilde{\mu}\;\mathsf{c_{\gamma}}\right)\;\mathsf{LF_{2,1,1,0}}\left[\,\widetilde{\mu}\,,\;\mathsf{m_1}\,,\;\mathsf{m_2}\,\right]\,-\,\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}}^2\;\mathsf{c_{\gamma}
                                                                                                \frac{3}{2} \; g_1^2 \; g_2^2 \; \mathsf{LF_{3,1,1,-2}} \left[ \, \widetilde{\mu} \, , \; \mathsf{m_1} \, , \; \mathsf{m_2} \, \right] \; \left( \, \mathsf{c_{\gamma}}^2 \, + \, \mathsf{s_{\gamma}}^2 \, \right)^2 \, + \,
                                                                                                \frac{1}{2} \ g_{1}{}^{2} \ g_{2}{}^{2} \ \left(-\,m_{1} \ m_{2} \ \left(\,c_{\gamma}^{\,\,2} + s_{\gamma}^{\,\,2}\,\right)^{\,2} - 2 \ s_{\gamma} \ \widetilde{\mu} \ c_{\gamma} \ \left(5 \ m_{1} + m_{2}\right) \ \left(\,c_{\gamma}^{\,\,2} + s_{\gamma}^{\,\,2}\,\right) - 8 \ s_{\gamma}^{\,\,2} \ \widetilde{\mu}^{2} \ c_{\gamma}^{\,\,2}\right)
                                                                                                                    \mathsf{LF}_{3,1,1,-1}[\widetilde{\mu},\,\mathsf{m}_1,\,\mathsf{m}_2] + \frac{1}{2} \mathsf{g_1}^2 \mathsf{g_2}^2 \mathsf{LF}_{4,1,1,-3}[\widetilde{\mu},\,\mathsf{m}_1,\,\mathsf{m}_2] \left(\mathsf{c_{\gamma}}^2 + \mathsf{s_{\gamma}}^2\right)^2 +
                                                                                                \frac{1}{2}\;g_{1}^{\;2}\;g_{2}^{\;2}\;\left(\mathsf{m}_{1}\;\mathsf{m}_{2}\;\left(c_{\gamma}^{\;2}+s_{\gamma}^{\;2}\right)^{\;2}+4\;s_{\gamma}\;\widetilde{\mu}\;c_{\gamma}\;\left(\mathsf{m}_{1}+\mathsf{m}_{2}\right)\;\left(c_{\gamma}^{\;2}+s_{\gamma}^{\;2}\right)+4\;s_{\gamma}^{\;2}\;\widetilde{\mu}^{2}\;c_{\gamma}^{\;2}\right)\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,\right]+1\;\mathsf{LF}_{4,1,1,-2}\left[\,\widetilde{\mu}\,,\;\mathsf{m}_{1}\,,\;\mathsf{m}_{2}\,,\;\mathsf{m}_{2}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{2}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;\mathsf{m}_{3}\,,\;
                                                                                             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_{4,1,1,-1}}[\widetilde{\mu},\;\mathsf{m_1},\;\mathsf{m_2}]\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{s_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{c_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_1}]\;\left(\mathsf{c_\gamma}^2+\mathsf{c_\gamma}^2\right)^2\;+\;2\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\;\mathsf{m_2},\;\mathsf{m_2}]\;
                                                                                             2\;g_{1}^{\;2}\;g_{2}^{\;2}\;\left(\mathsf{m}_{1}\;\mathsf{m}_{2}\;\left(\;c_{\gamma}^{\;2}\;+\;s_{\gamma}^{\;2}\;\right)^{\;2}\;+\;4\;s_{\gamma}\;\tilde{\mu}\;c_{\gamma}\;\left(\;\mathsf{m}_{1}\;+\;\mathsf{m}_{2}\right)\;\left(\;c_{\gamma}^{\;2}\;+\;s_{\gamma}^{\;2}\;\right)\;+\;4\;s_{\gamma}^{\;2}\;\tilde{\mu}^{2}\;c_{\gamma}^{\;2}\right)\;\mathsf{LF}_{3,2,1,-2}\left[\;\tilde{\mu}\;,\;\mathsf{m}_{2}\;,\;\mathsf{m}_{1}\;\right]\;+\;2\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^
                                                                                             8 m_1 m_2 g_1^2 g_2^2 s_y^2 \tilde{\mu}^2 c_y^2 LF_{3,2,1,-1}[\tilde{\mu}, m_2, m_1] +
                                                                                                \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}-2\,s_{\gamma}\,\widetilde{\mu}\,y_{e}^{sr}\right)\right)+
                                                                                                                                                                            c_{\gamma} \overline{a_e}^{pr} \left(-2 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}
                                                                                                                                                                                                                                                                                               \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}}\,\,-\,\,2\,\,{s_{_{Y}}}\,\tilde{\mu}\,\,{y_{e}}^{\text{sr}}\,\right)\,\right)\,\right)\,\,LF_{2,2,1,1,-1}\!\left[\,{m_{\tilde{1}}}^{\,p}\,,\,\,{m_{\tilde{1}}}^{\text{s}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{t}}\,\right]\,\,+\,\,2\,\,{a_{e}}^{\text{pt}}\,\,\left(\,{c_{_{Y}}}\,\,{a_{e}}^{\text{sr}}\,,\,\,{a_{e}}^{\text{sr}}\,,\,\,{m_{\tilde{e}}}^{\text{sr}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}}^{\text{r}}\,,\,\,{m_{\tilde{e}}
                                                                                                \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}-2\,s_{\gamma}\,\widetilde{\mu}\,y_{d}^{sr}\right)\right)+
                                                                                                                                                                            c_{_{Y}}\,\overline{a_{d}}^{pr}\,\left(-2\,s_{_{Y}}\,\widetilde{\mu}\,\overline{y_{d}}^{st}\,\left(-c_{_{Y}}\,a_{d}^{\,pt}+s_{_{Y}}\,\widetilde{\mu}\,y_{d}^{\,pt}\right)\,\left(-c_{_{Y}}\,a_{d}^{\,sr}+s_{_{Y}}\,\widetilde{\mu}\,y_{d}^{\,sr}\right)\,+
                                                                                                                                                                                                                                                           c_{_{Y}}\,\overline{a_{d}}^{\text{st}}\,\left(\,s_{_{Y}}^{\,\,2}\,\widetilde{\mu}^{2}\,\,y_{d}^{\,\,\text{pt}}\,\,y_{d}^{\,\,\text{sr}}\,+\,c_{_{Y}}\,a_{d}^{\,\,\text{pt}}\,\left(\,c_{_{Y}}\,a_{d}^{\,\,\text{sr}}\,-\,2\,\,s_{_{Y}}\,\widetilde{\mu}\,\,y_{d}^{\,\,\text{sr}}\,\right)\,\right)\,\right)
                                                                                                                    \mathsf{LF}_{2,2,1,1,-1}\big[\mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{p}},\,\mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{s}},\,\mathsf{m}_{\tilde{\mathsf{d}}}^{\,\,\mathsf{r}},\,\mathsf{m}_{\tilde{\mathsf{d}}}^{\,\,\mathsf{t}}\big] - 3\,\,c_{_{\mathbb{Y}}}\left(c_{_{\mathbb{Y}}}\,a_{_{\mathsf{d}}}^{\,\,\mathsf{sr}} - s_{_{\mathbb{Y}}}\,\tilde{\mu}\,y_{_{\mathsf{d}}}^{\,\,\mathsf{sr}}\right)\,\left(s_{_{\mathbb{Y}}}\,a_{_{\mathsf{u}}}^{\,\,\mathsf{pt}} - \tilde{\mu}\,\,c_{_{\mathbb{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[\mathfrak{m}_{\tilde{q}}^{\,\,p},\,\mathfrak{m}_{\tilde{q}}^{\,\,s},\,\mathfrak{m}_{\tilde{d}}^{\,\,r},\,\mathfrak{m}_{\tilde{u}}^{\,\,t}\right]\,+
                                                                                             3\;\widetilde{\mu}\;\mathsf{s_{\gamma}}^2\;\overline{y_d}^{\text{st}}\;\overline{a_u}^{\text{pr}}\;\left(c_{\gamma}\;a_d^{\;\text{pt}}-s_{\gamma}\;\widetilde{\mu}\;y_d^{\;\text{pt}}\right)\;\left(s_{\gamma}\;a_u^{\;\text{sr}}-\widetilde{\mu}\;c_{\gamma}\;y_u^{\;\text{sr}}\right)\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{d}}^{\;\;t},\;\mathsf{m}_{\tilde{u}}^{\;\;r}\right]\;+\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;t},\;\mathsf{m}_{\tilde{u}}^{\;\;r}\right]\;+\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;t},\;\mathsf{m}_{\tilde{u}}^{\;\;r}\right]\;+\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;t},\;\mathsf{m}_{\tilde{u}}^{\;\;r}\right]\;+\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;t},\;\mathsf{m}_{\tilde{u}}^{\;\;r}\right]\;+\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\;\;p},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{\;\;s},\;\mathsf{m}_{\tilde{q}}^{
                                                                                             3 \left( \widetilde{\mu}^2 c_{\gamma}^2 \overline{y_u}^{pr} \overline{y_u}^{st} \left( \widetilde{\mu}^2 c_{\gamma}^2 y_u^{pt} y_u^{sr} + s_{\gamma} a_u^{pt} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) \right) + C_{\gamma} a_u^{sr} + C_{\gamma} a_u^{s
                                                                                                                                                                            s_{_{Y}}\,\overline{a_{u}}^{pr}\,\left(\,-\,\widetilde{\mu}\,\,c_{_{Y}}\,\overline{y_{u}}^{st}\,\left(\,-\,s_{_{Y}}\,\,a_{u}^{\,\,pt}\,+\,\widetilde{\mu}\,\,c_{_{Y}}\,y_{u}^{\,\,pt}\right)\,\,\left(\,-\,s_{_{Y}}\,\,a_{u}^{\,\,sr}\,+\,\widetilde{\mu}\,\,c_{_{Y}}\,y_{u}^{\,\,sr}\right)\,+\,s_{_{Y}}\,\overline{a_{u}}^{st}
                                                                                                                                                                                                                                                                                            \left(\widetilde{\mu}^2\;c_{_{\Upsilon}}^2\;y_{_{\boldsymbol{U}}}^{\text{pt}}\;y_{_{\boldsymbol{U}}}^{\text{sr}}+s_{_{\Upsilon}}\;a_{_{\boldsymbol{U}}}^{\text{pt}}\;\left(s_{_{\Upsilon}}\;a_{_{\boldsymbol{U}}}^{\text{sr}}-\widetilde{\mu}\;c_{_{\Upsilon}}\;y_{_{\boldsymbol{U}}}^{\text{sr}}\right)\right)\right)\;\mathsf{LF}_{2,1,1,1,0}\left[\mathsf{m}_{_{\boldsymbol{Q}}}^{\text{p}},\;\mathsf{m}_{_{\boldsymbol{Q}}}^{\text{s}},\;\mathsf{m}_{_{\boldsymbol{U}}}^{\text{r}},\;\mathsf{m}_{_{\boldsymbol{U}}}^{\text{t}}\right]-\mathsf{m}_{_{\boldsymbol{U}}}^{\text{sp}}\right]
                                                                                             3 \left( \widetilde{\mu}^2 c_{\gamma}^2 \overline{y_u}^{pr} \overline{y_u}^{st} \left( \widetilde{\mu}^2 c_{\gamma}^2 y_u^{pt} y_u^{sr} + s_{\gamma} a_u^{pt} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} \left( s_{\gamma} a_u^{sr} - \widetilde{\mu} c_{\gamma} y_u^{sr} \right) + C_{\gamma} 
                                                                                                                                                                            \left(\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;y_{u}^{\;pt}\;y_{u}^{\;sr}+s_{\gamma}\;a_{u}^{\;pt}\;\left(s_{\gamma}\;a_{u}^{\;sr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;sr}\right)\right)\right)\;LF_{3,1,1,1,-1}\!\left[\mathfrak{m}_{\tilde{q}}^{\;p},\;\mathfrak{m}_{\tilde{q}}^{\;s},\;\mathfrak{m}_{\tilde{u}}^{\;r},\;\mathfrak{m}_{\tilde{u}}^{\;t}\right]-K^{*}\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u}^{\;sr}\right)\left(s_{\gamma}^{\;2}\;y_{u
                                                                                                \frac{3}{2}\left(\widetilde{\mu}^2 \ c_{\gamma}^{\ 2} \ \overline{y_u}^{\text{pr}} \ \overline{y_u}^{\text{st}} \ \left(\widetilde{\mu}^2 \ c_{\gamma}^{\ 2} \ y_u^{\text{pt}} \ y_u^{\text{sr}} + s_{\gamma} \ a_u^{\text{pt}} \left(s_{\gamma} \ a_u^{\text{sr}} - \widetilde{\mu} \ c_{\gamma} \ y_u^{\text{sr}}\right)\right) \ + \\
                                                                                                                                                                            \left(\widetilde{\mu}^2\;c_{_{Y}}^2\;y_u^{\,\text{pt}}\;y_u^{\,\text{sr}}+s_{_{Y}}\;a_u^{\,\text{pt}}\;\left(s_{_{Y}}\;a_u^{\,\text{sr}}-\widetilde{\mu}\;c_{_{Y}}\;y_u^{\,\text{sr}}\right)\right)\right)\;\mathsf{LF}_{2,2,1,1,-1}\!\left[\mathsf{m}_{\tilde{q}}^{\,\text{p}},\;\mathsf{m}_{\tilde{u}}^{\,\text{r}},\;\mathsf{m}_{\tilde{q}}^{\,\text{s}},\;\mathsf{m}_{\tilde{u}}^{\,\text{t}}\right]-\mathsf{m}_{\tilde{q}}^{\,\text{s}}\right]
                                                                                                \frac{3}{2} \left( \widetilde{\mu}^2 \ c_{\gamma}^{\ 2} \ \overline{y_u}^{\text{pr}} \ \overline{y_u}^{\text{st}} \ \left( \widetilde{\mu}^2 \ c_{\gamma}^{\ 2} \ y_u^{\text{pt}} \ y_u^{\text{sr}} + s_{\gamma} \ a_u^{\text{pt}} \left( s_{\gamma} \ a_u^{\text{sr}} - \widetilde{\mu} \ c_{\gamma} \ y_u^{\text{sr}} \right) \right) \ + \\
                                                                                                                                                                            s_{\gamma} \overline{a_{u}}^{pr} \left( -\widetilde{\mu} c_{\gamma} \overline{y_{u}}^{st} \left( -s_{\gamma} a_{u}^{pt} + \widetilde{\mu} c_{\gamma} y_{u}^{pt} \right) \right) \left( -s_{\gamma} a_{u}^{sr} + \widetilde{\mu} c_{\gamma} y_{u}^{sr} \right) +
                                                                                                                                                                                                                                                           s_{\gamma} \overline{a_{u}}^{st} \left( \widetilde{\mu}^{2} c_{\gamma}^{2} y_{u}^{pt} y_{u}^{sr} + s_{\gamma} a_{u}^{pt} \left( s_{\gamma} a_{u}^{sr} - \widetilde{\mu} c_{\gamma} y_{u}^{sr} \right) \right) \right)
                                                                                                                       \mathsf{LF}_{2,2,1,1,-1}[\mathsf{m}_{\tilde{\mathsf{q}}}^{\mathsf{p}}, \mathsf{m}_{\tilde{\mathsf{u}}}^{\mathsf{t}}, \mathsf{m}_{\tilde{\mathsf{q}}}^{\mathsf{s}}, \mathsf{m}_{\tilde{\mathsf{u}}}^{\mathsf{r}}] - 3 \mathsf{s}_{\gamma} \tilde{\mu} \mathsf{c}_{\gamma} (\tilde{\mu}^2 \mathsf{c}_{\gamma}^2 \overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{pr}} \overline{\mathsf{y}_{\mathsf{u}}}^{\mathsf{st}} \mathsf{y}_{\mathsf{u}}^{\mathsf{sr}} \mathsf{a}_{\mathsf{u}}^{\mathsf{pt}} +
                                                                                                                                                                            \overline{a_u}^{pr} \left( s_{\gamma}^2 y_u^{sr} \overline{a_u}^{st} a_u^{pt} + \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) \right)
                                                                                                                    \mathsf{LF_{2,1,1,1,0}} \left[ \, \mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{s}} \,,\,\, \mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{p}} \,,\,\, \mathsf{m}_{\tilde{\mathsf{u}}}^{\,\,\mathsf{r}} \,,\,\, \mathsf{m}_{\tilde{\mathsf{u}}}^{\,\,\mathsf{t}} \, \right] \,+\, 3\,\, \mathsf{s}_{\scriptscriptstyle Y} \,\, \widetilde{\mu} \,\, \mathsf{c}_{\scriptscriptstyle Y} \,\, \left( \, \widetilde{\mu}^2 \,\, \mathsf{c}_{\scriptscriptstyle Y}^{\,\,2} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{pr}} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{st}} \,\, \mathsf{y}_{\mathsf{u}}^{\,\,\mathsf{sr}} \,\, \mathsf{a}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,+\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{qt}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{qt}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{qt
                                                                                                                                                                            \overline{a_{u}}^{\text{pr}} \left( s_{\gamma}^{2} \ y_{u}^{\text{sr}} \ \overline{a_{u}}^{\text{st}} \ a_{u}^{\text{pt}} + \overline{y_{u}}^{\text{st}} \left( s_{\gamma} \ a_{u}^{\text{pt}} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{\text{pt}} \right) \ \left( s_{\gamma} \ a_{u}^{\text{sr}} - \widetilde{\mu} \ c_{\gamma} \ y_{u}^{\text{sr}} \right) \right) \right)
                                                                                                                    \mathsf{LF_{3,1,1,1,-1}} \big[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{s}} \,,\, \mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{p}} \,,\, \mathsf{m}_{\tilde{\mathsf{u}}}^{\,\,\mathsf{r}} \,,\, \mathsf{m}_{\tilde{\mathsf{u}}}^{\,\,\mathsf{t}} \, \big] \,+\, \frac{3}{2} \,\, \mathsf{s}_{\scriptscriptstyle Y} \, \widetilde{\mu} \,\, \mathsf{c}_{\scriptscriptstyle Y} \,\, \big( \widetilde{\mu}^2 \,\, \mathsf{c}_{\scriptscriptstyle Y}^{\,\,2} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{pr}} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{st}} \,\, \mathsf{y}_{\mathsf{u}}^{\,\,\mathsf{sr}} \,\, \mathsf{a}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,+\, \frac{3}{2} \,\, \mathsf{s}_{\scriptscriptstyle Y} \, \widetilde{\mu} \,\, \mathsf{c}_{\scriptscriptstyle Y} \,\, \big( \widetilde{\mu}^2 \,\, \mathsf{c}_{\scriptscriptstyle Y}^{\,\,2} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{pr}} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{st}} \,\, \mathsf{y}_{\mathsf{u}}^{\,\,\mathsf{sr}} \,\, \mathsf{a}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,+\, \frac{3}{2} \,\, \mathsf{s}_{\scriptscriptstyle Y} \,\, \widetilde{\mu} \,\, \mathsf{c}_{\scriptscriptstyle Y} \,\, \big( \widetilde{\mu}^2 \,\, \mathsf{c}_{\scriptscriptstyle Y}^{\,\,2} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{pr}} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{sr}} \,\, \mathsf{y}_{\mathsf{u}}^{\,\,\mathsf{sr}} \,\, \mathsf{a}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,+\, \frac{3}{2} \,\, \mathsf{s}_{\scriptscriptstyle Y} \,\, \widetilde{\mu} \,\, \mathsf{c}_{\scriptscriptstyle Y} \,\, \big( \widetilde{\mu}^2 \,\, \mathsf{c}_{\scriptscriptstyle Y}^{\,\,2} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{pr}} \,\, \overline{\mathsf{y}_{\mathsf{u}}}^{\,\,\mathsf{sr}} \,\, \mathsf{y}_{\mathsf{u}}^{\,\,\mathsf{sr}} \,\, \mathsf{a}_{\mathsf{u}}^{\,\,\mathsf{pt}} \,+\, \frac{3}{2} \,\, \mathsf{s}_{\scriptscriptstyle Y} \,\, \widetilde{\mu}_{\mathsf{u}}^{\,\,\mathsf{pr}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{pr}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{u}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{pr}} \,\, \mathsf{s}_{\mathsf{u}}^{\,\,\mathsf{u}}^{\,\,\mathsf{pr}} \,\, \mathsf
                                                                                                                                                                            \overline{a_{u}}^{pr}\left(s_{\gamma}^{2}y_{u}^{sr}\overline{a_{u}}^{st}a_{u}^{pt}+\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)\right)\right)
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