```
\lambda \rightarrow \frac{1}{4} c_{2\gamma}^2 \left( g_1^2 + g_2^2 \right) +
                                 \hbar \ \left( \frac{1}{16} \ \frac{1}{m_{\text{g}}^2} \ \left( g_1{}^2 + g_2{}^2 \right) \ \left( 2 \ m_{\text{g}}^2 \ c_2 \, {}_{\text{y}}^2 \ \left( g_1{}^2 + 3 \ g_2{}^2 \right) \right. \\ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \ \left( g_1{}^2 + g_2{}^2 \right) \right) \ + \ \frac{4}{9} \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \left( g_1{}^2 + g_2{}^2 \right) \right) \ + \ \frac{4}{9} \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \left( g_1{}^2 + g_2{}^2 \right) \right) \ + \ \frac{4}{9} \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \left( g_1{}^2 + g_2{}^2 \right) \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \left( g_1{}^2 + g_2{}^2 \right) \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ s_4 \, {}_{\text{y}}^2 \left( g_1{}^2 + g_2{}^2 \right) \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ + \ C_{\text{H}^2} \ g_2{}^4 \ LF_{3,0} \left[ m_2 \, \right] \ +
                                                                                                                                  \frac{2}{3} \ C_{H^2} \ g_2^{\ 4} \ LF_{4,\,-1} \ [\, m_2\,] \ - \frac{32}{45} \ C_{H^2} \ g_2^{\ 4} \ LF_{5,\,-2} \ [\, m_2\,] \ +
                                                                                                                                  \frac{1}{4} \, \sum_{p} \, s_{2\, \text{Y}} \, s_{4\, \text{Y}} \, g_{1}^{\, 2} \, \frac{1}{m_{\text{D}}^{\, 4}} \, \left(g_{1}^{\, 2} + g_{2}^{\, 2}\right) \, \left(C_{H^{2}} - m_{\text{D}}^{\, 2}\right) \, LF_{1,0} \left[\, m_{\overset{\sim}{d}}^{\, p}\, \right] \, - \\ \frac{1}{12} \, \sum_{p} \, g_{1}^{\, 4} \, c_{2\, \text{Y}}^{\, 2} \, LF_{2,0} \left[\, m_{\overset{\sim}{d}}^{\, p}\, \right] \, + \, \left(c_{1}^{\, 2} + g_{2}^{\, 2}\right) \, \left(c_{2}^{\, 2} + g_{2}^{\, 2}\right) \, \left
                                                                                                                                  \frac{3}{4} \; s_{2\,\gamma} \; s_{4\,\gamma} \; \frac{1}{{m_0}^4} \; \overline{y_d}^{pr} \; y_d^{pr} \; \left(g_1{}^2 + g_2{}^2\right) \; \left(-\,C_{H^2} + m_{\scriptscriptstyle \oplus}{}^2\right) \; LF_{1,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d^{\,pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d^{\,pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; y_d{}^{pr} \; LF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; x_d{}^{pr} \; CF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}{}^2 \; \overline{y_d}^{pr} \; x_d{}^{pr} \; CF_{2,0} \left[\,m_{\check{d}}^{\,\,r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; \overline{y_d}^{pr} \; x_d{}^{pr} \; x
                                                                                                                               \frac{1}{4}\, \sum_{p}\, s_{2\, \text{\upbelowderight}}\, s_{4\, \text{\upbelowderight}}\, g_{1}^{\, 2}\, \frac{1}{m_{\text{\tiny o}}^{\, 4}}\, \left(g_{1}^{\, 2} + g_{2}^{\, 2}\right) \, \left(C_{H^{2}} - m_{\text{\tiny \oplus}}^{\, 2}\right) \, LF_{1,0} \left[\, m_{\tilde{e}}^{\, p}\, \right] \, - \, \frac{1}{4}\, \sum_{p}\, g_{1}^{\, 4}\, \, c_{2\, \text{\tiny \upbelowderight}}\, LF_{2,0} \left[\, m_{\tilde{e}}^{\, p}\, \right] \, + \, \left(c_{1}^{\, 2} + g_{2}^{\, 2}\right) \, \left(c_{2}^{\, 2} + g_{2}^{\, 2}\right) \, \left(c_{2}^{
                                                                                                                                  \frac{1}{4} \; s_{2\,\gamma} \; s_{4\,\gamma} \; \frac{1}{{m_0}^4} \; \overline{y_e}^{pr} \; y_e^{pr} \; \left(g_1{}^2 + g_2{}^2\right) \; \left(-\,C_{H^2} + m_{\scriptscriptstyle \oplus}{}^2\right) \; LF_{1,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{\;pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; LF_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; F_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; F_{2,0} \left[\,m_{\tilde{e}}^{\;r}\,\right] \; + \; c_{2\,\gamma} \; g_1{}^2 \; c_{\gamma}^{\;2} \; \overline{y_e}^{pr} \; y_e^{pr} \; \overline{y_e}^{pr} 
                                                                                                                                  \frac{1}{4} \; s_{2\,\gamma} \; s_{4\,\gamma} \; \frac{1}{{m_0}^4} \; \left( \, {g_1}^2 \, + \, {g_2}^2 \right) \; \left( - \, C_{H^2} \, + \, m_{\scriptscriptstyle \bigoplus}^{\,2} \right) \; \left( \overline{\, y_e}^{pr} \; y_e^{\,pr} \, + \, \sum_{p} \, g_1^{\,2} \right) \; LF_{1,0} \left[ \, m_{\bar{l}}^{\,\,p} \, \right] \; - \, \left( \, m_{\bar{l}}^{\,\,p} \, + \, \sum_{p} \, g_1^{\,\,p} \, m_{\scriptstyle \downarrow}^{\,\,p} \, \right) \; LF_{1,0} \left[ \, m_{\bar{l}}^{\,\,p} \, \right] \; - \, \left( \, m_{\bar{l}}^{\,\,p} \, m_{\scriptstyle \downarrow}^{\,\,p} \, m_{\scriptstyle 
                                                                                                                                  \frac{1}{18} \; C_{H^2} \; g_2^{\; 2} \; \left( 36 \; c_{2 \; \gamma} \; c_{\gamma}^{\; 2} \; \overline{y_e}^{pr} \; y_e^{\; pr} \; + \sum_p g_2^{\; 2} \; \left( 4 - 9 \; c_{2 \; \gamma}^{\; 2} \right) \right) \; LF_{3 \; , 0} \left[ \; m_{\tilde{l}}^{\; p} \; \right] \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; \left( 4 - 9 \; c_{2 \; \gamma}^{\; 2} \right) \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; \left( 4 - 9 \; c_{2 \; \gamma}^{\; 2} \right) \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; \left( 4 - 9 \; c_{2 \; \gamma}^{\; 2} \right) \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; g_2^{\; 2} \; + \; \frac{1}{12} \; C_{H^2} \; + \; \frac{1}{12} \; C_
                                                                                                                                                              \left(-24\;c_{2\,\gamma}\;c_{\gamma}^{\;2}\;\overline{y_{e}}^{pr}\;y_{e}^{\;pr}\;+\sum_{p}\;g_{2}^{\;2}\;\left(-5+6\;c_{2\,\gamma}^{\;2}\right)\right)\;LF_{4,-1}\!\left[\,m_{\tilde{l}}^{\;p}\,\right]\;+\;\frac{8}{45}\;\sum_{p}\;C_{H^{2}}\;g_{2}^{\;4}\;LF_{5,-2}\!\left[\,m_{\tilde{l}}^{\;p}\,\right]\;+\;\frac{1}{2}\left(-24\;c_{2\,\gamma}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{l}}^{\;2}\,m_{\tilde{
                                                                                                                                  \frac{1}{4} \; s_{2\,\gamma} \; s_{4\,\gamma} \; \frac{1}{{m_{_{D}}}^4} \; \left( g_{1}{}^2 + g_{2}{}^2 \right) \; \left( C_{H^2} - m_{_{\bar{D}}}{}^2 \right) \; \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_u}^{pr} \; y_u{}^{pr} + \sum_{p} g_{1}{}^2 \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_u}^{pr} \; y_d{}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_d}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \; y_d{}^{pr} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_d}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \; y_d{}^{pr} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_d}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \; y_d{}^{pr} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} + 3 \; \overline{y_d}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \; y_d{}^{pr} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; LF_{1,0} \left[ m_{\bar{q}}^{\; p} \; y_d{}^{pr} \right] \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \, 3 \; \overline{y_d}^{pr} \; y_d{}^{pr} \right) \; + \left( - \,
                                                                                                                                  \frac{1}{24} \; c_{2\,\gamma} \; \left(12 \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{\; pr} \; \left(g_1^{\; 2} + 3 \; g_2^{\; 2}\right) \; + \; 12 \; s_{\gamma}^{\; 2} \; \overline{y_u}^{pr} \; y_u^{\; pr} \; \left(g_1^{\; 2} - 3 \; g_2^{\; 2}\right) \; - \sum_{p} c_{2\,\gamma} \; \left(g_1^{\; 4} + 9 \; g_2^{\; 4}\right) \right) \; d^{pr} \; \left(g_1^{\; 2} + 3 \; g_2^{\; 2}\right) \; + \; 12 \; s_{\gamma}^{\; 2} \; \overline{y_u}^{pr} \; y_u^{\; pr} \; \left(g_1^{\; 2} - 3 \; g_2^{\; 2}\right) \; - \sum_{p} c_{2\,\gamma} \; \left(g_1^{\; 4} + 9 \; g_2^{\; 4}\right) \; d^{pr} \; d^{pr}
                                                                                                                                                       LF_{2,0}\left[\,m_{\bar{q}}^{\,\,p}\,\right] \,+\, \frac{1}{6} \,\,C_{H^2} \,\,g_2^{\,\,2} \,\,\left(36 \,\,c_{2\,\gamma} \,\,\left(\,c_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr} \,-\, s_{\gamma}^{\,\,2} \,\,\overline{y_u}^{pr} \,\,y_u^{\,\,pr}\,\right) \,+\, \sum_{p} \,g_2^{\,\,2} \,\,\left(4 \,-\, 9 \,\,c_{2\,\gamma}^{\,\,2}\,\right) \,\right) \,\,LF_{3,0}\left[\,m_{\bar{q}}^{\,\,p}\,\right] \,+\, \left(\,c_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr} \,-\, s_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr}\,\right) \,+\, \left(\,c_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr} \,\,y_d^{\,\,pr} \,\,y_d^{\,\,pr}\,\right) \,+\, \left(\,c_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr} \,\,y_d^{\,\,pr} \,\,y_d^{\,\,pr} \,\,y_d^{\,\,pr}\,\right) \,+\, \left(\,c_{\gamma}^{\,\,2} \,\,\overline{y_d}^{pr} \,\,y_d^{\,\,pr} \,\,y_
                                                                                                                                  \frac{1}{4} \; C_{H^2} \; g_2^{\; 2} \; \left(24 \; c_2_{\; \gamma} \; \left(-\, c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{\; pr} \; + \, s_{\gamma}^{\; 2} \; \overline{y_u}^{pr} \; y_u^{\; pr}\right) \; + \\ \sum_{p} \; g_2^{\; 2} \; \left(-\, 5 \; + \; 6 \; c_2_{\; \gamma}^{\; 2}\right) \right) \; LF_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \; + \; C_{4, -1} \left[\, m_{\tilde{q}}^{\; p} \, \right] \;
                                                                                                                                  \frac{8}{15} \, \sum_{p} \, C_{H^2} \, g_2^{\ 4} \, LF_{5,\,-2} \left[\, m_{\tilde{q}}^{\ p} \, \right] \, + \, \frac{1}{2} \, \sum_{p} \, s_{2\,\gamma} \, s_{4\,\gamma} \, g_1^{\ 2} \, \frac{1}{m_0^{\ 4}} \, \left(\, g_1^{\ 2} \, + \, g_2^{\ 2} \, \right) \, \left(\, - \, C_{H^2} \, + \, m_{\bar{\Phi}}^{\ 2} \, \right) \, LF_{1,\,0} \left[\, m_{\tilde{u}}^{\ p} \, \right] \, - \, \left(\, m_{\tilde{u}}^{\ p} \, m_{\tilde{u}}^{\ p} \, \right) \, + \, \frac{1}{2} \, \left(\, m_{\tilde{u}}^{\ p} \, m_{\tilde{u}}^{\ 
                                                                                                                                  \frac{1}{3}\, \sum_{p}\, g_{1}{}^{4}\, c_{2\,\gamma}{}^{2}\, LF_{2,0}\left[\, m_{u}^{\,\,p}\,\right] \, + \, \frac{3}{4}\, \, s_{2\,\gamma}\, \, s_{4\,\gamma}\, \frac{1}{m_{_{0}}{}^{4}}\, \, \overline{y_{u}}{}^{pr}\, \, y_{u}{}^{pr}\, \left(\, g_{1}{}^{2} \, + \, g_{2}{}^{2}\,\right) \, \left(\, C_{H^{2}} \, - \, m_{_{\mathbb{D}}}{}^{2}\,\right) \, \, LF_{1,0}\left[\, m_{u}^{\,\,\,r}\,\right] \, - \, \left(\, m_{u}^{\,\,\,c}\, m_{_{0}}^{\,\,c}\, + \, g_{2}{}^{2}\,\right) \, \left(\, c_{H^{2}} \, - \, m_{_{0}}{}^{2}\,\right) \, \, LF_{1,0}\left[\, m_{u}^{\,\,\,c}\, m_{_{0}}^{\,\,\,c}\, + \, g_{2}{}^{2}\,\right] \, \, \left(\, c_{H^{2}} \, - \, m_{_{0}}{}^{2}\,\right) \, \, LF_{1,0}\left[\, m_{u}^{\,\,\,c}\, m_{_{0}}^{\,\,\,c}\, + \, g_{2}{}^{2}\,\right] \, \, \left(\, c_{H^{2}} \, - \, m_{_{0}}{}^{2}\,\right) \, \, LF_{1,0}\left[\, m_{u}^{\,\,\,c}\, m_{_{0}}^{\,\,\,c}\, + \, g_{2}{}^{2}\,\right] \, \, LF_{1,0}\left[\, m_{_{0}}^{\,\,\,c}\, m_{_{0}}^{\,\,c}\, m_{_{0}}^{\,\,c}\, + \, g_{2}{}^{2}\,\right] \, \, LF_{1,0}\left[\, m_{_{0}}^{\,\,\,c}\, m_{_{0}}^{\,\,c}\, m_{_{
                                                                                                                           2\;c_{2\,\gamma}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\;\mathsf{LF}_{2,0}\!\left[m_{\tilde{u}}^{\;r}\right]\;+\;\frac{3}{16}\;\frac{1}{m_{\mathfrak{D}}^{\,4}}\;s_{4\,\gamma}^{\;2}\;\left(C_{H^{2}}-m_{\tilde{\mathfrak{D}}}^{\;2}\right)\;\mathsf{LF}_{1,0}\left[m_{\tilde{\mathfrak{D}}}\right]\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)^{2}\;-\;2\,c_{2\,\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\;\mathsf{LF}_{2,0}\left[m_{\tilde{\mathfrak{D}}}\right]\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)^{2}\;-\;2\,c_{2\,\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\;\mathsf{LF}_{2,0}\left[m_{\tilde{\mathfrak{D}}}\right]\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)^{2}\;-\;2\,c_{2\,\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\;\mathsf{LF}_{2,0}\left[m_{\tilde{\mathfrak{D}}}\right]\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)^{2}\;-\;2\,c_{2\,\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{pr}\;y_{u}^{\;pr}\;\mathsf{LF}_{2,0}\left[m_{\tilde{\mathfrak{D}}}\right]\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)^{2}\;-\;2\,c_{2\,\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;g_{1}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}\;s_{\gamma}^{\;2}
                                                                                                                                      \frac{3}{16} \; {s_4}_{\gamma}{}^2 \; \mathsf{LF_{1,1}} \left[ \, {m_{\scriptscriptstyle \! \! \oplus}} \, \right] \; \left( {g_1}^2 \, + \, {g_2}^2 \right)^2 \, + \, \frac{3}{16} \; {C_{H^2}} \; {s_4}_{\gamma}{}^2 \; \mathsf{LF_{1,2}} \left[ \, {m_{\scriptscriptstyle \! \! \oplus}} \, \right] \; \left( {g_1}^2 \, + \, {g_2}^2 \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\!\! -}} \left[ \, {m_{\scriptscriptstyle \! \oplus}} \, \right] \; \left( \, {g_1}^2 \, + \, {g_2}^2 \, \right)^2 \, + \, \frac{3}{16} \; {c_{H^2}} \; {s_4}_{\gamma}{}^2 \; {L_{\rm \!\!\!\!\! -}} \left[ \, {g_1}^2 \, + \, {g_2}^2 \, \right] \; + \, \frac{3}{16} \; {c_{H^2}} \; {g_1}^2 \; + \, \frac{3}{16} \; {c_{H^2}} \; {g_2}^2 \; + \, \frac{3}{16} \; {c_{H^2}} \; + \, \frac{3}{16} \; + \, \frac{3}{16
                                                                                                                                      \frac{1}{64} \left(2 \; {g_{1}}^{2} \; {g_{2}}^{2} \; \left(3 + {c_{4}}_{\text{Y}} \; \left(2 - 5 \; {c_{4}}_{\text{Y}}\right) \right. \\ \left. - 4 \; {s_{2}}_{\text{Y}}^{4}\right) - {g_{2}}^{4} \; \left(9 + {c_{4}}_{\text{Y}} \; \left(-6 + 5 \; {c_{4}}_{\text{Y}}\right) \right. \\ \left. + 4 \; {s_{2}}_{\text{Y}}^{4}\right) - {g_{2}}^{4} \left(1 + {c_{4}}_{\text{Y}} \; \left(-6 + 5 \; {c_{4}}_{\text{Y}}\right) \right) + {d_{2}}_{\text{Y}}^{4} + {
                                                                                                                                                                                                                   g_{1}^{\ 4} \ \left(1 + c_{4\,\gamma} \ \left(2 + 5 \ c_{4\,\gamma}\right) \ + 4 \ s_{2\,\gamma}^{\ 4}\right) \right) \ \mathsf{LF}_{2,0} \left[\, m_{_{\!\Phi}}\,\right] \ + \frac{1}{288} \ C_{H^{2}} \ \left( - 9 \ g_{1}^{\ 4} \ \left( \ (-1 + c_{4\,\gamma}) \ ^{2} + 4 \ s_{2\,\gamma}^{\ 4}\right) \ - \left( - 4 \ c_{4\,\gamma} \right)^{2} + 4 \ s_{2\,\gamma}^{\ 4}\right) \ - \left( - 4 \ c_{4\,\gamma} \right)^{2} + \left( - 4 \ c_{4\,
                                                                                                                                                                                                                   18\;{g_{1}}^{2}\;{g_{2}}^{2}\;\left(-\,3\,+\,{c_{4\,\curlyvee}}\;\left(\,2\,+\,{c_{4\,\curlyvee}}\right)\,\,+\,4\;{s_{2\,\curlyvee}}^{4}\,\right)\,\,-\,{g_{2}}^{4}\;\left(\,17\,+\,9\;{c_{4\,\curlyvee}}\;\left(\,6\,+\,{c_{4\,\curlyvee}}\right)\,\,+\,36\;{s_{2\,\curlyvee}}^{4}\,\right)\,\right)\;\,\text{LF}_{3,0}\left[\,\text{m}_{_{\bar{\Phi}}}\,\right]\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\curlyvee}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\curlyvee}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}\,\right)\,\,+\,36\,{s_{2\,\varUpsilon}}^{4}\,\left(\,17\,+\,9\,{c_{4\,\varUpsilon}}
                                                                                                                                  \frac{1}{96} \ C_{H^2} \ \left(3 \ g_1^{\ 4} \ \left(\ (-1 + c_4_{\ Y})^{\ 2} + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 4 \ s_2_{\ Y}^{\ 4}\right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ g_2^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ \left(-3 + c_4_{\ Y} \ (2 + c_4_{\ Y}) \right) \ + 6 \ g_1^{\ 2} \ \left(-3 + c_4
                                                                                                                                                                                                                   \frac{8}{45} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\mathsf{m_{\bar{\Phi}}}] \; + \; \frac{2}{9} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{3,0}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,-1}} \; [\widetilde{\mu}] \; - \; \frac{16}{45} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,-1}} \; [\widetilde{\mu}] \; + \; \frac{1}{45} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{4,-1}} \; [\widetilde{\mu}] \; + \; \frac{1}{45} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \mathsf{LF_{5,-2}} \; [\widetilde{\mu}] \; + \; \frac{1}{3} \; \mathsf{C_{H^2}} \; \mathsf{G_{H^2}} \;
                                                                                                                               \frac{1}{2} \; m_1 \; s_4 \, {}_{\gamma} \; \widetilde{\mu} \; g_1{}^2 \; \frac{1}{m_0{}^4} \; \left( g_1{}^2 + g_2{}^2 \right) \; \left( - \, C_{H^2} + m_{\bar{\Phi}}{}^2 \right) \; \left( c_{\gamma}{}^2 - s_{\gamma}{}^2 \right) \; LF_{1,1,0} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; g_1{}^4 \; LF_{2,2,-2} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; m_1 \; s_4 \, {}_{\gamma} \; \widetilde{\mu} \; \left( \, g_1{}^2 + g_2{}^2 \right) \; \left( - \, C_{H^2} + m_{\bar{\Phi}}{}^2 \right) \; \left( \, c_{\gamma}{}^2 - s_{\gamma}{}^2 \right) \; LF_{1,1,0} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; g_1{}^4 \; LF_{2,2,-2} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; m_1 \; s_4 \, {}_{\gamma} \; \widetilde{\mu} \; \left( \, g_1{}^2 + g_2{}^2 \right) \; \left( \, c_{\gamma}{}^2 - s_{\gamma}{}^2 \right) \; LF_{1,1,0} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; m_1 \; s_4 \, {}_{\gamma} \; \widetilde{\mu} \; \left( \, g_1{}^2 + g_2{}^2 \right) \; \left( \, c_{\gamma}{}^2 - s_{\gamma}{}^2 \right) \; LF_{1,1,0} \left[ \, m_1 \, , \; \widetilde{\mu} \, \right] \; + \\ \frac{1}{2} \; m_1 \; s_4 \; \widetilde{\mu} 
                                                                                                                                  \frac{1}{2}\;g_{1}^{\;4}\;\left(\mathsf{m_{1}}^{2}+8\;\mathsf{m_{1}}\;\mathsf{s_{\gamma}}\;\widetilde{\mu}\;\mathsf{c_{\gamma}}+4\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\right)\;\mathsf{LF_{2,2,-1}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\widetilde{\mu}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{s_{\gamma}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{c_{\gamma}}^{2}\;\mathsf{LF_{2,2,0}}\left[\mathsf{m_{1}},\;\widetilde{\mu}\right]\;+2\;g_{1}^{\;4}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{2}\;\mathsf{m_{1}}^{
                                                                                                                                  \frac{3}{2} \; m_2 \; s_{4 \; \gamma} \; \widetilde{\mu} \; g_2^2 \; \frac{1}{m_0^{\; 4}} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; \left( - \, C_{H^2} + m_{\scriptscriptstyle \oplus}^{\; 2} \right) \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \; \frac{8}{3} \; C_{H^2} \; g_2^{\; 4} \; \mathsf{LF}_{2,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \; \frac{8}{3} \; C_{H^2} \; g_2^{\; 4} \; \mathsf{LF}_{2,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \; \frac{8}{3} \; C_{H^2} \; g_2^{\; 4} \; \mathsf{LF}_{2,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; + \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \;
                                                                                                                                                           g_{2}{}^{4} \left(5 \; c_{\gamma}{}^{4} + 2 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + 5 \; s_{\gamma}{}^{4}\right) \; LF_{2,2,-2} \left[\,m_{2} \, , \; \widetilde{\mu}\,\right] \; + \; \frac{1}{6} \; g_{2}{}^{4} \; \left(3 \; m_{2}{}^{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} \; c_{\gamma}{}^{2} + s_{\gamma}{}^{4}\right) \; - \; \frac{1}{2} \; \left(c_{\gamma}{}^{4} + 10 \; s_{\gamma}{}^{2} \; c_{\gamma}{}^{2} \; c_{\gamma}{}^{2
                                                                                                                                                                                                                   2\;C_{H^2}\;\left(9\;c_{\gamma}^{\;\;4}+8\;s_{\gamma}^{\;\;2}+9\;s_{\gamma}^{\;\;4}+c_{\gamma}^{\;\;2}\;\left(8-24\;s_{\gamma}^{\;\;2}\right)\right) +72\;m_2\;s_{\gamma}\;\widetilde{\mu}\;c_{\gamma}^{\;}+36\;s_{\gamma}^{\;\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;\;2}\right)\;LF_{2,2,-1}\left[m_2\;,\;\widetilde{\mu}\right] \;-12\;m_2^2\;s_{\gamma}^{\;\;2}\left(8-24\;s_{\gamma}^{\;\;2}\right) +72\;m_2^2\;s_{\gamma}^{\;\;2}\left(8-24\;s_{\gamma}^{\;\;2}\right) +72\;m_2^2\;s_{\gamma}
                                                                                                                                                           \text{m}_2 \text{ s}_{\gamma} \text{ c}_{\gamma} \text{ g}_2^{\text{ 4}} \text{ } \left( -\text{ 9 m}_2 \text{ s}_{\gamma} \text{ c}_{\gamma} \, \widetilde{\mu}^2 + \text{ C}_{\text{H}^2} \text{ } \left( \text{ 6 m}_2 \text{ s}_{\gamma} \text{ c}_{\gamma} + \text{ 8 } \widetilde{\mu} \right) \right) \text{ LF}_{2,2,0} \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \text{ } + \text{ } \left( \text{ 6 m}_2 \text{ s}_{\gamma} \text{ c}_{\gamma} + \text{ 8 } \widetilde{\mu} \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } + \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } + \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } + \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{ F}_{2,2,0} \text{ } \left[ \text{ m}_2 \text{ , } \widetilde{\mu} \right] \right) \text{ } \left( \text{
                                                                                                                                                           \mathsf{C_{H^2}} \ \mathsf{g_2}^4 \ \mathsf{LF_{3,1,-1}} [\ \mathsf{m_2} \ , \ \widetilde{\mu} \ ] \ + \frac{4}{3} \ \mathsf{C_{H^2}} \ \mathsf{g_2}^4 \ \left( 6 \ \mathsf{c_{\gamma}}^4 + \mathsf{s_{\gamma}}^2 + 6 \ \mathsf{s_{\gamma}}^4 + \mathsf{c_{\gamma}}^2 \ \left( 1 - 12 \ \mathsf{s_{\gamma}}^2 \right) \right) \ \mathsf{LF_{3,2,-2}} [\ \mathsf{m_2} \ , \ \widetilde{\mu} \ ] \ + \frac{1}{3} \ \mathsf{m_2} \ \mathsf{m
                                                                                                                               \frac{2}{3} m_2 C_{H^2} g_2^4 \left(-9 m_2 \left(c_{\gamma}^2-s_{\gamma}^2\right)^2+4 s_{\gamma} \widetilde{\mu} c_{\gamma}) LF_{3,2,-1}[m_2,\,\widetilde{\mu}] -
                                                                                                                           4\,\,C_{H^2}\,\,g_2{}^4\,\,LF_{3,3,-3}\,[\,m_2\,,\,\,\widetilde{\mu}\,]\,\,\left(\,c_{\gamma}{}^2\,-\,s_{\gamma}{}^2\,\right)^{\,2}\,+\,4\,\,C_{H^2}\,\,g_2{}^4\,\,m_2{}^2\,\,LF_{3,3,-2}\,[\,m_2\,,\,\,\widetilde{\mu}\,]\,\,\left(\,c_{\gamma}{}^2\,-\,s_{\gamma}{}^2\,\right)^{\,2}\,-\,3\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{\gamma}{}^2\,\,c_{
                                                                                                                           4\;C_{H^2}\;g_2^{\;4}\;LF_{4,2,-3}\left[\,m_2\,,\;\widetilde{\mu}\,\right]\;\left(\,c_{\gamma}^{\;2}\,-\,s_{\gamma}^{\;2}\,\right)^{\,2}\,+\,4\;C_{H^2}\;g_2^{\;4}\;m_2^{\;2}\;LF_{4,2,-2}\left[\,m_2\,,\;\widetilde{\mu}\,\right]\;\left(\,c_{\gamma}^{\;2}\,-\,s_{\gamma}^{\;2}\,\right)^{\,2}\,-\,2\,\left(\,m_2^{\;2}\,+\,m_2^{\;2}\,\right)^{\,2}\,+\,2\,\left(\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m_2^{\;2}\,+\,m
                                                                                                                           3\;c_{\gamma}^{\;4}\,\overline{y_{d}}^{pr}\,\overline{y_{d}}^{st}\,y_{d}^{\;pt}\,y_{d}^{\;sr}\;LF_{1,1,0}\left[\,m_{\widetilde{d}}^{\;r}\,,\;m_{\widetilde{d}}^{\;t}\,\right]\,+\,\frac{3}{4}\;s_{4\,\gamma}\,\frac{1}{m_{\scriptscriptstyle D}^{\;4}}\;\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\;\left(\,C_{H^{2}}\,-\,m_{\scriptscriptstyle \overline{D}}^{\;2}\,\right)
                                                                                                                                                              \left(\widetilde{\mu}\;\overline{y_d}^{pr}\;\left(\left.a_d^{\;pr}\;\left(-\left.c_{_{Y}}^{\;2}+s_{_{Y}}^{\;2}\right)\right.\right.\right.\\ \left.+\left.2\left.s_{_{Y}}\;\widetilde{\mu}\;c_{_{Y}}\;y_d^{pr}\right)\right.\\ \left.+\left.\overline{a_d}^{pr}\;\left(-\left.2\left.s_{_{Y}}\;c_{_{Y}}\;a_d^{\;pr}+\widetilde{\mu}\;y_d^{\;pr}\;\left(-\left.c_{_{Y}}^{\;2}+s_{_{Y}}^{\;2}\right)\right.\right)\right)\right)\right)
                                                                                                                                                       \mathsf{LF_{1,1,0}}\left[\mathsf{m_{\tilde{d}}}^\mathsf{r}\,,\,\mathsf{m_{\tilde{q}}}^\mathsf{p}\right]\,+\,\mathsf{c_{2\,\gamma}}\,\mathsf{g_{1}}^2\,\left(\mathsf{c_{\gamma}}\,\,\overline{\mathsf{a_{d}}}^\mathsf{pr}\,-\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\,\overline{\mathsf{y_{d}}}^\mathsf{pr}\right)\,\left(\mathsf{c_{\gamma}}\,\,\mathsf{a_{d}}^\mathsf{pr}\,-\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\,\mathsf{y_{d}}^\mathsf{pr}\right)\,\,\mathsf{LF_{2,1,0}}\left[\mathsf{m_{\tilde{d}}}^\mathsf{r}\,,\,\mathsf{m_{\tilde{q}}}^\mathsf{p}\right]\,+\,\mathsf{c_{2\,\gamma}}\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{g_{1}}^\mathsf{p}\,\,\mathsf{c_{2\,\gamma}}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,\,\mathsf{g_{2}}^\mathsf{p}\,
                                                                                                                           \mathsf{C}_{\mathsf{H}^2} \; \mathsf{c}_{\mathsf{2} \, \scriptscriptstyle \mathsf{Y}} \; \mathsf{g_1}^2 \; \left( \mathsf{c}_{\scriptscriptstyle \mathsf{Y}} \; \overline{\mathsf{a_d}}^{\mathsf{pr}} - \, \mathsf{s}_{\scriptscriptstyle \mathsf{Y}} \, \widetilde{\boldsymbol{\mu}} \; \overline{\mathsf{y_d}}^{\mathsf{pr}} \right) \; \left( \mathsf{c}_{\scriptscriptstyle \mathsf{Y}} \; \mathsf{a_d}^{\mathsf{pr}} - \, \mathsf{s}_{\scriptscriptstyle \mathsf{Y}} \, \widetilde{\boldsymbol{\mu}} \; \mathsf{y_d}^{\mathsf{pr}} \right) \; \mathsf{LF}_{\mathsf{2,2,0}} \left[ \, \mathsf{m_{\bar{\mathsf{d}}}}^{\,\,\mathsf{r}} \, , \; \mathsf{m_{\bar{\mathsf{q}}}}^{\,\,\mathsf{p}} \, \right] \; - \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \right] \; \mathsf{LF}_{\mathsf{2,2,0}} \left[ \, \mathsf{m_{\mathsf{d}}}^{\,\,\mathsf{r}} \, , \; \mathsf{m_{\bar{\mathsf{q}}}}^{\,\,\mathsf{p}} \, \right] \; - \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \right] \; \mathsf{LF}_{\mathsf{2,2,0}} \left[ \, \mathsf{m_{\mathsf{d}}}^{\,\,\mathsf{r}} \, , \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{p}} \, \right] \; - \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \right] \; - \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, + \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, + \; \mathsf{m_{\mathsf{q}}}^{\,\,\mathsf{pr}} \, \mathsf{m_{
                                                                                                                           c_{\text{y}}^{4}\,\overline{y_{e}}^{\text{pr}}\,\overline{y_{e}}^{\text{st}}\,y_{e}^{\,\text{pt}}\,y_{e}^{\,\text{sr}}\,LF_{1,1,0}\!\left[\,m_{\tilde{e}}^{\,\text{r}}\,,\,m_{\tilde{e}}^{\,\text{t}}\,\right]\,+\,\frac{1}{4}\,\,s_{4\,\text{y}}\,\frac{1}{m_{\text{D}}^{\,4}}\,\left(\,g_{1}^{\,2}\,+\,g_{2}^{\,2}\,\right)\,\left(\,C_{H^{2}}\,-\,m_{\tilde{\Phi}}^{\,2}\,\right)
                                                                                                                                                              \left(\widetilde{\mu}\,\overline{y_e}^{pr}\,\left(a_e^{\,pr}\,\left(-\,c_{_{Y}}^{\,\,2}+\,s_{_{Y}}^{\,\,2}\right)\,+\,2\,\,s_{_{Y}}\,\widetilde{\mu}\,\,c_{_{Y}}\,y_e^{\,pr}\right)\,+\,\overline{a_e}^{pr}\,\left(-\,2\,\,s_{_{Y}}\,c_{_{Y}}\,a_e^{\,pr}\,+\,\widetilde{\mu}\,\,y_e^{\,pr}\,\left(-\,c_{_{Y}}^{\,\,2}+\,s_{_{Y}}^{\,\,2}\right)\right)\right)
                                                                                                                                                       \mathsf{LF_{1,1,0}}\left[\mathsf{m_{\tilde{e}}}^\mathsf{r}\,,\,\mathsf{m_{\tilde{l}}}^\mathsf{p}\right]\,+\,\mathsf{c_{2\,\gamma}}\,\mathsf{g_{1}}^2\,\left(\mathsf{c_{\gamma}}\,\overline{\mathsf{a_{e}}}^\mathsf{pr}\,-\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\overline{\mathsf{y_{e}}}^\mathsf{pr}\right)\,\left(\mathsf{c_{\gamma}}\,\mathsf{a_{e}}^\mathsf{pr}\,-\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{y_{e}}^\mathsf{pr}\right)\,\mathsf{LF_{2,1,0}}\left[\mathsf{m_{\tilde{e}}}^\mathsf{r}\,,\,\mathsf{m_{\tilde{l}}}^\mathsf{p}\right]\,+\,\mathsf{c_{2\,\gamma}}\,\mathsf{g_{1}}^\mathsf{p}\,\mathsf{g_{1}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_{2}}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}\,\mathsf{g_2}^\mathsf{p}
                                                                                                                           \mathsf{C}_{\mathsf{H}^2} \; \mathsf{c}_{\mathsf{2}\, \mathsf{\gamma}} \; \mathsf{g}_{\mathsf{1}}^{\mathsf{2}} \; \left( \mathsf{c}_{\mathsf{\gamma}} \; \overline{\mathsf{a}_{\mathsf{e}}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{\gamma}} \, \widetilde{\mu} \; \overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}} \right) \; \left( \mathsf{c}_{\mathsf{\gamma}} \; \mathsf{a}_{\mathsf{e}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{\gamma}} \, \widetilde{\mu} \; \mathsf{y}_{\mathsf{e}}^{\mathsf{pr}} \right) \; \mathsf{LF}_{\mathsf{2},\mathsf{2},\mathsf{0}} \left[ \, \mathsf{m}_{\tilde{\mathsf{e}}}^{\, \, \mathsf{r}} \, , \; \mathsf{m}_{\tilde{\mathsf{1}}}^{\, \, \mathsf{p}} \, \right] \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, 2}} \; \left( \widetilde{\mu} \; \overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{\gamma}} \, \widetilde{\mu} \, \widetilde{\mu}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{p}}} \; \left( \widetilde{\mu} \; \overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{\gamma}} \, \widetilde{\mu} \, \widetilde{\mu}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; \left( \mathsf{p}_{\mathsf{1}} \, \overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{\gamma}} \, \widetilde{\mu}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; \left( \mathsf{p}_{\mathsf{0}} \, \overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}} - \mathsf{p}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; \left( \mathsf{p}_{\mathsf{0}} \, \overline{\mathsf{y}_{\mathsf{0}}} + \mathsf{p}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; \left( \mathsf{p}_{\mathsf{0}} \, \overline{\mathsf{y}_{\mathsf{0}}} + \mathsf{p}_{\mathsf{0}}^{\mathsf{pr}} \, \right) \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}^{\, \, \mathsf{pr}}} \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}} \; + \; \frac{1}{4} \; \frac{1}{4} \; + \; \frac{1}{4} \; \frac{1}{\mathsf{m}_{\mathsf{0}}} \; + \; \frac{1}{4} \; \frac{1}{4} \; \frac{1}{4} \; + \; \frac{1}{4} \; \frac{1}{4} \; + \; \frac{1}{4} \; \frac{1}{4} \; + \; \frac{1}{4}
                                                                                                                                                                                                                                                         \left(a_{e}^{\,pr}\,\left(-\,2\,\,s_{\gamma}\,\,c_{2\,\gamma}\,\,c_{\gamma}\,\,m_{\bar{\Phi}}^{\,2}\,\left(g_{1}^{\,2}\,\,\left(-\,1\,+\,c_{2\,\gamma}\right)\,+\,g_{2}^{\,2}\,\,\left(1\,+\,c_{2\,\gamma}\right)\,\right)\,+\,s_{4\,\gamma}\,\,C_{H^{2}}\,\left(g_{1}^{\,2}\,+\,g_{2}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\right)\,+\,s_{4\,\gamma}\,\left(g_{1}^{\,2}\,+\,g_{2}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\right)\,\left(\,c
                                                                                                                                                                                                                                                                                                          2\; s_{\gamma}\; \widetilde{\mu}\; y_{e}^{\;pr} \; \left(-\, s_{4\; \gamma}\; C_{H^{2}}\; c_{\gamma}\; \left(g_{1}^{\;2}\, +\, g_{2}^{\;2}\right) \; +\, s_{\gamma}\; c_{2\; \gamma}\; m_{\bar{\Phi}}^{\;2}\; \left(g_{1}^{\;2}\; \left(-\, 1\, +\, c_{2\; \gamma}\right) \; +\, g_{2}^{\;2}\; \left(1\, +\, c_{2\; \gamma}\right) \; \right) \, \right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; \left(1\, +\, c_{2\; \gamma}^{\;2}\right) \; +\, c_{2\; \gamma}^{\;2} \; +\, c_{2
                                                                                                                                                                                                                   \overline{a_{e}}^{\text{pr}} \left(2 \; c_{\gamma} \; a_{e}^{\; \text{pr}} \; \left(c_{2 \; \gamma} \; c_{\gamma} \; \text{m}_{_{\mathbb{B}}}^{\; \; 2} \; \left(g_{1}^{\; 2} \; \left(-1 + c_{2 \; \gamma}\right) \; + \; g_{2}^{\; 2} \; \left(1 + c_{2 \; \gamma}\right) \; \right) \; + \; s_{4 \; \gamma} \; s_{\gamma} \; C_{\text{H}^{2}} \; \left(g_{1}^{\; 2} \; + \; g_{2}^{\; 2}\right) \right) \; + \; \widetilde{\mu} \; y_{e}^{\; \text{pr}} \; \left(c_{1} \; c_{2 \; \gamma} \; c_{1} \; c_{2 \; \gamma} \; c_{2} \;
                                                                                                                                                                                                                                                                                                                                      \left(-\,2\,\,s_{\gamma}\,\,c_{2\,\gamma}\,\,c_{\gamma}\,\,m_{\bar{\Phi}}^{\,2}\,\,\left(\,g_{1}^{\,2}\,\,\left(\,-\,1\,+\,c_{2\,\gamma}\,\right)\,\,+\,g_{2}^{\,2}\,\,\left(\,1\,+\,c_{2\,\gamma}\,\right)\,\,\right)\,\,+\,\,s_{4\,\gamma}\,\,C_{H^{2}}\,\,\left(\,g_{1}^{\,2}\,+\,g_{2}^{\,2}\,\right)\,\,\left(\,c_{\gamma}^{\,2}\,-\,s_{\gamma}^{\,2}\,\right)\,\right)\,\right)
                                                                                                                                                        \mathsf{LF_{2,1,0}}\left[\,\mathsf{m_{\tilde{l}}}^{\,\,p}\,,\,\,\mathsf{m_{\tilde{e}}}^{\,\,r}\,\right] \,+\, \frac{1}{4} \,\, \frac{1}{\,\,\mathsf{m_{e}}^{\,\,2}} \,\, \left(\,g_{1}^{\,\,2} \,+\, g_{2}^{\,\,2}\,\right) \,\, \left(\,-\,2\,\,c_{\gamma}\,\,\overline{a_{e}}^{pr}\,\,a_{e}^{\,\,pr}\,\,\left(\,c_{\gamma}\,\,\mathsf{m_{\tilde{e}}}^{\,\,2}\,\,c_{2\,\,\gamma}^{\,\,2} \,+\, s_{4\,\,\gamma}\,\,s_{\gamma}\,\,C_{H^{2}}\right) \,\, -\, 2\,\,c_{\gamma}^{\,\,2}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,\left(\,c_{\gamma}\,\,\mathsf{m_{\tilde{e}}}^{\,\,2}\,\,c_{2\,\,\gamma}^{\,\,2} \,+\, s_{4\,\,\gamma}\,\,s_{\gamma}\,\,C_{H^{2}}\right) \,\, -\, 2\,\,c_{\gamma}^{\,\,2}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,\,a_{e}^{\,\,pr}\,
                                                                                                                                                                                                               2\; s_{\gamma}\; \widetilde{\mu}^{2}\; \overline{y_{e}}^{pr}\; y_{e}^{\;pr}\; \left(s_{4\;\gamma}\; C_{H^{2}}\; c_{\gamma} - s_{\gamma}\; m_{_{\bar{\Phi}}}^{\;2}\; c_{2\;\gamma}^{\;2}\right) \right) \; LF_{3,1,-1} \left[\, m_{_{\bar{l}}}^{\;p}\, ,\; m_{_{\bar{e}}}^{\;r}\, \right] \; + \; C_{H^{2}}\; c_{2\;\gamma}^{\;2} + \; C_{H^{2}}
                                                                                                                                                                  \left(g_{1}^{2}\;\left(-1+c_{2\,\gamma}\right)\;+g_{2}^{\;2}\;\left(1+c_{2\,\gamma}\right)\;\right)\;\left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;\mathsf{LF}_{3,1,0}\left[\mathsf{m}_{\bar{1}}^{\;p},\;\mathsf{m}_{\bar{e}}^{\;r}\right]\;-1\;\mathsf{LF}_{3,1,0}\left[\mathsf{m}_{\bar{1}}^{\;p},\;\mathsf{m}_{\bar{e}}^{\;pr}\right]\;
                                                                                                                        C_{H^{2}}\;c_{2\,\gamma}\;g_{1}^{\;2}\;\left(c_{\gamma}\;\overline{a_{e}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{pr}\right)\;\left(c_{\gamma}\;a_{e}^{\;pr}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;r}\right]\\ -\frac{1}{2}\;C_{H^{2}}\;\left(-1+2\;c_{2\,\gamma}\right)\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;pr}\right]\;F_{3,2,-1}\left[m_{\tilde{l}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{e}}^{\;p}\,,\;m_{\tilde{
                                                                                                                                                              \left(2\;{g_{2}}^{2}+3\;{c_{2}}_{\text{\tiny $\gamma$}}\;\left({g_{1}}^{2}+{g_{2}}^{2}\right)\right)\;\left({c_{\text{\tiny $\gamma$}}}\;\overline{a_{e}}^{\text{pr}}-{s_{\text{\tiny $\gamma$}}}\;\widetilde{\mu}\;\overline{y_{e}}^{\text{pr}}\right)\;\left({c_{\text{\tiny $\gamma$}}}\;a_{e}^{\text{pr}}-{s_{\text{\tiny $\gamma$}}}\;\widetilde{\mu}\;y_{e}^{\text{pr}}\right)\;\text{LF}_{4,1,-1}\!\left[m_{\widetilde{l}}^{\text{\tiny $p$}},\;m_{\widetilde{e}}^{\text{\tiny $r$}}\right]+m_{\widetilde{e}}^{\text{\tiny $r$}}\right]+m_{\widetilde{e}}^{\text{\tiny $r$}}\left({c_{\text{\tiny $\gamma$}}}\;a_{e}^{\text{\tiny $r$}}\right)
                                                                                                                                  \frac{2}{3} \left( C_{H^{2}} \left( -2 g_{2}^{2} + 3 c_{2}^{2} \left( g_{1}^{2} + g_{2}^{2} \right) \right) \left( c_{\gamma} \, \overline{a_{e}}^{pr} - s_{\gamma} \, \widetilde{\mu} \, \overline{y_{e}}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \, LF_{5,1,-2} \left[ m_{\tilde{l}}^{p}, \, m_{\tilde{e}}^{r} \right] - m_{\tilde{e}}^{2} \left( m_{\tilde{l}}^{p}, \, m_{\tilde{e}}^{p}, \, m_{\tilde{e}}^{p} \right) \right] \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{pr} \right) \\ \left( c_{\gamma} \, a_{e}^{pr} - s_{\gamma} \, \widetilde{\mu} \, y_
                                                                                                                           2 \, C_{H^2} \, c_{\gamma}^{\phantom{\gamma}4} \, \overline{y_e}^{pr} \, \overline{y_e}^{st} \, y_e^{\phantom{e}pt} \, y_e^{\phantom{e}sr} \, LF_{3,1,-1} \big[ m_{\tilde{l}}^{\phantom{e}p}, \, m_{\tilde{l}}^{\phantom{e}s} \big] +
                                                                                                                                  \frac{1}{4} \; \frac{1}{m_{\text{g}}^{2}} \; \left( \widetilde{\mu} \; \overline{y_{d}}^{\text{pr}} \; \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; m_{\text{g}}^{\; \; 2} \; \left( g_{1}^{\; \; 2} \; \left( 1 + 3 \; c_{2 \, \text{y}} \right) \; + 3 \; g_{2}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; \right) \; + \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; m_{\text{g}}^{\; \; 2} \; \left( 1 + 3 \; c_{2 \, \text{y}} \right) \; + 3 \; g_{2}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; \right) \; + \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; m_{\text{g}}^{\; \; 2} \; \left( 1 + 3 \; c_{2 \, \text{y}} \right) \; + 3 \; g_{2}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; \right) \; + \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; m_{\text{g}}^{\; \; 2} \; \left( 1 + 3 \; c_{2 \, \text{y}} \right) \; + 3 \; g_{2}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; \right) \; + \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; m_{\text{g}}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; + 3 \; g_{2}^{\; \; 2} \; \left( 1 + c_{2 \, \text{y}} \right) \; \right) \; + \left( -2 \; s_{\text{y}} \; c_{2 \, \text{y}} \; c_{\text{y}} \; c
                                                                                                                                                                                                                                                                                                                                                                                             3 \, s_{4 \, \gamma} \, C_{H^2} \, \left( g_1^{\, 2} + g_2^{\, 2} \right) \, \left( c_{\gamma}^{\, 2} - s_{\gamma}^{\, 2} \right) \, \right) \, + \,
                                                                                                                                                                                                                                                                                                      2\; s_{\gamma}\; \widetilde{\mu}\; y_{d}^{\;pr}\; \left(-\; 3\; s_{4\; \gamma}\; C_{H^{2}}\; c_{\gamma}\; \left(g_{1}^{\;2}\; +\; g_{2}^{\;2}\right)\; +\; s_{\gamma}\; c_{2\; \gamma}\; m_{\bar{\Phi}}^{\;2}\; \left(g_{1}^{\;2}\; \left(1\; +\; 3\; c_{2\; \gamma}\right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; c_{2\; \gamma}\right)\; \right)\; \right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; c_{2\; \gamma}^{\;2}\; \right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; c_{2\; \gamma}^{\;2}\; \right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; c_{2\; \gamma}^{\;2}\; \right)\; \right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; c_{2\; \gamma}^{\;2}\; \right)\; +\; 3\; g_{2}^{\;2}\; \left(1\; +\; 
                                                                                                                                                                                                                   \overline{a_d}^{pr} \left( 2 \; c_{_{Y}} \; a_d^{\; pr} \; \left( c_{_{2 \; Y}} \; c_{_{Y}} \; m_{_{\overline{0}}}^{\; \; 2} \; \left( g_1^{\; 2} \; \left( 1 + 3 \; c_{_{2 \; Y}} \right) \; + 3 \; g_2^{\; 2} \; \left( 1 + c_{_{2 \; Y}} \right) \; \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{Y}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; + \; 3 \; s_{_{4 \; Y}} \; s_{_{7}} \; c_{_{7}} \; c_{
                                                                                                                                                                                                                                                                                                      3 \; s_{4 \; \gamma} \; C_{H^2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \, \right) \; \right) \; LF_{2,1,0} \left[ \, m_{\tilde{q}}^{\; r} \, , \; m_{\tilde{d}}^{\; r} \, \right] \; + \; \frac{3}{4} \; \frac{1}{m_{_0}^{\; 2}} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \right) \; . 
                                                                                                                                                              \left(-2\;c_{\gamma}\;\overline{a_{d}}^{pr}\;a_{d}^{\;pr}\;\left(c_{\gamma}\;m_{\bar{\Phi}}^{\;2}\;c_{2\;\gamma}^{\;2}+s_{4\;\gamma}\;s_{\gamma}\;c_{H^{2}}\right)\right.\\ \left.-\tilde{\mu}\;\left(-2\;s_{\gamma}\;c_{\gamma}\;m_{\bar{\Phi}}^{\;2}\;c_{2\;\gamma}^{\;2}+s_{4\;\gamma}\;c_{H^{2}}\;\left(c_{\gamma}^{\;2}-s_{\gamma}^{\;2}\right)\right)\right)
                                                                                                                                                                                                                                                      (\overline{y_d}^{pr} \ a_d^{pr} + y_d^{pr} \ \overline{a_d}^{pr}) \ + 2 \ s_{\gamma} \ \widetilde{\mu}^2 \ \overline{y_d}^{pr} \ y_d^{pr} \ \left(s_{4 \, \gamma} \ C_{H^2} \ c_{\gamma} - s_{\gamma} \ m_{\bar{\Phi}}^{\ 2} \ c_{2 \, \gamma}^{\ 2}\right) \right) \ LF_{3,1,-1} \left[m_{\bar{q}}^{\ p}, \ m_{\bar{d}}^{\ r}\right] \ + 2 \ s_{\gamma} \ \widetilde{\mu}^{pr} \ s_d^{pr} \ s_d^{
                                                                                                                           C_{H^{2}}\;c_{2\,\gamma}\;\left(g_{1}^{\;2}\;\left(1+3\;c_{2\,\gamma}\right)\;+3\;g_{2}^{\;2}\;\left(1+c_{2\,\gamma}\right)\;\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)
                                                                                                                                                       \mathsf{LF_{3,1,0}}\left[\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,p}\,,\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,r}\,\right]\,-\,\mathsf{C}_{\mathsf{H}^{2}}\,\,\mathsf{c}_{2\,\gamma}\,\,\mathsf{g}_{1}^{\,\,2}\,\,\left(\,\mathsf{c}_{\gamma}\,\,\overline{\mathsf{a}_{\mathsf{d}}}^{\,\,pr}\,-\,\mathsf{s}_{\gamma}\,\,\widetilde{\boldsymbol{\mu}}\,\,\overline{\mathsf{y}_{\mathsf{d}}}^{pr}\,\right)\,\,\left(\,\mathsf{c}_{\gamma}\,\,\mathsf{a}_{\mathsf{d}}^{\,\,pr}\,-\,\mathsf{s}_{\gamma}\,\,\widetilde{\boldsymbol{\mu}}\,\,\mathsf{y}_{\mathsf{d}}^{\,\,pr}\,\right)\,\,\mathsf{LF_{3,2,-1}}\left[\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,p}\,,\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,r}\,\right]\,-\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,p}\,\,\mathsf{m}_{
                                                                                                                                      \frac{3}{2} \; C_{H^2} \; \left(-2 \; {g_2}^2 + c_{2 \; \gamma} \; \left(1 + 6 \; c_{2 \; \gamma}\right) \; \left({g_1}^2 + {g_2}^2\right)\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) \; \mathsf{LF_{4,1,-1}} \big[ \, \mathsf{m_{\tilde{q}}^{\; p}} \, , \; \mathsf{m_{\tilde{d}}^{\; r}} \, \big] \; + \\
                                                                                                                           2\;C_{H^{2}}\;\left(-2\;g_{2}^{\;2}+3\;c_{2\;\gamma}^{\;2}\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)\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_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;r}\right]-\left(c_{\gamma}^{\;2}\;a_{d}^{\;pr}-s_{\gamma}^{\;2}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;r}\right]-\left(c_{\gamma}^{\;2}\;a_{d}^{\;pr}-s_{\gamma}^{\;2}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;r}\right]-\left(c_{\gamma}^{\;2}\;a_{d}^{\;pr}-s_{\gamma}^{\;p}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]-\left(c_{\gamma}^{\;2}\;a_{d}^{\;pr}-s_{\gamma}^{\;p}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]-\left(c_{\gamma}^{\;p}\;a_{d}^{\;pr}-s_{\gamma}^{\;p}\;\widetilde{\mu}\;y_{d}^{\;pr}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]-\left(c_{\gamma}^{\;p}\;a_{d}^{\;p}+s_{\gamma}^{\;p}\;\widetilde{\mu}\;y_{d}^{\;p}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]-\left(c_{\gamma}^{\;p}\;a_{d}^{\;p}+s_{\gamma}^{\;p}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]-\left(c_{\gamma}^{\;p}\;a_{d}^{\;p}+s_{\gamma}^{\;p}\right)\;LF_{5,1,-2}\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;p}\right]
                                                                                                                               3\left(c_{\gamma}^{\phantom{\gamma}4}\,\overline{y_{d}}^{pr}\,\overline{y_{d}}^{st}\,y_{d}^{\phantom{d}pt}\,y_{d}^{\phantom{d}sr}+s_{\gamma}^{\phantom{\gamma}4}\,\overline{y_{u}}^{pr}\,\overline{y_{u}}^{st}\,y_{u}^{\phantom{u}pt}\,y_{u}^{\phantom{u}sr}\right)\,LF_{1,1,0}\big[\,m_{\tilde{q}}^{\phantom{\tilde{q}}p}\,,\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,\big]\,-\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q}}s}\,m_{\tilde{q}}^{\phantom{\tilde{q
                                                                                                                           6\;C_{H^2}\;\left(c_{\gamma}^{\;2}\;\overline{y_d}^{\text{pr}}\;y_d^{\;\text{sr}}\;\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)\right.\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\text{pr}}\;\overline{y_u}^{\text{st}}\;y_u^{\;\text{pt}}\;y_u^{\;\text{sr}}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\text{pr}}\;\overline{y_u}^{\text{st}}\;y_u^{\;\text{pt}}\;y_u^{\;\text{sr}}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\text{pt}}\;y_u^{\;\text{st}}\;y_u^{\;\text{pt}}\;y_u^{\;\text{st}}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\text{pt}}\;y_u^{\;\text{st}}\;y_u^{\;\text{pt}}\;y_u^{\;\text{st}}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\;pr}\;y_u^{\;\text{st}}\;y_u^{\;pr}\;y_u^{\;\text{st}}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]\\ \left.+\;s_{\gamma}^{\;4}\;\overline{y_u}^{\;pr}\;y_u^{\;sr}\;y_u^{\;pr}\;y_u^{\;sr}\right)\;LF_{2,1,0}\left[\,m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{q}}^{\;s}\,\right]
                                                                                                                           6 \; C_{H^2} \; \left( c_{\gamma}^{\; 2} \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} \; \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) \; + \; s_{\gamma}^{\; 4} \; \overline{y_u}^{\text{pr}} \; \overline{y_u}^{\text{st}} \; y_u^{\; \text{pt}} \; y_u^{\; \text{sr}} \right) \; LF_{3,1,-1} \left[ m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right] \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; \left( m_{\tilde{q}}^{\; p}, \; m_{\tilde{q}}^{\; s} \right) \; + \; m_{\tilde{q}}^{\; s} \; 
                                                                                                                               \frac{3}{4} \ s_{4 \, \gamma} \ \frac{1}{m_{\text{B}}^{\, 4}} \ \left( g_{1}^{\, 2} + g_{2}^{\, 2} \right) \ \left( C_{\text{H}^{2}} - m_{\text{B}}^{\, 2} \right) \ \left( \widetilde{\mu} \ \overline{y_{u}}^{pr} \ \left( a_{u}^{pr} \ \left( - c_{\gamma}^{\, 2} + s_{\gamma}^{\, 2} \right) - 2 \ s_{\gamma} \ \widetilde{\mu} \ c_{\gamma} \ y_{u}^{pr} \right) + c_{\gamma}^{2} \left( a_{u}^{pr} \right) \ \left( \widetilde{\mu} \ \overline{y_{u}}^{pr} \right) + c_{\gamma}^{2} \left( a_{u}^{pr} \right) \ \left( a_{u}^{pr} \right) + c_{\gamma}^{2} \left( a_{u}^{pr} \right) \ \left( a_{u}^{pr} \right) + c_{\gamma}^{2} \left( a_{u}^{pr} \right) +
                                                                                                                                                                                                               \frac{1}{2} \; c_{2\,\gamma} \; \left( g_{1}^{\; 2} - 3 \; g_{2}^{\; 2} \right) \; \left( s_{\gamma} \; \overline{a_{u}}^{pr} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{pr} \right) \; \left( s_{\gamma} \; a_{u}^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; pr} \right) \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{u}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] \; + \; \mathsf{LF}_{2,1,0} \left[ \mathsf{m}_{\tilde{\mathsf{q}}}^{\; p} , \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; r} \right] 
                                                                                                                                      \frac{1}{2} \; C_{H^2} \; \left( c_{2\,\gamma} \; g_1^{\; 2} + g_2^{\; 2} \; \left( 4 - 3 \; c_{2\,\gamma} \right) \; \right) \; \left( s_{\gamma} \; \overline{a_u}^{pr} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_u}^{pr} \right) \; \left( s_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{2,2,0} \left[ m_{\widetilde{q}}^{\; p} \; , \; m_{\widetilde{u}}^{\; r} \right] \; - \; \widetilde{\mu} \; c_{\gamma} \; \widetilde{y_u}^{pr} \; \right) \; \left( s_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{2,2,0} \left[ m_{\widetilde{q}}^{\; p} \; , \; m_{\widetilde{u}}^{\; r} \right] \; - \; \widetilde{\mu} \; c_{\gamma} \; \widetilde{y_u}^{pr} \; \right) \; \left( s_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{2,2,0} \left[ m_{\widetilde{q}}^{\; p} \; , \; m_{\widetilde{u}}^{\; r} \right] \; - \; \widetilde{\mu} \; c_{\gamma} \; \widetilde{y_u}^{pr} \; \right) \; .
                                                                                                                           6\;C_{H^2}\;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[\,\boldsymbol{m_{\tilde{q}}}^{\;p}\,,\;\boldsymbol{m_{\tilde{u}}}^{\;r}\,\right]\;+
                                                                                                                        C_{H^{2}}\;g_{2}^{\;2}\;\left(-\,1\,+\,3\;c_{2\,\gamma}\right)\;\left(s_{\gamma}\;\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{pr}\right)\;\left(s_{\gamma}\;a_{u}^{\;pr}\,-\,\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;r}\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\right)\left(s_{\gamma}^{\;p}\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,y_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;r}\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\right)\left(s_{\gamma}^{\;p}\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,y_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\right)\left(s_{\gamma}^{\;p}\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,y_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\right)\left(s_{\gamma}^{\;p}\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,y_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\,\right)\left(s_{\gamma}^{\;p}\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,y_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\,\right)\left(s_{\gamma}^{\;p}\,a_{u}^{\;p}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,x_{u}^{pr}\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,\right]\;+\,2\,\left(-\,1\,+\,3\,c_{2\,\gamma}\,\right)\left(s_{\gamma}^{\;p}\,a_{u}^{\;p}\,-\,\widetilde{\mu}\;c_{\gamma}^{\;p}\,x_{u}^{p}\,x_{u}^{p}\,\right)\;LF_{3,2,-1}\!\left[m_{\tilde{q}}^{\;p}\,,\;m_{\tilde{u}}^{\;p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,x_{u}^{p}\,
                                                                                                                           6 \; C_{H^2} \; 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_{4,1,-1} \left[ m_{\tilde{q}}^{\; p} \; , \; m_{\tilde{u}}^{\; r} \right] \; + \; c_{\gamma} \; a_u^{pr} \; c_{\gamma} \; y_u^{pr} \;
                                                                                                                           6\;C_{H^2}\;s_{\chi}^{\;2}\;c_{\chi}^{\;2}\;\overline{y_d}^{pr}\;y_d^{\;sr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;LF_{2,1,0}\big[\,m_{\tilde{q}}^{\;s}\,,\;m_{\tilde{q}}^{\;p}\,\big]\;-
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;c_{\gamma}^{\;2}\;\overline{y_d}^{pr}\;y_d^{\;sr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;LF_{3,1,^{-1}}\big[\,m_{\tilde{q}}^{\;s}\,,\;m_{\tilde{q}}^{\;p}\,\big]\;+\;\frac{1}{4}\;\frac{1}{m_s^{\;2}}\;\left(\widetilde{\mu}\;\overline{y_u}^{pr}\right)^{r}
                                                                                                                                                                                                                                                      \left(a_{u}^{\,\,pr}\,\left(-2\,\,s_{\gamma}\,\,c_{2\,\gamma}\,\,c_{\gamma}\,\,m_{\!\scriptscriptstyle{\oplus}}^{\,\,2}\,\left(g_{1}^{\,\,2}\,\,\left(-4+3\,\,c_{2\,\gamma}\right)\right.\right.\right.\\ \left.+3\,\,c_{2\,\gamma}\,\,g_{2}^{\,\,2}\right) + 3\,\,s_{4\,\gamma}\,\,C_{H^{2}}\,\left(g_{1}^{\,\,2}+g_{2}^{\,\,2}\right)\,\left(c_{\gamma}^{\,\,2}-s_{\gamma}^{\,\,2}\right)\right) + 3\,\,c_{2\,\gamma}\,\,g_{2}^{\,\,2}
                                                                                                                                                                                                                                                                                                          2\;\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\;pr}\;\left(c_{2\;\gamma}\;c_{\gamma}\;m_{_{\!\Phi}}^{^{\;2}}\;\left(g_{1}^{^{\;2}}\;\left(-\,4\,+\,3\;c_{2\;\gamma}\right)\,+\,3\;c_{2\;\gamma}\;g_{2}^{^{\;2}}\right)\,+\,3\;s_{4\;\gamma}\;s_{\gamma}\;C_{H^{2}}\left(g_{1}^{^{\;2}}\,+\,g_{2}^{^{\;2}}\right)\,\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\;c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\;c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\right)\,+\,3\,s_{4\;\gamma}^{\;2}\;s_{\gamma}^{\;2}\;C_{H^{2}}\left(g_{1}^{\;2}\,+\,g_{2}^{\;2}\right)\,\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\right)\,+\,3\,s_{4\;\gamma}^{\;2}\;s_{\gamma}^{\;2}\;C_{H^{2}}\left(g_{1}^{\;2}\,+\,g_{2}^{\;2}\right)\,\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\;g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\,g_{2}^{\;2}\,\left(-\,4\,+\,3\,c_{2\;\gamma}\right)\,+\,3\,c_{2\;\gamma}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,g_{2}^{\;2}\,
                                                                                                                                                                                                               \overline{a_{u}}^{pr} \, \left(2 \, \, s_{\gamma} \, \, a_{u}^{\,\, pr} \, \, \left(-\, 3 \, \, s_{4 \, \gamma} \, \, C_{H^{2}} \, \, c_{\gamma} \, \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, s_{\gamma} \, \, c_{2 \, \gamma} \, \, m_{\bar{\Phi}}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, \, \left(-\, 4 \, + \, 3 \, \, c_{2 \, \gamma}\right) \, + \, 3 \, \, c_{2 \, \gamma} \, g_{2}^{\,\, 2}\right) \, \right) \, + \, \widetilde{\mu} \, \, y_{u}^{\,\, pr} \, \left(-\, 3 \, \, s_{4 \, \gamma} \, \, C_{H^{2}} \, \, c_{\gamma} \, \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, s_{\gamma} \, \, c_{2 \, \gamma} \, \, m_{\bar{\Phi}}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, 3 \, \, c_{2 \, \gamma} \, g_{2}^{\,\, 2}\right) \, \right) \, + \, \widetilde{\mu} \, \, y_{u}^{\,\, pr} \, \left(-\, 3 \, \, s_{4 \, \gamma} \, \, C_{H^{2}} \, \, c_{\gamma} \, \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, g_{2}^{\,\, 2} \, \right) \, + \, \widetilde{\mu} \, \, y_{u}^{\,\, pr} \, \left(-\, 3 \, \, s_{4 \, \gamma} \, \, C_{H^{2}} \, \, c_{\gamma} \, \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, g_{2}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2}\right) \, + \, g_{2}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, \right) \, + \, g_{2}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, \right) \, + \, g_{2}^{\,\, 2} \, \left(g_{1}^{\,\, 2} \, + \, g_{2}^{\,\, 2} \, + \, g
                                                                                                                                                                                                                                                                                                                                         \left(-\,2\,\,s_{\gamma}\,\,c_{2\,\gamma}\,\,c_{\gamma}\,\,m_{\Phi}^{\,\,2}\,\,\left(\,g_{1}^{\,\,2}\,\,\left(\,-\,4\,+\,3\,\,c_{2\,\gamma}\,\right)\,\,+\,3\,\,c_{2\,\gamma}\,\,g_{2}^{\,\,2}\,\right)\,\,+\,3\,\,s_{4\,\gamma}\,\,C_{H^{2}}\,\,\left(\,g_{1}^{\,\,2}\,+\,g_{2}^{\,\,2}\,\right)\,\,\left(\,c_{\gamma}^{\,\,2}\,-\,s_{\gamma}^{\,\,2}\,\right)\,\right)\,\right)\,)
                                                                                                                                                       LF_{2,1,0}\left[\,m_{\tilde{u}}^{\,\,r}\,\,,\,\,m_{\tilde{q}}^{\,\,p}\,\right]\,+\,\frac{3}{4}\,\,\frac{1}{m_{_{D}}^{\,\,2}}\,\left(\,g_{1}^{\,\,2}\,+\,g_{2}^{\,\,2}\,\right)\,\,\left(\,2\,\,s_{_{Y}}\,\,\overline{a_{u}}^{pr}\,\,a_{u}^{\,\,pr}\,\,\left(\,s_{4\,_{Y}}\,\,C_{H^{2}}\,\,c_{_{Y}}\,-\,s_{_{Y}}\,\,m_{_{D}}^{\,\,2}\,\,c_{_{2\,_{Y}}}^{\,\,2}\,\right)\,\,+\,\frac{3}{4}\,\,\frac{1}{m_{_{D}}^{\,\,2}}\,\left(\,g_{1}^{\,\,2}\,+\,g_{2}^{\,\,2}\,\right)\,\,\left(\,2\,\,s_{_{Y}}\,\,\overline{a_{u}}^{pr}\,\,a_{u}^{\,\,pr}\,\,\left(\,s_{4\,_{Y}}\,\,C_{H^{2}}\,\,c_{_{Y}}\,-\,s_{_{Y}}\,\,m_{_{D}}^{\,\,2}\,\,c_{_{2\,_{Y}}}^{\,\,2}\,\right)\,+\,\frac{3}{4}\,\,\frac{1}{m_{_{D}}^{\,\,2}}\,\left(\,g_{1}^{\,\,2}\,+\,g_{2}^{\,\,2}\,\right)\,\,\left(\,2\,\,s_{_{Y}}\,\,\overline{a_{u}}^{pr}\,\,a_{u}^{\,\,pr}\,\,\left(\,s_{4\,_{Y}}\,\,C_{H^{2}}\,\,c_{_{Y}}\,-\,s_{_{Y}}\,\,m_{_{D}}^{\,\,2}\,\,c_{_{2\,_{Y}}}^{\,\,2}\,\right)\,+\,\frac{3}{4}\,\,\frac{1}{m_{_{D}}^{\,\,2}}\,\left(\,s_{1}^{\,\,2}\,+\,s_{2}^{\,\,2}\,\,m_{_{D}}^{\,\,2}\,\,c_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,m_{_{D}}^{\,\,2}\,\,c_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{Y}}}^{\,\,2}\,\,s_{_{2\,_{
                                                                                                                                                                                                               \widetilde{\mu} \ \left( 2 \ s_{\gamma} \ c_{\gamma} \ m_{\scriptscriptstyle{\overline{\Phi}}}^{\ 2} \ c_{2 \, \gamma}^{\ 2} + s_{4 \, \gamma} \ C_{H^2} \ \left( - \, c_{\gamma}^{\ 2} + s_{\gamma}^{\ 2} \right) \right) \ \left( \overline{y_u}^{pr} \ a_u^{\ pr} + y_u^{\ pr} \ \overline{a_u}^{pr} \right) \ - \\
                                                                                                                                                                                                                   2\;c_{\gamma}\;\widetilde{\mu}^{2}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\text{pr}}\;\left(c_{\gamma}\;m_{\bar{\Phi}}^{2}\;c_{2\,\gamma}^{2}+s_{4\,\gamma}\;s_{\gamma}\;C_{H^{2}}\right)\right)\;LF_{3,1,-1}\!\left[m_{\tilde{u}}^{\text{r}},\;m_{\tilde{q}}^{\text{p}}\right]\;+
                                                                                                                           C_{H^{2}}\,\left(\,c_{2\,\gamma}\,g_{1}^{\,\,2}\,\left(\,-\,4\,+\,3\,\,c_{2\,\gamma}\,\right)\,+\,g_{2}^{\,\,2}\,\left(\,-\,2\,+\,3\,\,c_{2\,\gamma}^{\,\,2}\,\right)\,\right)\,\,\left(\,s_{\gamma}\,\,\overline{a_{u}}^{pr}\,-\,\widetilde{\mu}\,\,c_{\gamma}\,\,\overline{y_{u}}^{pr}\,\right)
                                                                                                                                                              \left(s_{\gamma}\;a_{u}^{\;pr}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;\mathsf{LF_{3,1,0}}\!\left[\mathsf{m}_{\tilde{u}}^{\;r}\,,\;\mathsf{m}_{\tilde{q}}^{\;p}\right]-
                                                                                                                                  \frac{1}{2} \; C_{H^2} \; \left( c_{2 \; \gamma} \; g_1^{\; 2} + g_2^{\; 2} \; \left( 4 - 3 \; c_{2 \; \gamma} \right) \right) \; \left( s_{\gamma} \; \overline{a_u}^{pr} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_u}^{pr} \right) \; \left( s_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} - \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; - \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; + \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; LF_{3,2,-1} \left[ m_{\tilde{u}} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right] \; + \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; + \left( a_{\gamma} \; a_u^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_u^{\; pr} \right) \; + \left( a_{
                                                                                                                           3\;C_{H^2}\;\left(\,c_{2\;\gamma}\;g_{1}^{\;2}\;\left(\,-\,2\,+\,3\;c_{2\;\gamma}^{\;\;}\right)\;+\,g_{2}^{\;2}\;\left(\,-\,2\,+\,3\;c_{2\;\gamma}^{\;\;2}\right)\,\right)
                                                                                                                                                              \left(s_{\gamma}\,\overline{a_{u}}^{\text{pr}}-\widetilde{\mu}\;c_{\gamma}\,\overline{y_{u}}^{\text{pr}}\right)\;\left(s_{\gamma}\;a_{u}^{\text{pr}}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\text{pr}}\right)\;\mathsf{LF_{4,1,-1}}\!\left[\mathsf{m}_{\widetilde{u}}^{\text{r}},\;\mathsf{m}_{\widetilde{q}}^{\text{-}p}\right]\;\mathsf{+}\;
                                                                                                                           3 \; {s_{\gamma}}^4 \; \overline{y_u}^{\text{pr}} \; \overline{y_u}^{\text{st}} \; {y_u}^{\text{pt}} \; {y_u}^{\text{sr}} \; \mathsf{LF_{1,1,0}} \left[ \; \mathsf{m_{\tilde{u}}}^{\text{r}} \; , \; \mathsf{m_{\tilde{u}}}^{\text{t}} \; \right] \; - \; \frac{3}{4} \; g_1^2 \; c_{2 \, \gamma}^{\; \; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \left( \; g_1^{\; 2} \; + \; g_2^{\; 2} \; \right) \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_1} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{m_2} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{LF_{2,1,-1}} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} \; \mathsf{LF_{2,1,-1}} \left[ \; \widetilde{\mu} \; , \; \mathsf{LF_{2,1,-1}} \; \right] \; + \; c_{2 \, \gamma}^{\; 2} 
                                                                                                                                  \frac{1}{2} \ m_{1} \ \widetilde{\mu} \ g_{1}^{2} \ \frac{1}{m_{\text{G}}^{2}} \ \left( g_{1}^{2} + g_{2}^{2} \right) \ \left( -2 \ s_{\text{Y}} \ c_{\text{Y}} \ m_{\text{\Phi}}^{2} \ c_{2 \ \text{Y}}^{2} + s_{4 \ \text{Y}} \ C_{\text{H}^{2}} \ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right) \ LF_{2,1,0} \left[ \widetilde{\mu} \text{, m}_{1} \right] \ + c_{1} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{2} \right) \right] \ LF_{2,1,0} \left[ \left( c_{\text{Y}}^{2} - s_{\text{Y}}^{
                                                                                                                               \frac{1}{2} \ g_{1}^{\ 2} \ c_{2 \, \gamma}^{\ 2} \ \left(g_{1}^{\ 2} + g_{2}^{\ 2}\right) \ \mathsf{LF}_{3,1,-2} \left[\,\widetilde{\mu}\,,\, m_{1}\,\right] \ + \frac{1}{2} \ g_{1}^{\ 2} \ \frac{1}{m_{_{D}}^{\ 2}} \ \left(g_{1}^{\ 2} + g_{2}^{\ 2}\right)
                                                                                                                                                                  \left(\mathsf{m_{1}}\;\mathsf{s_{4}}_{\mathsf{Y}}\;\mathsf{C_{H^{2}}}\;\widetilde{\mu}\;\left(-\;\mathsf{c_{\mathsf{Y}}}^{2}\;+\;\mathsf{s_{\mathsf{Y}}}^{2}\right)\;+\;2\;\mathsf{m_{\Phi}}^{2}\;\mathsf{c_{2}}_{\mathsf{Y}}^{2}\;\left(-\;2\;\mathsf{C_{H^{2}}}\;+\;\mathsf{m_{1}}\;\mathsf{s_{\mathsf{Y}}}\;\widetilde{\mu}\;\mathsf{c_{\mathsf{Y}}}\right)\;\right)\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right]\;-\;\mathsf{LF_{3,1,-1}}\left[\;\widetilde{\mu}\;,\;\mathsf{m_{1}}\;\right
                                                                                                                           2\;\mathsf{m_1}\;\mathsf{s_{\gamma}}\;\mathsf{C_{H^2}}\;\widetilde{\mu}\;\mathsf{c_{\gamma}}\;\mathsf{g_1}^2\;\mathsf{c_{2\,\gamma}}^2\;\left(\mathsf{g_1}^2+\mathsf{g_2}^2\right)\;\mathsf{LF_{3,1,0}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_1}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_1}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_1}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_1}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_1}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_1}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{g_2}^4\;\mathsf{LF_{3,2,-2}}\left[\,\widetilde{\mu}\,,\,\mathsf{m_2}\,\right]\;+\;\frac{3}{2}\;\mathsf{C_{H^2}}\;\mathsf{G_{2,2}}\left[\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,\mathsf{G_{2,2}}\,\,,\,
                                                                                                                                  \frac{1}{2} C_{H^2} g_1^4 \left(3 m_1^2 + 20 m_1 s_{\gamma} \tilde{\mu} c_{\gamma} + 8 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2\right) LF_{3,2,-1}[\tilde{\mu}, m_1] +
                                                                                                                           4 C_{H^2} g_1^4 m_1^2 s_y^2 \tilde{\mu}^2 c_y^2 LF_{3,2,0} [\tilde{\mu}, m_1] +
                                                                                                                                  \frac{1}{3} \; C_{H^2} \; g_1^{\; 2} \; \left( -5 \; g_2^{\; 2} + 12 \; c_{2 \, \gamma}^{\; 2} \; \left( g_1^{\; 2} + g_2^{\; 2} \right) \right) \; \mathsf{LF}_{4,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; + \, c_{1,1,-2} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_1 \, \right] \; +
                                                                                                                           2\;\text{m}_{1}\;\text{s}_{\gamma}\;\text{C}_{\text{H}^{2}}\;\tilde{\mu}\;\text{c}_{\gamma}\;\text{g}_{1}^{\;2}\;\left(-\,\text{g}_{2}^{\;2}\,+\,3\;\text{c}_{2\,\gamma}^{\;2}\;\left(\,\text{g}_{1}^{\;2}\,+\,\text{g}_{2}^{\;2}\,\right)\,\right)\;\text{LF}_{4,1,\,-1}\left[\,\tilde{\mu}\,,\;\text{m}_{1}\,\right]\;-\,\frac{1}{2}\left[\,\tilde{\mu}_{1}^{\,2}\,+\,\tilde{\mu}_{2}^{\,2}\,\right]
                                                                                                                                                                                                                                                                                                                                                                                                                             _{-3} [\widetilde{\mu}, m_1] + C_{H^2} g_1^4 (-m_1^2 - 8 m_1 s_{\gamma} \widetilde{\mu} c_{\gamma})
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 s_{\gamma}^{2} \tilde{\mu}^{2} c_{\gamma}^{2} LF_{4,2,-2} [\tilde{\mu}, m_{1}]
                                                                                                                           4\;C_{H^2}\;g_{1}^{\;4}\;m_{1}^{\;2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;LF_{4,2,-1}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\;LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\;LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\,LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\,LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\,LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\,LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}\,\right]\,-\,\frac{2}{3}\;C_{H^2}\;g_{1}^{\;2}\;\left(\,-\,2\;g_{2}^{\;2}\,+\,3\;c_{2\,\gamma}^{\;2}\,\left(\,g_{1}^{\;2}\,+\,g_{2}^{\;2}\,\right)\,\right)\,LF_{5,1,-3}\left[\,\widetilde{\mu}\,,\;m_{1}^{\;2}\,+\,g_{2}^{\;2}\,+\,g_{2}^{\;2}\,\right]\,
                                                                                                                               \frac{4}{3} \; m_{1} \; s_{\gamma} \; C_{H^{2}} \; \widetilde{\mu} \; c_{\gamma} \; g_{1}^{\; 2} \; \left( -2 \; g_{2}^{\; 2} + 3 \; c_{2 \; \gamma}^{\; 2} \; \left( g_{1}^{\; 2} + g_{2}^{\; 2} \right) \right) \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{1}^{\; 2} \; \left( -2 \; g_{2}^{\; 2} + 3 \; c_{2 \; \gamma} \right) \; \left( -2 \; g_{2}^{\; 2} + 3 \; c_{2 \; \gamma} \right) \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{1}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left[ \widetilde{\mu} \; , \; m_{1} \right] \; - \; c_{2}^{\; 2} \; \mathsf{LF}_{5,1,-2} \left
                                                                                                                                  \frac{9}{4} \; {\rm g_2}^2 \; {\rm c_2}_{\,\,{}_{\,\,{}_{}^{\,\,{}_{}^{\,\,{}}}}} \; \left( {\rm g_1}^2 + {\rm g_2}^2 \right) \; {\rm LF_{2,1,-1}} \left[ \, \widetilde{\mu} \, , \, {\rm m_2} \, \right] \; +
                                                                                                                                  \frac{3}{2} \; m_{2} \; \widetilde{\mu} \; g_{2}^{2} \; \frac{1}{m_{\text{B}}^{2}} \; \left( g_{1}^{\; 2} + g_{2}^{\; 2} \right) \; \left( -2 \; s_{\gamma} \; c_{\gamma} \; m_{\tilde{\Phi}}^{\; 2} \; c_{2 \; \gamma}^{\; \; 2} + s_{4 \; \gamma} \; C_{\text{H}^{2}} \; \left( c_{\gamma}^{\; \; 2} - s_{\gamma}^{\; \; 2} \right) \right) \; \text{LF}_{2,1,0} \left[ \, \widetilde{\mu} \, , \; m_{2} \, \right] \; + \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; \; 2} \right) \; \left( c_{\gamma}^{\; \; 2} + c_{\gamma}^{\; 
                                                                                                                                  \frac{3}{2}\;g_{2}^{\;2}\;c_{2\;\gamma}^{\;2}\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)\;LF_{3,1,-2}\left[\widetilde{\mu}\,,\,m_{2}\,\right]\;+\;\frac{1}{6}\;g_{2}^{\;2}\;\frac{1}{m_{_{0}}^{\;2}}\;\left(-4\;C_{H^{2}}\;m_{_{\overline{0}}}^{\;2}\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\;\left(g_{1}^{\;2}+g_{2}^{\;2}\right)\right)\;+\;\frac{1}{6}\;g_{2}^{\;2}\;\left(-4\;C_{H^{2}}\;m_{_{\overline{0}}}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{2\;\gamma}^{\;2}\right)\;\left(-8\;g_{2}^{\;2}+9\;c_{
                                                                                                                                                                                                                   9 \, m_2 \, \widetilde{\mu} \, \left( g_1^{\, 2} + g_2^{\, 2} \right) \, \left( 2 \, s_\gamma \, c_\gamma \, m_{\bar{\Phi}}^{\, 2} \, c_{2\, \gamma}^{\, 2} + s_{4\, \gamma} \, C_{H^2} \, \left( - \, c_\gamma^{\, 2} + s_\gamma^{\, 2} \right) \right) \right) \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \, ] \, - \, \mathsf{LF}_{3,1,-1} [\, \widetilde{\mu} \, , \, m_2 \,
                                                                                                                                  \frac{2}{3} \text{ m}_2 \text{ s}_{\gamma} \text{ C}_{\text{H}^2} \widetilde{\mu} \text{ c}_{\gamma} \text{ g}_2^2 \left(-8 \text{ g}_2^2 + 9 \text{ c}_{2\gamma}^2 \left(\text{g}_1^2 + \text{g}_2^2\right)\right) \text{ LF}_{3,1,0} [\widetilde{\mu}, \text{m}_2] +
                                                                                                                                  \frac{1}{6} \; C_{H^2} \; g_2^{\; 4} \; \left(69 \; c_{\gamma}^{\; 4} + 16 \; s_{\gamma}^{\; 2} + 69 \; s_{\gamma}^{\; 4} + c_{\gamma}^{\; 2} \; \left(16 - 6 \; s_{\gamma}^{\; 2}\right) \right) \; \text{LF}_{3,2,-2} \left[\, \widetilde{\mu} \, \text{, m}_2 \, \right] \; + \, \left(16 + 10 \; s_{\gamma}^{\; 2} + 10 \; s_{\gamma}^{\;
                                                                                                                                      \frac{1}{6} \; C_{H^2} \; g_2^{\; 4} \; \left( 3 \; m_2^{\; 2} \; \left( 3 \; c_{_Y}^{\; 4} + 38 \; s_{_Y}^{\; 2} \; c_{_Y}^{\; 2} + 3 \; s_{_Y}^{\; 4} \right) \; + \; 4 \; m_2 \; s_{_Y} \; \widetilde{\mu} \; c_{_Y} \; \left( 8 + 51 \; c_{_Y}^{\; 2} + 51 \; s_{_Y}^{\; 2} \right) \; + \; 72 \; s_{_Y}^{\; 2} \; \widetilde{\mu}^2 \; c_{_Y}^{\; 2} \right) \; + \; 72 \; s_{_Y}^{\; 2} \; \widetilde{\mu}^2 \; c_{_Y}^{\; 2} \; \left( 3 \; m_2^{\; 2} \; c_{_Y}^{\; 2} + 38 \; s_{_Y}^{\; 2} \; c_{_Y}^{\; 2} + 38 \; s_{_Y}^{\; 2} \; \widetilde{\mu}^2 \; c_{_Y}^{\; 2} \right) \; + \; 72 \; s_{_Y}^{\; 2} \; \widetilde{\mu}^2 \; c_{_Y}^{\; 2} \; \widetilde{\mu}^2 \; c_{_Y}^{\; 2} \; c_{_Y}^{\; 2} \; c_{_Y}^{\; 2} \; \widetilde{\mu}^2 \;
                                                                                                                                                       LF_{3,2,-1}[\tilde{\mu}, m_2] + 12 C_{H^2} g_2^4 m_2^2 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 LF_{3,2,0}[\tilde{\mu}, m_2] +
                                                                                                                           3 C_{H^2} g_2^2 \left(-3 g_2^2 + 4 c_2^2 \left(g_1^2 + g_2^2\right)\right) LF_{4,1,-2} [\tilde{\mu}, m_2] +
                                                                                                                           2\; m_2\; s_{_{Y}}\; C_{H^2}\; \widetilde{\mu}\; c_{_{Y}}\; g_{2}^{\;2}\; \left(-\,7\; g_{2}^{\;2}\,+\,9\; c_{2\,_{_{Y}}}^{\;\;2}\; \left(g_{1}^{\;2}\,+\,g_{2}^{\;2}\right)\,\right)\; LF_{4,1,-1}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\; -
                                                                                                                           C_{H^2} g_2^4 (7 c_{\gamma}^4 + 2 s_{\gamma}^2 c_{\gamma}^2 + 7 s_{\gamma}^4) LF_{4,2,-3} [\tilde{\mu}, m_2] -
                                                                                                                           \mathsf{C_{H^2}} \; \mathsf{g_2}^4 \; \left(\mathsf{m_2}^2 \; \left(\mathsf{c_{\gamma}}^4 + 14 \; \mathsf{s_{\gamma}}^2 \; \mathsf{c_{\gamma}}^2 + \mathsf{s_{\gamma}}^4\right) \; + \; 32 \; \mathsf{m_2} \; \mathsf{s_{\gamma}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} + \; 16 \; \mathsf{s_{\gamma}}^2 \; \widetilde{\mu}^2 \; \mathsf{c_{\gamma}}^2\right) \; \mathsf{LF_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; - \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} \left[\,\widetilde{\mu} \; , \; \mathsf{m_2} \, \right] \; + \; \mathsf{T_{4,2,-2}} 
                                                                                                                               16\;C_{H^2}\;g_2^{\;4}\;m_2^{\;2}\;s_\gamma^{\;2}\;\tilde{\mu}^2\;c_\gamma^{\;2}\;LF_{4,2,-1}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;-2\;C_{H^2}\;g_2^{\;2}\;\left(-2\;g_2^{\;2}+3\;c_{2\,\gamma}^{\;2}\;\left(g_1^{\;2}+g_2^{\;2}\right)\right)\;LF_{5,1,-3}[\,\tilde{\mu}\,,\,m_2\,]\;
                                                                                                                           4 m_2 s_{\gamma} C_{H^2} \widetilde{\mu} c_{\gamma} g_2^2 \left(-2 g_2^2 + 3 c_{2\gamma}^2 (g_1^2 + g_2^2)\right) LF_{5,1,-2} [\widetilde{\mu}, m_2] +
                                                                                                                           8 C_{H^2} g_1^2 g_2^2 LF_{2,2,1,-2}[m_2, \tilde{\mu}, m_1] +
                                                                                                                           2\;C_{H^2}\;g_1^{\;2}\;g_2^{\;2}\;\left(3\;m_1\;m_2+2\;s_\gamma\;\widetilde{\mu}\;c_\gamma\;\left(7\;m_1+5\;m_2\right)\right.\\ \left.+\;12\;s_\gamma^{\;2}\;\widetilde{\mu}^2\;c_\gamma^{\;2}\right)\;LF_{2,2,1,-1}\left[\,m_2\,,\;\widetilde{\mu}\,,\;m_1\,\right] \;+\;12\;s_\gamma^{\;2}\;\widetilde{\mu}^2\;c_\gamma^{\;2}\left(3\;m_1\;m_2+2\;s_\gamma\;\widetilde{\mu}\;c_\gamma\;\left(7\;m_1+5\;m_2\right)\right.\\ \left.+\;12\;s_\gamma^{\;2}\;\widetilde{\mu}^2\;c_\gamma^{\;2}\right)\;LF_{2,2,1,-1}\left[\,m_2\,,\;\widetilde{\mu}\,,\;m_1\,\right]\;+\;12\;s_\gamma^{\;2}\;\widetilde{\mu}^2\;c_\gamma^{\;2}\left(3\;m_1\;m_2+2\;s_\gamma\;\widetilde{\mu}\;c_\gamma\;\left(7\;m_1+5\;m_2\right)\right)\right]
                                                                                                                           16\;\mathsf{m}_1\;\mathsf{m}_2\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{s_\gamma}^2\;\tilde{\mu}^2\;\mathsf{c_\gamma}^2\;\mathsf{LF}_{2,2,1,0}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_1}^2\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{g_2}^2\;\mathsf{LF}_{3,2,1,-3}\;[\;\mathsf{m}_2,\;\tilde{\mu},\;\mathsf{m}_1\;]\;-4\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2}\;\mathsf{G}_{\mathsf{H}^2
                                                                                                                           4~C_{H^2}~g_1^2~g_2^2~\left(m_1~m_2+4~s_{\gamma}~\widetilde{\mu}~c_{\gamma}~(m_1+m_2)~+4~s_{\gamma}^2~\widetilde{\mu}^2~c_{\gamma}^{~2}\right)~LF_{3,2,1,-2}[~m_2,~\widetilde{\mu},~m_1]~-
                                                                                                                               16 m_1 m_2 C_{H^2} g_1^2 g_2^2 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 LF_{3,2,1,-1}[m_2, \tilde{\mu}, m_1] +
                                                                                                                           6\;c_{\gamma}^{\;3}\;\overline{y_{d}}^{\text{st}}\;y_{d}^{\;\text{sr}}\;\left(s_{\gamma}\;\widetilde{\mu}\;\overline{y_{d}}^{\text{pr}}\;a_{d}^{\;\text{pt}}+\overline{a_{d}}^{\text{pr}}\;\left(-\,c_{\gamma}\;a_{d}^{\;\text{pt}}+\,s_{\gamma}\;\widetilde{\mu}\;y_{d}^{\;\text{pt}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\,\mathsf{m}_{\bar{d}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{t}}\;,\;\mathsf{m}_{\bar{q}}^{\;\text{p}}\,\right]\;-\,\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;\left(-\,\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;,\;\mathsf{m}_{\bar{d}}^{\;\text{pt}}\;
                                                                                                                           6\;\mathsf{s_{\gamma}}^2\;\widetilde{\mu}^2\;\mathsf{c_{\gamma}}^2\;\overline{\mathsf{y_d}}^{\mathsf{pr}}\;\overline{\mathsf{y_d}}^{\mathsf{st}}\;\mathsf{y_d}^{\mathsf{pt}}\;\mathsf{y_d}^{\mathsf{sr}}\;\mathsf{LF_{1,1,1,0}}\big[\mathsf{m_{\bar{d}}}^{\mathsf{r}},\;\mathsf{m_{\bar{d}}}^{\mathsf{t}},\;\mathsf{m_{\bar{q}}}^{\mathsf{s}}\big]\;-
                                                                                                                           6\;c_{\gamma}^{\;2}\;\overline{y_{d}}^{\text{st}}\;y_{d}^{\;\text{pt}}\;\left(s_{\gamma}^{\;2}\;\widetilde{\mu}^{2}\;\overline{y_{d}}^{\text{pr}}\;y_{d}^{\;\text{sr}}+c_{\gamma}\;\overline{a_{d}}^{\text{pr}}\;\left(c_{\gamma}\;a_{d}^{\;\text{sr}}-s_{\gamma}\;\widetilde{\mu}\;y_{d}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{d}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{q}}^{\;\text{p}}\;,\;\mathsf{m}_{\bar{q}}^{\;\text{s}}\right]\;+\;\mathsf{m}_{\bar{q}}^{\;\text{s}}\left(s_{\gamma}^{\;2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{2}\;\overline{\mu}^{
                                                                                                                           6 \; \mathsf{S}_{\scriptscriptstyle Y} \; \widetilde{\mu} \; \mathsf{C}_{\scriptscriptstyle Y}^{\; 3} \; \overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{pr}} \; \overline{\mathsf{y}_{\mathsf{d}}}^{\mathsf{st}} \; \mathsf{y}_{\mathsf{d}}^{\; \mathsf{sr}} \; \mathsf{a}_{\mathsf{d}}^{\; \mathsf{pt}} \; \mathsf{LF}_{\mathsf{1},\mathsf{1},\mathsf{1},\mathsf{0}} \big[ \, \mathsf{m}_{\bar{\mathsf{d}}}^{\; \bar{\mathsf{t}}} \, , \; \mathsf{m}_{\bar{\mathsf{q}}}^{\; \bar{\mathsf{p}}} \, , \; \mathsf{m}_{\bar{\mathsf{q}}}^{\; \bar{\mathsf{s}}} \, \big] \; + \\
                                                                                                                           2\;c_{\gamma}^{\;3}\;\overline{y_{e}}^{\text{st}}\;y_{e}^{\;\text{sr}}\;\left(s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{\text{pr}}\;a_{e}^{\;\text{pt}}+\overline{a_{e}}^{\text{pr}}\;\left(-\,c_{\gamma}\;a_{e}^{\;\text{pt}}+s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;\text{pt}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\tilde{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{t}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{p}}\right]\;-2\,\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;\left(-\,\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;\mathsf{m}_{\tilde{e}}^{\;\text{pt}}\;,\;
                                                                                                                           2\;\mathsf{S_{\gamma}}^2\;\widetilde{\mu}^2\;\mathsf{C_{\gamma}}^2\;\overline{\mathsf{y_e}}^{\mathsf{pr}}\;\overline{\mathsf{y_e}}^{\mathsf{st}}\;\mathsf{y_e}^{\mathsf{pt}}\;\mathsf{y_e}^{\mathsf{sr}}\;\mathsf{LF_{1,1,1,0}}\big[\mathsf{m_{\tilde{e}}}^{\mathsf{r}}\;,\;\mathsf{m_{\tilde{e}}}^{\mathsf{t}}\;,\;\mathsf{m_{\tilde{l}}}^{\mathsf{s}}\big]\;-
                                                                                                                           2\;c_{\gamma}^{\;2}\;\overline{y_{e}}^{\text{st}}\;y_{e}^{\;\text{pt}}\;\left(s_{\gamma}^{\;2}\;\widetilde{\mu}^{2}\;\overline{y_{e}}^{\text{pr}}\;y_{e}^{\;\text{sr}}+c_{\gamma}\;\overline{a_{e}}^{\text{pr}}\;\left(c_{\gamma}\;a_{e}^{\;\text{sr}}-s_{\gamma}\;\widetilde{\mu}\;y_{e}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\!\left[\mathsf{m}_{\bar{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{p}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{s}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{y_{e}}^{\text{sr}})\left(c_{\gamma}^{\;2}\;a_{e}^{\;\text{sr}}-c_{\gamma}^{\;2}\;\widetilde{\mu}\;y_{e}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{s}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{s}}\;\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{y_{e}}^{\text{sr}})\left(c_{\gamma}^{\;2}\;a_{e}^{\;\text{sr}}-c_{\gamma}^{\;2}\;\widetilde{\mu}\;y_{e}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{s}}\;,\;\mathsf{m}_{\bar{l}}^{\;\text{s}}\;\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{y_{e}}^{\text{sr}})\left(c_{\gamma}^{\;2}\;a_{e}^{\;\text{sr}}-c_{\gamma}^{\;2}\;\overline{\mu}\;y_{e}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{y_{e}}^{\text{sr}})\left(c_{\gamma}^{\;2}\;a_{e}^{\;\text{sr}}-c_{\gamma}^{\;2}\;\overline{\mu}\;y_{e}^{\;\text{sr}}\right)\right)\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{r}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;\text{sr}}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;2}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,1,0}\left[\mathsf{m}_{\bar{e}}^{\;\text{sr}}\;,\;\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;2}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\overline{\mu}^{\;2})\;\mathsf{LF}_{1,1,1,1,0}\left[\mathsf{m}_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;2}\right]\;+\;2\;(c_{\gamma}^{\;2}\;\sigma_{\bar{l}}^{\;2}\;\sigma_{\bar{l}}^{\;2})\;+\;2\;(c_{\gamma}^{\;2}\;\sigma_{\bar{l}}^{\;2})\;+\;2\;(c_{\gamma}^{\;2}\;\sigma_{\bar{l}}^{\;2})\;+\;2\;(c_{\gamma}^{\;2}\;\sigma_{\bar{l}}^{\;2})\;+\;2\;(c_{\gamma}^{\;2}\;\sigma_{\bar
                                                                                                                           2\;\mathsf{s}_{\scriptscriptstyle\gamma}\;\widetilde{\mu}\;\mathsf{c}_{\scriptscriptstyle\gamma}{}^3\;\overline{\mathsf{y}_{\mathsf{e}}}{}^{\mathsf{pr}}\;\overline{\mathsf{y}_{\mathsf{e}}}{}^{\mathsf{st}}\;\mathsf{y}_{\mathsf{e}}{}^{\mathsf{sr}}\;\mathsf{a}_{\mathsf{e}}{}^{\mathsf{pt}}\;\mathsf{LF}_{\mathsf{1},\mathsf{1},\mathsf{1},\mathsf{0}}\big[\mathsf{m}_{\bar{\mathsf{e}}}{}^{\mathsf{t}}\;,\;\mathsf{m}_{\bar{\mathsf{l}}}{}^{\mathsf{p}}\;,\;\mathsf{m}_{\bar{\mathsf{l}}}{}^{\mathsf{s}}\big]\;\mathsf{+}\\
                                                                                                                           2\;C_{H^2}\;c_{\gamma}^{\;3}\;\overline{y_e}^{\text{st}}\;y_e^{\;\text{sr}}\;\left(s_{\gamma}\;\widetilde{\mu}\;\overline{y_e}^{\text{pr}}\;a_e^{\;\text{pt}}+\overline{a_e}^{\text{pr}}\;\left(-c_{\gamma}\;a_e^{\;\text{pt}}+s_{\gamma}\;\widetilde{\mu}\;y_e^{\;\text{pt}}\right)\right)\;LF_{2,1,1,0}\!\left[m_{\tilde{l}}^{\;p},\;m_{\tilde{e}}^{\;r},\;m_{\tilde{e}}^{\;t}\right]\;+
                                                                                                                           2\;C_{H^2}\;c_{\gamma}^{\;3}\;\overline{y_e}^{\text{st}}\;y_e^{\;\text{sr}}\;\left(-\,s_{\gamma}\;\widetilde{\mu}\;\overline{y_e}^{\text{pr}}\;a_e^{\;\text{pt}}+\overline{a_e}^{\text{pr}}\;\left(c_{\gamma}\;a_e^{\;\text{pt}}-\,s_{\gamma}\;\widetilde{\mu}\;y_e^{\;\text{pt}}\right)\right)\;LF_{3,1,1,-1}\!\left[\,\boldsymbol{m}_{\tilde{l}}^{\;\;p},\;\boldsymbol{m}_{\tilde{e}}^{\;\;r},\;\boldsymbol{m}_{\tilde{e}}^{\;\;t}\,\right]\;-\,c_{\gamma}^{\;\;2}\;a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;\;p}\,a_e^{\;p}\,a_e^{\;\;p}\,a_e^{\;p}\,a_e^{\;\;p}\,a_e^{\;p}\,a_e^{\;p}\,a_
                                                                                                                           2 \, C_{H^2} \, c_{\gamma}^{\ 2} \, \overline{y_e}^{\text{st}} \, y_e^{\, \text{pt}} \, \left( s_{\gamma}^{\ 2} \, \widetilde{\mu}^2 \, \overline{y_e}^{\text{pr}} \, y_e^{\, \text{sr}} + c_{\gamma} \, \overline{a_e}^{\text{pr}} \, \left( c_{\gamma} \, a_e^{\, \text{sr}} - s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \right) \, \text{LF}_{2,1,1,0} \left[ \, \textbf{m}_{\bar{1}}^{\ p}, \, \textbf{m}_{\bar{e}}^{\, r}, \, \textbf{m}_{\bar{e}}^{\, s} \, \right] \, + \, \left( s_{\gamma}^{\ 2} \, \overline{\mu}^2 \, \overline{y_e}^{\text{pr}} \, y_e^{\, \text{sr}} + c_{\gamma} \, \overline{a_e}^{\text{pr}} \, \left( c_{\gamma} \, a_e^{\, \text{sr}} - s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \right) \, \text{LF}_{2,1,1,0} \left[ \, \textbf{m}_{\bar{1}}^{\, p}, \, \textbf{m}_{\bar{e}}^{\, r}, \, \textbf{m}_{\bar{e}}^{\, s} \, \right] \, + \, \left( s_{\gamma}^{\ 2} \, \overline{\mu}^2 \, \overline{y_e}^{\, pr} \, y_e^{\, sr} + c_{\gamma} \, \overline{a_e}^{\, pr} \, \left( s_{\gamma}^{\, p} \, a_e^{\, sr} - s_{\gamma} \, \widetilde{\mu} \, y_e^{\, sr} \right) \right) \, \text{LF}_{2,1,1,0} \left[ \, \textbf{m}_{\bar{1}}^{\, p}, \, \textbf{m}_{\bar{e}}^{\, r}, \, \textbf{m}_{\bar{e}}^{\, s} \, \right] \, + \, \left( s_{\gamma}^{\, p} \, a_e^{\, sr} + c_{\gamma} \, \overline{a_e}^{\, pr} \, y_e^{\, sr} + c_{\gamma} \, \overline{a_e}^{\, pr} \, a_e^{\, 
                                                                                                                           2 \, C_{H^2} \, c_{\gamma}^{\ 2} \, \overline{y_e}^{\text{st}} \, y_e^{\, \text{pt}} \, \left( s_{\gamma}^{\ 2} \, \widetilde{\mu}^2 \, \overline{y_e}^{\text{pr}} \, y_e^{\, \text{sr}} + c_{\gamma} \, \overline{a_e}^{\text{pr}} \, \left( c_{\gamma} \, a_e^{\, \text{sr}} - s_{\gamma} \, \widetilde{\mu} \, y_e^{\, \text{sr}} \right) \right) \, LF_{3,1,1,-1} \big[ \, \boldsymbol{m}_{\tilde{1}}^{\ p}, \, \boldsymbol{m}_{\tilde{e}}^{\, r}, \, \boldsymbol{m}_{\tilde{1}}^{\, s} \big] \, + \, 2 \, C_{H^2} \, c_{\gamma}^{\ 2} \, \overline{y_e}^{\, \text{st}} \, y_e^{\, \text{st}} \, y_e^
                                                                                                                           2\;\mathsf{s_{\scriptscriptstyle Y}}\;\mathsf{C}_{\mathsf{H}^2}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{c_{\scriptscriptstyle Y}}^2\;\overline{\mathsf{y_e}}^{\mathsf{pr}}\;\overline{\mathsf{y_e}}^{\mathsf{st}}\;\mathsf{y_e}^{\mathsf{sr}}\;\left(\mathsf{c_{\scriptscriptstyle Y}}\;\mathsf{a_e}^{\mathsf{pt}}-\mathsf{s_{\scriptscriptstyle Y}}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{y_e}^{\mathsf{pt}}\right)\;\mathsf{LF_{2,1,1,0}}\!\left[\mathsf{m_{\tilde{l}}}^{\mathsf{p}},\;\mathsf{m_{\tilde{e}}}^{\mathsf{t}},\;\mathsf{m_{\tilde{l}}}^{\mathsf{s}}\right]\;\mathsf{+}\;
                                                                                                                           2\;\mathsf{s_{\scriptscriptstyle Y}}\;\mathsf{C}_{\mathsf{H}^2}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{c_{\scriptscriptstyle Y}}^2\;\overline{y_e}^{\mathsf{pr}}\;\overline{y_e}^{\mathsf{st}}\;\mathsf{y_e}^{\mathsf{sr}}\;\left(-\;\mathsf{c_{\scriptscriptstyle Y}}\;a_e^{\;\mathsf{pt}}\;+\;\mathsf{s_{\scriptscriptstyle Y}}\;\widetilde{\boldsymbol{\mu}}\;y_e^{\;\mathsf{pt}}\right)\;\mathsf{LF_{3,1,1,-1}}\big[\,\mathsf{m_{\scriptscriptstyle 1}^{\;\scriptscriptstyle P}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{e}}^{\;\scriptscriptstyle t}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{e}}^{\;\scriptscriptstyle T}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{e}}^{\;\scriptscriptstyle T}}\;,\;\mathsf{m_{\scriptscriptstyle \tilde{e}}^{\;\scriptscriptstyle S}}\,\big]\;-\;\mathsf{c_{\scriptscriptstyle Y}}\;\mathsf{c_{\scriptscriptstyle H}^2}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{c_{\scriptscriptstyle Y}^2}\;\mathsf{c_{\scriptscriptstyle Y}^2}\;\mathsf{c_{
                                                                                                                           2 C_{H^2} s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 \overline{y_e}^{pr} \overline{y_e}^{st} y_e^{pt} y_e^{sr} LF_{2,1,1,0}[m_{\tilde{l}}^s, m_{\tilde{e}}^r, m_{\tilde{e}}^t] +
                                                                                                                           2\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_e}^{pr}\;\overline{y_e}^{st}\;y_e^{\;pt}\;y_e^{\;sr}\;LF_{3,1,1,-1}\big[\,m_{\tilde{l}}^{\;s}\,,\;m_{\tilde{e}}^{\;r}\,,\;m_{\tilde{e}}^{\;t}\,\big]\;+
                                                                                                                           2\;C_{H^2}\;c_{\gamma}{}^3\;\overline{y_e}^{\text{st}}\;y_e{}^{\text{pt}}\;\overline{a_e}^{\text{pr}}\;\left(-\,c_{\gamma}\;a_e{}^{\text{sr}}\,+\,s_{\gamma}\;\widetilde{\mu}\;y_e{}^{\text{sr}}\right)\;\mathsf{LF}_{2,1,1,0}\left[\,\mathsf{m}_{\tilde{l}}^{\;s}\,,\;\mathsf{m}_{\tilde{e}}^{\;r}\,,\;\mathsf{m}_{\tilde{e}}^{\;r}\,\right]\;+
                                                                                                                           2\; {C_{H^2}}\; {c_{\gamma}}^3\; \overline{y_e}^{\text{st}}\; y_e^{\;\text{pt}}\; \overline{a_e}^{\text{pr}}\; \left( {c_{\gamma}}\; {a_e}^{\text{sr}} - {s_{\gamma}}\; \widetilde{\mu}\; y_e^{\text{sr}} \right) \; \text{LF}_{3,1,1,-1} \! \left[ \, \boldsymbol{m_{\tilde{l}}}^{\text{s}} , \; \boldsymbol{m_{\tilde{e}}}^{\text{r}} , \; \boldsymbol{m_{\tilde{l}}}^{\text{p}} \, \right] \; + \; \boldsymbol{a_e}^{\text{r}} + \; \boldsymbol{a_e}^{\text{r}}
                                                                                                                           2\;\mathsf{S}_{\scriptscriptstyle{Y}}\;\mathsf{C}_{\mathsf{H}^2}\;\tilde{\boldsymbol{\mu}}\;\mathsf{c}_{\scriptscriptstyle{Y}}^{\;\;3}\;\overline{y_e}^{\mathsf{pr}}\;\overline{y_e}^{\mathsf{st}}\;\mathsf{y}_e^{\;\mathsf{sr}}\;\mathsf{a}_e^{\;\mathsf{pt}}\;\mathsf{LF}_{2,1,1,0}\big[\mathsf{m}_{\tilde{1}}^{\;\;\mathsf{s}},\;\mathsf{m}_{\tilde{e}}^{\;\;\mathsf{t}},\;\mathsf{m}_{\tilde{1}}^{\;\;\mathsf{p}}\big]\;-\;
                                                                                                                           2\;\mathsf{s_{\scriptscriptstyle \gamma}}\;\mathsf{C}_{\mathsf{H}^2}\;\widetilde{\mu}\;\mathsf{c_{\scriptscriptstyle \gamma}}^3\;\overline{\mathsf{y_e}}^\mathsf{pr}\;\overline{\mathsf{y_e}}^\mathsf{st}\;\mathsf{y_e}^\mathsf{sr}\;\mathsf{a_e}^\mathsf{pt}\;\mathsf{LF_{3,1,1,-1}}\big[\mathsf{m_{\tilde{l}}}^\mathsf{s},\;\mathsf{m_{\tilde{e}}}^\mathsf{t},\;\mathsf{m_{\tilde{l}}}^\mathsf{p}\big]\;\mathsf{+}\\
                                                                                                                           6\;C_{H^2}\;c_{\gamma}^{\;3}\;\overline{y_d}^{\text{st}}\;y_d^{\;\text{sr}}\;\left(s_{\gamma}\;\widetilde{\mu}\;\overline{y_d}^{\text{pr}}\;a_d^{\;\text{pt}}+\overline{a_d}^{\text{pr}}\;\left(-\,c_{\gamma}\;a_d^{\;\text{pt}}+s_{\gamma}\;\widetilde{\mu}\;y_d^{\;\text{pt}}\right)\right)\;LF_{2,1,1,0}\!\left[m_{\tilde{q}}^{\;\;p},\;m_{\tilde{d}}^{\;\;r},\;m_{\tilde{d}}^{\;\;t}\right]\;+
                                                                                                                           6\;C_{H^2}\;c_{\gamma}{}^3\;\overline{y_d}{}^{\text{st}}\;y_d{}^{\text{sr}}\;\left(-\,s_{\gamma}\;\widetilde{\mu}\;\overline{y_d}{}^{\text{pr}}\;a_d{}^{\text{pt}}\;+\;\overline{a_d}{}^{\text{pr}}\;\left(c_{\gamma}\;a_d{}^{\text{pt}}\;-\;s_{\gamma}\;\widetilde{\mu}\;y_d{}^{\text{pt}}\right)\right)\;LF_{3,1,1,-1}\big[\,\boldsymbol{m}_{\tilde{\boldsymbol{q}}}{}^{\text{p}},\;\boldsymbol{m}_{\tilde{\boldsymbol{d}}}{}^{\text{r}},\;\boldsymbol{m}_{\tilde{\boldsymbol{d}}}{}^{\text{t}}\big]\;-\;c_{\gamma}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt}}\,a_d{}^{\text{pt
                                                                                                                           6 \; C_{H^2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{\text{st}} \; y_d^{\; \text{pt}} \; \left( s_{\gamma}^{\; 2} \; \widetilde{\mu}^2 \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \left( c_{\gamma} \; a_d^{\; \text{sr}} - s_{\gamma} \; \widetilde{\mu} \; y_d^{\; \text{sr}} \right) \right) \; \text{LF}_{2,1,1,0} \left[ m_{\tilde{q}}^{\; p} \; , \; m_{\tilde{d}}^{\; r} \; , \; m_{\tilde{q}}^{\; s} \right] \; + \; \left( s_{\gamma}^{\; 2} \; \overline{y_d}^{\text{pt}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \right) \; \left( s_{\gamma}^{\; 2} \; \overline{\mu}^2 \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \right) \; + \; \left( s_{\gamma}^{\; 2} \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \right) \; \left( s_{\gamma}^{\; 2} \; \overline{\mu}^2 \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \right) \; + \; \left( s_{\gamma}^{\; 2} \; \overline{\mu}^2 \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \overline{a_d}^{\text{pr}} \; \right) \; \left( s_{\gamma}^{\; 2} \; \overline{\mu}^2 \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} + c_{\gamma} \; \overline{a_d}^{\text{pr}} \; \overline{a_d}^{\text{pr}} \; \overline{a_d}^{\text{pr}} \; \overline{a_d}^{\text{pr}} \; \right) \; + \; \left( s_{\gamma}^{\; 2} \; \overline{\mu}^2 \; \overline{\mu}^2 \; \overline{a_d}^{\text{pr}} \; \overline{a_d}^{\text{pr}}
                                                                                                                           6\;C_{H^2}\;c_{\gamma}^{\;2}\;\overline{y_d}^{\text{st}}\;y_d^{\;\text{pt}}\;\left(s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;\overline{y_d}^{\text{pr}}\;y_d^{\;\text{sr}}+c_{\gamma}\;\overline{a_d}^{\text{pr}}\left(c_{\gamma}\;a_d^{\;\text{sr}}-s_{\gamma}\;\widetilde{\mu}\;y_d^{\;\text{sr}}\right)\right)\;LF_{3,1,1,-1}\!\left[m_{\tilde{q}}^{\;p},\;m_{\tilde{d}}^{\;r},\;m_{\tilde{q}}^{\;s}\right]+C_{\gamma}^{\;2}\;a_d^{\;p}
                                                                                                                           6\;\mathsf{s_{\scriptscriptstyle Y}}\;\mathsf{C}_{\mathsf{H}^2}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{c_{\scriptscriptstyle Y}}^2\;\overline{\mathsf{y_d}}^{\mathsf{pr}}\;\overline{\mathsf{y_d}}^{\mathsf{st}}\;\mathsf{y_d}^{\mathsf{sr}}\;\left(\mathsf{c_{\scriptscriptstyle Y}}\;\mathsf{a_d}^{\mathsf{pt}}-\mathsf{s_{\scriptscriptstyle Y}}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{y_d}^{\mathsf{pt}}\right)\;\mathsf{LF_{2,1,1,0}}\left[\mathsf{m_{\tilde{\mathsf{q}}}}^{\mathsf{p}},\;\mathsf{m_{\tilde{\mathsf{d}}}}^{\mathsf{t}},\;\mathsf{m_{\tilde{\mathsf{q}}}}^{\mathsf{s}}\right]\;\mathsf{+}\;
                                                                                                                           6\; s_{\scriptscriptstyle \Upsilon}\; C_{H^2}\; \widetilde{\mu}\; c_{\scriptscriptstyle \Upsilon}^{\phantom{\uparrow}2}\; \overline{y_d}^{\text{pr}}\; \overline{y_d}^{\text{st}}\; y_d^{\phantom{d}\text{sr}}\; \left(-\, c_{\scriptscriptstyle \Upsilon}\; a_d^{\phantom{d}\text{pt}} + \, s_{\scriptscriptstyle \Upsilon}\; \widetilde{\mu}\; y_d^{\phantom{d}\text{pt}}\right) \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{p}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{d}}}^{\phantom{\bar{\mathsf{t}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{s}}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{p}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{d}}}^{\phantom{\bar{\mathsf{t}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{s}}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{p}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{d}}}^{\phantom{\bar{\mathsf{t}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{s}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{p}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{d}}}^{\phantom{\bar{\mathsf{t}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{s}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{p}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{s}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{s}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{q}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{s}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{q}}} \, \right] \; + \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m}_{\bar{\mathsf{q}}}^{\phantom{\bar{\mathsf{q}}}} \, ,\; \mathsf{m}_{\bar{\mathsf{q}}}^{\bar{\mathsf{q}}} \, ,\; \mathsf{m}_{\bar{\mathsf{
                                                                                                                           6 \; C_{H^2} \; s_{\gamma}^{\; 2} \; \overline{y_u}^{\text{st}} \; y_u^{\; \text{pt}} \; \left(- \, c_{\gamma} \; \overline{a_d}^{\text{pr}} + s_{\gamma} \; \widetilde{\mu} \; \overline{y_d}^{\text{pr}}\right) \; \left(- \, c_{\gamma} \; a_d^{\; \text{sr}} + s_{\gamma} \; \widetilde{\mu} \; y_d^{\; \text{sr}}\right) \; \text{LF}_{2,2,1,-1} \left[\, m_{\tilde{q}}^{\; p} \,, \; m_{\tilde{q}}^{\; s} \,, \; m_{\tilde{d}}^{\; r}\,\right] \; - \; \left(- \, c_{\gamma} \; a_d^{\; \text{sr}} + s_{\gamma} \; \widetilde{\mu} \; y_d^{\; \text{sr}}\right) \; \text{LF}_{2,2,1,-1} \left[\, m_{\tilde{q}}^{\; p} \,, \; m_{\tilde{q}}^{\; s} \,, \; m_{\tilde{d}}^{\; r}\,\right] \; - \; \left(- \, c_{\gamma} \; a_d^{\; \text{sr}} + s_{\gamma} \; \widetilde{\mu} \; y_d^{\; \text{sr}}\right) \; \text{LF}_{2,2,1,-1} \left[\, m_{\tilde{q}}^{\; p} \,, \; m_{\tilde{q}}^{\; s} \,, \; m_{\tilde{d}}^{\; r}\,\right] \; - \; \left(- \, c_{\gamma} \; a_d^{\; sr} + s_{\gamma} \; \widetilde{\mu} \; y_d^{\; sr}\right) \; \text{LF}_{2,2,1,-1} \left[\, m_{\tilde{q}}^{\; p} \,, \; m_{\tilde{q}}^{\; s} \,, \; m_{\tilde{d}}^{\; r} \,, \; m_{\tilde{d}}^{\; s} \,
                                                                                                                           6\; s_{_{Y}}{^{2}}\; \overline{y_{u}}{^{st}}\; y_{u}{^{pt}}\; \left(\widetilde{\mu}^{2}\; c_{_{Y}}{^{2}}\; \overline{y_{u}}{^{pr}}\; y_{u}{^{sr}}\; +\; s_{_{Y}}\; \overline{a_{u}}{^{pr}}\; \left(s_{_{Y}}\; a_{u}{^{sr}}\; -\; \widetilde{\mu}\; c_{_{Y}}\; y_{u}{^{sr}}\right)\right)\; LF_{1,1,1,0}\left[\, m_{\tilde{q}}{^{p}}\; ,\; m_{\tilde{q}}{^{s}}\; ,\; m_{\tilde{u}}{^{r}}\, \right]\; -\; m_{\tilde{q}}{^{s}}\; m_{\tilde{q}}{^{s}}\; ,\; m_{\tilde{q}}{^{s}}\; m_{\tilde{q}}\; m_{\tilde{q}}\; m_{\tilde{q}}{^{s}}\; m_{\tilde{q}}{^{s}}\; m_{\tilde{q}}\; m_{\tilde{q}}{^{s}}\; m_{\tilde
                                                                                                                           6 \; s_{\gamma} \; C_{H^2} \; \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)
                                                                                                                                                       LF_{2,1,1,0}[m_{\tilde{q}}^p, m_{\tilde{q}}^s, m_{\tilde{u}}^r] +
                                                                                                                           6\; s_{_{Y}}\; C_{H^{2}}\; \left(s_{_{Y}}\; \widetilde{\mu}^{2}\; c_{_{Y}}^{2}\; \overline{y_{u}}^{pr}\; \overline{y_{u}}^{st}\; y_{u}^{\;pt}\; y_{u}^{\;sr}\; +\; \overline{a_{u}}^{pr}\; \left(c_{_{Y}}^{2}\; \overline{y_{d}}^{st}\; y_{d}^{\;pt}\; -\; s_{_{Y}}^{2}\; \overline{y_{u}}^{st}\; y_{u}^{\;pt}\right) \; \left(-\; s_{_{Y}}\; a_{u}^{\;sr}\; +\; \widetilde{\mu}\; c_{_{Y}}\; y_{u}^{\;sr}\right) \right)
                                                                                                                                                       \mathsf{LF_{3,1,1,-1}}\big[\,m_{\tilde{q}}^{\phantom{\tilde{q}}p},\,m_{\tilde{q}}^{\phantom{\tilde{q}}s},\,m_{\tilde{u}}^{\phantom{\tilde{u}}r}\,\big]\,+\,6\,\,\tilde{\mu}\,\,c_{\gamma}\,\,s_{\gamma}^{\phantom{\tilde{q}}3}\,\,\overline{y_{u}}^{pr}\,\,\overline{y_{u}}^{st}\,\,y_{u}^{\phantom{\tilde{q}}sr}\,\,a_{u}^{\phantom{\tilde{q}}pt}\,\,\mathsf{LF_{1,1,1,0}}\big[\,m_{\tilde{q}}^{\phantom{\tilde{q}}p},\,m_{\tilde{q}}^{\phantom{\tilde{q}}s},\,m_{\tilde{u}}^{\phantom{\tilde{u}}t}\,\big]\,+\,6\,\,\tilde{\mu}\,\,c_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,\overline{y_{u}}^{pr}\,\,\overline{y_{u}}^{st}\,\,y_{u}^{\phantom{\tilde{q}}sr}\,\,a_{u}^{\phantom{\tilde{q}}pt}\,\,\mathsf{LF_{1,1,1,0}}\big[\,m_{\tilde{q}}^{\phantom{\tilde{q}}p},\,m_{\tilde{q}}^{\phantom{\tilde{q}}s},\,m_{\tilde{u}}^{\phantom{\tilde{u}}t}\,\big]\,+\,6\,\,\tilde{\mu}\,\,c_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}\,\,x_{\gamma}^{\phantom{\tilde{q}}s}
                                                                                                                           6 \; C_{H^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) \; \text{LF}_{2,1,1,0} \left[ \text{m}_{\tilde{q}}^{\; \text{p}} \; , \; \text{m}_{\tilde{u}}^{\; \text{t}} \right] \; + \; \widetilde{\mu} \; c_{\gamma} \; y_u^{\; \text{pt}} \; \right] \; + \; \widetilde{\mu} \; c_{\gamma} \; y_u^{\; \text{pt}} \; \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) \; \text{LF}_{2,1,1,0} \left[ \text{m}_{\tilde{q}}^{\; \text{pr}} \; , \; \text{m}_{\tilde{u}}^{\; \text{t}} \right] \; + \; \widetilde{\mu} \; c_{\gamma} \; y_u^{\; \text{pt}} \; \left( c_{\gamma}^{\; 2} \; \overline{y_d}^{\text{pr}} \; y_d^{\; \text{sr}} - s_{\gamma}^{\; 2} \; \overline{y_d}^{\text{pr}} \; y_u^{\; \text{sr}} \right) \; \left( - s_{\gamma} \; a_u^{\; \text{pt}} \; + \; \widetilde{\mu} \; c_{\gamma} \; y_u^{\; \text{pt}} \right) \; \text{LF}_{2,1,1,0} \left[ \text{m}_{\tilde{q}}^{\; \text{pr}} \; , \; \text{m}_{\tilde{u}}^{\; \text{t}} \; \right] \; + \; \widetilde{\mu} \; c_{\gamma} \; y_u^{\; \text{pt}} \; \left( c_{\gamma}^{\; \text{pt}} \; \overline{y_d}^{\; \text{pr}} \; y_d^{\; \text{pt}} \; \right) \; \left( - s_{\gamma} \; a_u^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} \; \right) \; \left( - s_{\gamma} \; a_u^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} \; \right) \; \left( - s_{\gamma} \; a_u^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} \; \right) \; \left( - s_{\gamma} \; a_u^{\; \text{pt}} \; \overline{y_d}^{\; \text{pt}} 
                                                                                                                           6\;C_{H^2}\;\widetilde{\mu}\;c_{\scriptscriptstyle Y}\;\overline{y_u}^{\text{st}}\;\left(c_{\scriptscriptstyle Y}^{\;2}\;\overline{y_d}^{\text{pr}}\;y_d^{\;\text{sr}}-s_{\scriptscriptstyle Y}^{\;2}\;\overline{y_u}^{\text{pr}}\;y_u^{\;\text{sr}}\right)\;\left(s_{\scriptscriptstyle Y}\;a_u^{\text{pt}}-\widetilde{\mu}\;c_{\scriptscriptstyle Y}\;y_u^{\text{pt}}\right)\;\mathsf{LF_{3,1,1,-1}}\!\left[\mathsf{m}_{\bar{q}}^{\;p},\;\mathsf{m}_{\bar{u}}^{\;s},\;\mathsf{m}_{\bar{u}}^{\;t}\right]\;+
                                                                                                                           3 \, s_{\gamma} \, C_{H^2} \, \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)
                                                                                                                                                       LF_{2,2,1,-1}[m_{\tilde{q}}^{p}, m_{\tilde{u}}^{r}, m_{\tilde{q}}^{s}] +
                                                                                                                           3\;C_{H^2}\;\tilde{\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}}-\tilde{\mu}\;c_{_{Y}}\;y_u^{\text{pt}}\right)\;LF_{2,2,1,-1}\!\left[m_{\tilde{q}}^{\text{-}p},\;m_{\tilde{u}}^{\text{-}t},\;m_{\tilde{q}}^{\text{-}s}\right]-c_{_{Y}}^2\left[m_{\tilde{q}}^{\text{-}p},\;m_{\tilde{q}}^{\text{-}s}\right]
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_d}^{pr}\;\overline{y_d}^{st}\;y_d^{\;pt}\;y_d^{\;sr}\;LF_{2,1,1,\theta}\big[m_{\tilde{q}}^{\;s},\;m_{\tilde{d}}^{\;r},\;m_{\tilde{d}}^{\;t}\big]\;+
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_d}^{pr}\;\overline{y_d}^{st}\;y_d^{\;pt}\;y_d^{\;sr}\;LF_{3,1,1,-1}\big[\,m_{\tilde{q}}^{\;s}\,,\;m_{\tilde{d}}^{\;r}\,,\;m_{\tilde{d}}^{\;t}\,\big]\;+
                                                                                                                           6\;C_{H^2}\;c_{\gamma}^{\;3}\;\overline{y_d}^{\text{st}}\;y_d^{\;\text{pt}}\;\overline{a_d}^{\text{pr}}\;\left(-\,c_{\gamma}\;a_d^{\;\text{sr}}\,+\,s_{\gamma}\;\widetilde{\mu}\;y_d^{\;\text{sr}}\right)\;LF_{2,1,1,0}\left[\,m_{\tilde{q}}^{\;\text{s}}\,,\;m_{\tilde{d}}^{\;\text{r}}\,,\;m_{\tilde{q}}^{\;\text{p}}\,\right]\;+\,c_{\gamma}^{\;\text{pr}}\left[\,m_{\tilde{q}}^{\;\text{sr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,\right]\;+\,c_{\gamma}^{\;\text{pr}}\left[\,m_{\tilde{q}}^{\;\text{sr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,,\;m_{\tilde{q}}^{\;\text{pr}}\,\right]
                                                                                                                           6\;C_{H^2}\;c_{\gamma}{}^3\;\overline{y_d}{}^{\text{st}}\;y_d{}^{\text{pt}}\;\overline{a_d}{}^{\text{pr}}\;\left(c_{\gamma}\;a_d{}^{\text{sr}}-s_{\gamma}\;\widetilde{\mu}\;y_d{}^{\text{sr}}\right)\;LF_{3,1,1,-1}\!\left[m_{\tilde{q}}{}^{\text{s}},\;m_{\tilde{d}}{}^{\text{r}},\;m_{\tilde{q}}{}^{\text{p}}\right]\;+
                                                                                                                           6\;\mathsf{s}_{\scriptscriptstyle{Y}}\;\mathsf{C}_{\mathsf{H}^2}\;\widetilde{\boldsymbol{\mu}}\;\mathsf{c}_{\scriptscriptstyle{Y}}{}^3\;\overline{y_d}^{\mathsf{pr}}\;\overline{y_d}^{\mathsf{st}}\;\mathsf{y_d}^{\mathsf{sr}}\;\mathsf{a_d}^{\mathsf{pt}}\;\mathsf{LF}_{\mathsf{2,1,1,0}}\big[\mathsf{m}_{\tilde{\mathsf{q}}}{}^{\mathsf{s}},\;\mathsf{m}_{\tilde{\mathsf{d}}}{}^{\mathsf{t}},\;\mathsf{m}_{\tilde{\mathsf{q}}}{}^{\mathsf{p}}\big]\;\text{--}
                                                                                                                           6 \; \mathsf{s_{\scriptscriptstyle Y}} \; \mathsf{C_{H^2}} \; \widetilde{\mu} \; \mathsf{c_{\scriptscriptstyle Y}}^3 \; \overline{y_d}^{\mathsf{pr}} \; \overline{y_d}^{\mathsf{st}} \; \mathsf{y_d}^{\mathsf{sr}} \; \mathsf{a_d}^{\mathsf{pt}} \; \mathsf{LF_{3,1,1,-1}} \big[ \, \mathsf{m_{\tilde{q}}}^{\mathsf{s}} \, , \; \mathsf{m_{\tilde{d}}}^{\mathsf{t}} \, , \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \big] \; + \\
                                                                                                                           6\;s_{\scriptscriptstyle Y}\;C_{H^2}\;\overline{a_u}^{\text{pr}}\;\left(\,c_{\scriptscriptstyle Y}^{\;2}\;\overline{y_d}^{\text{st}}\;y_d^{\;\text{pt}}\,-\,s_{\scriptscriptstyle Y}^{\;2}\;\overline{y_u}^{\text{st}}\;y_u^{\;\text{pt}}\right)\;\left(\,s_{\scriptscriptstyle Y}\;a_u^{\;\text{sr}}\,-\,\widetilde{\mu}\;c_{\scriptscriptstyle Y}\;y_u^{\;\text{sr}}\right)\;\mathsf{LF}_{2,1,1,0}\left[\,\mathsf{m}_{\tilde{q}}^{\;\;s}\,,\;\mathsf{m}_{\tilde{q}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;r}\,\right]\;+\,\mathsf{LF}_{2,1,1,0}\left[\,s_{\scriptscriptstyle Y}^{\;2}\;\overline{y_u^{\;\text{st}}}\,y_u^{\;\;p}\,\right]\;+\,\mathsf{LF}_{2,1,1,0}\left[\,s_{\scriptscriptstyle Y}^{\;2}\;\overline{y_u^{\;\text{st}}}\,y_u^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u}}^{\;p}\,,\;\mathsf{m}_{\tilde{u
                                                                                                                           6\; s_{\scriptscriptstyle Y}\; C_{H^2}\; \overline{a_u}^{\text{pr}} \left(-\, c_{\scriptscriptstyle Y}^{\; 2}\; \overline{y_d}^{\text{st}} \; y_d^{\; \text{pt}} + s_{\scriptscriptstyle Y}^{\; 2}\; \overline{y_u}^{\text{st}} \; y_u^{\; \text{pt}}\right) \; \left(s_{\scriptscriptstyle Y}\; a_u^{\; \text{sr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\; \text{sr}}\right) \; \text{LF}_{3,1,1,-1} \left[\, m_{\tilde{q}}^{\; \text{s}} \, , \; m_{\tilde{q}}^{\; \text{p}} \, , \; m_{\tilde{u}}^{\; \text{r}}\, \right] \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{sr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y} \; y_u^{\; \text{sr}}\right) \; \text{LF}_{3,1,1,-1} \left[\, m_{\tilde{q}}^{\; \text{s}} \, , \; m_{\tilde{q}}^{\; \text{p}} \, , \; m_{\tilde{u}}^{\; \text{r}}\, \right] \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{sr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}^{\; \text{st}} \; y_u^{\; \text{sr}}\right) \; \text{LF}_{3,1,1,-1} \left[\, m_{\tilde{q}}^{\; \text{st}} \, , \; m_{\tilde{q}}^{\; \text{pr}} \, , \; m_{\tilde{u}}^{\; \text{r}}\, \right] \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} + a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; \text{LF}_{3,1,1,-1} \left[\, m_{\tilde{q}}^{\; \text{st}} \, , \; m_{\tilde{q}}^{\; \text{pr}} \, , \; m_{\tilde{q}}^{\; \text{r}} \, \right] \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} + a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} + a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_{\scriptscriptstyle Y}^{\; \text{st}} \; a_u^{\; \text{st}} \, a_u^{\; \text{st}}\right) \; + \left(s_
                                                                                                                           6 \; C_{H^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}_{2,1,1,0} \big[ \, \text{m}_{\tilde{q}}^{\,\, \text{s}} \,, \, \, \text{m}_{\tilde{q}}^{\,\, \text{p}} \,, \, \, \text{m}_{\tilde{u}}^{\,\, \text{t}} \, \big] \, - \, 6 \, \, \text{C}_{\text{H}^2} \,\, \widetilde{\mu} \,\, \text{c}_{\scriptscriptstyle Y} \,\, \overline{\text{y}_{\text{u}}}^{\,\, \text{st}}
                                                                                                                                                              \left(s_{\gamma}^{3}\,\overline{y_{u}}^{pr}\,y_{u}^{\,sr}\,a_{u}^{\,pt}+c_{\gamma}^{\,2}\,\overline{y_{d}}^{pr}\,y_{d}^{\,sr}\,\left(-\,s_{\gamma}\,a_{u}^{\,pt}+\widetilde{\mu}\,c_{\gamma}\,y_{u}^{\,pt}\right)\right)\,LF_{3,1,1,-1}\!\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,t}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{u}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,p},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s}\right]+C_{3,1,1,-1}^{\,p}\left[m_{\tilde{q}}^{\,s},\,m_{\tilde{q}}^{\,s
                                                                                                                           6~\text{S}_{\gamma}^{~2}~\tilde{\mu}^{2}~\text{C}_{\gamma}^{~2}~\overline{y_{u}}^{\text{pr}}~\overline{y_{u}}^{\text{st}}~\text{y}_{u}^{~\text{pt}}~\text{y}_{u}^{~\text{sr}}~\text{LF}_{1,1,1,0}\left[\,\text{m}_{\tilde{u}}^{~\text{s}}~,~\text{m}_{\tilde{u}}^{~\text{r}}~,~\text{m}_{\tilde{u}}^{~\text{t}}\,\right]~-~3~\text{C}_{\text{H}^{2}}~\tilde{\mu}~\text{c}_{\gamma}~\overline{y_{u}}^{\text{st}}
                                                                                                                                                              \left(s_{\gamma}^{3}\,\overline{y_{u}}^{pr}\,y_{u}^{sr}\,a_{u}^{pt}+c_{\gamma}^{2}\,\overline{y_{d}}^{pr}\,y_{d}^{sr}\,\left(-\,s_{\gamma}\,a_{u}^{pt}+\widetilde{\mu}\,c_{\gamma}\,y_{u}^{pt}\right)\right)\,LF_{2,2,1,-1}\!\left[\boldsymbol{m}_{\tilde{q}}^{s},\,\boldsymbol{m}_{\tilde{u}}^{t},\,\boldsymbol{m}_{\tilde{q}}^{p}\right]-\left(s_{\gamma}^{s}\,a_{u}^{pt}+\widetilde{\mu}\,c_{\gamma}^{s}\,y_{u}^{pt}\right)
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\overline{y_{u}}^{\text{st}}\;y_{u}^{\;\;\text{pt}}\;\left(\widetilde{\mu}^{2}\;c_{\gamma}^{\;2}\;\overline{y_{u}}^{\text{pr}}\;y_{u}^{\;\;\text{sr}}+s_{\gamma}\;\overline{a_{u}}^{\text{pr}}\left(s_{\gamma}\;a_{u}^{\;\;\text{sr}}-\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\;\text{sr}}\right)\right)\;\mathsf{LF}_{2,1,1,0}\left[\mathsf{m}_{\tilde{u}}^{\;\;\text{r}}\;,\;\mathsf{m}_{\tilde{q}}^{\;\;\text{p}}\;,\;\mathsf{m}_{\tilde{q}}^{\;\;\text{s}}\right]\;+
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\overline{y_u}^{\text{st}}\;y_u^{\;\text{pt}}\;\left(\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_u}^{\text{pr}}\;y_u^{\;\text{sr}}+s_{\gamma}\;\overline{a_u}^{\text{pr}}\left(s_{\gamma}\;a_u^{\;\text{sr}}-\widetilde{\mu}\;c_{\gamma}\;y_u^{\;\text{sr}}\right)\right)\;LF_{3,1,1,-1}\left[m_{\widetilde{u}}^{\;r},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;s}\right]+C_{1}^{\;p}\left(m_{\widetilde{u}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;s}\right)+C_{2}^{\;p}\left(m_{\widetilde{u}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}}^{\;p},\;m_{\widetilde{q}
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{st}}\;y_{u}^{\;\text{sr}}\;\left(\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{pr}}\;a_{u}^{\;\text{pt}}+\overline{a_{u}}^{\text{pr}}\;\left(-s_{\gamma}\;a_{u}^{\;\text{pt}}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;LF_{2,1,1,0}\!\left[m_{\tilde{u}}^{\;\text{r}},\;m_{\tilde{q}}^{\;\text{p}},\;m_{\tilde{u}}^{\;\text{t}}\right]+C_{1}^{\;\text{pr}}\left(-s_{\gamma}^{\;\text{pr}},m_{\tilde{u}}^{\;\text{pr}},\;m_{\tilde{u}}^{\;\text{pr}}\right)\right]
                                                                                                                           6\;C_{H^2}\;s_{_{Y}}{}^{3}\;\overline{y_{u}}^{\text{st}}\;y_{u}{}^{\text{sr}}\;\left(-\,\widetilde{\mu}\;c_{_{Y}}\;\overline{y_{u}}^{\text{pr}}\;a_{u}{}^{\text{pt}}\;+\;\overline{a_{u}}^{\text{pr}}\;\left(s_{_{Y}}\;a_{u}{}^{\text{pt}}\;-\;\widetilde{\mu}\;c_{_{Y}}\;y_{u}{}^{\text{pt}}\right)\right)\;LF_{3,1,1,-1}\left[\,\boldsymbol{m_{\tilde{u}}}^{\text{r}}\;,\;\boldsymbol{m_{\tilde{u}}}^{\text{p}}\;,\;\boldsymbol{m_{\tilde{u}}}^{\text{t}}\,\right]\;-\;\widetilde{\mu}_{0}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text{pt}}\;a_{u}{}^{\text
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;y_u^{\;sr}\;LF_{2,1,1,0}\big[\,m_{\tilde{u}}^{\;r}\,,\;m_{\tilde{q}}^{\;s}\,,\;m_{\tilde{u}}^{\;t}\,\big]\;+
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;y_u^{\;sr}\;LF_{3,1,1,-1}\big[\,m_{\tilde{u}}^{\;r}\,,\;m_{\tilde{q}}^{\;s}\,,\;m_{\tilde{u}}^{\;t}\,\big]\;+
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{st}}\;y_{u}^{\;\text{sr}}\;\left(-\,\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{pr}}\;a_{u}^{\;\text{pt}}+\overline{a_{u}}^{\text{pr}}\;\left(s_{\gamma}\;a_{u}^{\;\text{pt}}-\,\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;LF_{2,2,1,-1}\!\left[\boldsymbol{m_{\tilde{u}}}^{\text{r}},\;\boldsymbol{m_{\tilde{u}}}^{\text{t}},\;\boldsymbol{m_{\tilde{q}}}^{\text{p}}\right]\;+
                                                                                                                           6\;C_{H^2}\;s_{_{Y}}^{\;2}\;\widetilde{\mu}^2\;c_{_{Y}}^{\;2}\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;y_u^{\;sr}\;LF_{2,2,1,^{-1}}\big[\,m_{\tilde{u}}^{\;r}\,,\;m_{\tilde{u}}^{\;t}\,,\;m_{\tilde{q}}^{\;s}\,\big]\;+
                                                                                                                           6~C_{H^2}~\widetilde{\mu}~c_{_{Y}}~s_{_{Y}}^{_3}~\overline{y_u}^{pr}~\overline{y_u}^{st}~y_u^{\,sr}~a_u^{\,pt}~LF_{2,1,1,0}\left[m_{\tilde{u}}^{\,t},~m_{\tilde{q}}^{\,p},~m_{\tilde{q}}^{\,s}\right]~-
                                                                                                                           6\;C_{H^2}\;\tilde{\mu}\;c_{_{\bar{Y}}}\;s_{_{Y}}{}^3\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u{}^{sr}\;a_u{}^{pt}\;LF_{3,1,1,-1}\big[m_{\tilde{u}}{}^t,\;m_{\tilde{q}}{}^p,\;m_{\tilde{q}}{}^s\big]\;+
                                                                                                                           6 \; C_{H^2} \; s_{\gamma}^{\; 3} \; \overline{y_{u}}^{\text{st}} \; y_{u}^{\; \text{sr}} \; \left( \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{\text{pr}} \; a_{u}^{\; \text{pt}} + \overline{a_{u}}^{\text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{p}}, \; m_{\widetilde{\mu}}^{\; \text{r}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{p}}, \; m_{\widetilde{\mu}}^{\; \text{r}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{pr}}, \; m_{\widetilde{\mu}}^{\; \text{r}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{pr}}, \; m_{\widetilde{\mu}}^{\; \text{r}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{pr}}, \; m_{\widetilde{\mu}}^{\; \text{pr}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{pt}} \right) \right) \; LF_{2,1,1,0} \left[ m_{\widetilde{\mu}}^{\; \text{t}}, \; m_{\widetilde{\alpha}}^{\; \text{pt}}, \; m_{\widetilde{\alpha}}^{\; \text{pt}} \right] \; + \; \overline{a_{u}}^{\; \text{pr}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; a_{u}^{\; \text{pt}} \right) \; \right] \; LF_{2,1,1,0} \left[ m_{\widetilde{\alpha}}^{\; \text{pt}}, \; m_{\widetilde{\alpha}}^{\; \text{pt}} \right] \; + \; \overline{a_{u}}^{\; \text{pt}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; a_{u}^{\; \text{pt}} \right) \; + \; \overline{a_{u}}^{\; \text{pt}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; a_{u}^{\; \text{pt}} \right) \; + \; \overline{a_{u}}^{\; \text{pt}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} \right) \; + \; \overline{a_{u}}^{\; \text{pt}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} + \widetilde{\mu} \; a_{u}^{\; \text{pt}} \right) \; + \; \overline{a_{u}}^{\; \text{pt}} \; \left( - \, s_{\gamma} \; a_{u}^{\; \text{pt}} \right) \; + \; \overline{a_{u}}^{\; \text{pt}} 
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;3}\;\overline{y_{u}}^{\text{st}}\;y_{u}^{\;\text{sr}}\;\left(-\,\widetilde{\mu}\;c_{\gamma}\;\overline{y_{u}}^{\text{pr}}\;a_{u}^{\;\text{pt}}+\overline{a_{u}}^{\text{pr}}\;\left(s_{\gamma}\;a_{u}^{\;\text{pt}}-\,\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{pt}}\right)\right)\;LF_{3,1,1,-1}\!\left[m_{\widetilde{u}}^{\;\text{t}},\;m_{\widetilde{q}}^{\;\text{p}},\;m_{\widetilde{u}}^{\;\text{r}}\right]-\,\widetilde{a}_{u}^{\;\text{pt}}+\,\widetilde{a}_{u}^{\;\text{pt}}\right]
                                                                                                                           6\;C_{H^2}\;s_{\gamma}^{\;2}\;\widetilde{\mu}^2\;c_{\gamma}^{\;2}\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u^{\;pt}\;y_u^{\;sr}\;LF_{2,1,1,\theta}\left[m_{\tilde{u}}^{\;t},\;m_{\tilde{q}}^{\;s},\;m_{\tilde{u}}^{\;r}\right]\;+
                                                                                                                           6\;C_{H^2}\;s_{_{Y}}^{^2}\;\widetilde{\mu}^2\;c_{_{Y}}^{^2}\;\overline{y_u}^{pr}\;\overline{y_u}^{st}\;y_u^{\,pt}\;y_u^{\,sr}\;LF_{3,1,1,-1}\big[\,m_{_{\tilde{u}}}^{\,t},\;m_{_{\tilde{q}}}^{\,s},\;m_{_{\tilde{u}}}^{\,r}\,\big]\;+
                                                                                                                           g_1^2 g_2^2 LF_{2,1,1,-2} [\tilde{\mu}, m_1, m_2] + g_1^2 g_2^2
                                                                                                                                                              \left(\mathsf{m_1}\,\mathsf{m_2} - \mathsf{C_{H^2}}\,\left(3\,\mathsf{c_{\gamma}}^4 + 8\,\mathsf{s_{\gamma}}^2\,\mathsf{c_{\gamma}}^2 + 3\,\mathsf{s_{\gamma}}^4\right) + 4\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{c_{\gamma}}\,\left(\mathsf{m_1} + \mathsf{m_2}\right) + 4\,\mathsf{s_{\gamma}}^2\,\widetilde{\mu}^2\,\mathsf{c_{\gamma}}^2\right)\,\mathsf{LF_{2,1,1,-1}}\left[\widetilde{\mu}\,,\,\,\mathsf{m_1}\,,\,\,\mathsf{m_2}\right] - \left(\mathsf{m_1}\,\mathsf{m_2} - \mathsf{C_{H^2}}\,\left(3\,\mathsf{c_{\gamma}}^4 + 8\,\mathsf{s_{\gamma}}^2\,\mathsf{c_{\gamma}}^2 + 3\,\mathsf{s_{\gamma}}^4\right) + 4\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{c_{\gamma}}\,\left(\mathsf{m_1} + \mathsf{m_2}\right) + 4\,\mathsf{s_{\gamma}}^2\,\widetilde{\mu}^2\,\mathsf{c_{\gamma}}^2\right)\,\mathsf{LF_{2,1,1,-1}}\left[\widetilde{\mu}\,,\,\,\mathsf{m_1}\,,\,\,\mathsf{m_2}\right] - \left(\mathsf{m_1}\,\mathsf{m_2}\right) + \left(\mathsf{m_2}\,\mathsf{m_2}\right)\,\mathsf{c_{\gamma}}\,\mathsf{c_{\gamma}}\,\mathsf{c_{\gamma}}^2 + \left(\mathsf{m_2}\,\mathsf{m_2}\right)\,\mathsf{c_{\gamma}}^2 + \mathsf{c_{\gamma}}^2 + \mathsf{c_{\gamma}^2}^2 + \mathsf{c_{\gamma}}^2 + \mathsf{c_{\gamma}}^2 + \mathsf
                                                                                                                           4 \, m_1 \, s_{\gamma} \, c_{\gamma} \, g_1^2 \, g_2^2 \, \left( - \, m_2 \, s_{\gamma} \, c_{\gamma} \, \widetilde{\mu}^2 + C_{\mathsf{H}^2} \, \left( \, m_2 \, s_{\gamma} \, c_{\gamma} + 2 \, \widetilde{\mu} \right) \, \right) \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,0} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{2,1,1,1,1,0} \left[ \, \widetilde{
                                                                                                                           C_{H^2} g_1^2 g_2^2 (7 c_{\gamma}^4 + 10 s_{\gamma}^2 c_{\gamma}^2 + 7 s_{\gamma}^4) LF_{3,1,1,-2} [\tilde{\mu}, m_1, m_2] +
                                                                                                                           C_{H^2} g_1^2 g_2^2 \left( m_1 m_2 \left( 3 c_{\gamma}^2 + s_{\gamma}^2 \right) \left( c_{\gamma}^2 + 3 s_{\gamma}^2 \right) + 4 s_{\gamma} \tilde{\mu} c_{\gamma} \left( 5 m_1 + 3 m_2 \right) + 16 s_{\gamma}^2 \tilde{\mu}^2 c_{\gamma}^2 \right)
                                                                                                                                                       \mathsf{LF}_{3,1,1,-1}[\tilde{\mu},\,\mathsf{m}_1,\,\mathsf{m}_2] + 8\,\mathsf{m}_1\,\mathsf{m}_2\,\mathsf{C}_{\mathsf{H}^2}\,\mathsf{g}_1^2\,\mathsf{g}_2^2\,\mathsf{s}_\gamma^2\,\tilde{\mu}^2\,\mathsf{c}_\gamma^2\,\mathsf{LF}_{3,1,1,0}[\tilde{\mu},\,\mathsf{m}_1,\,\mathsf{m}_2] -
                                                                                                                           4 \, C_{H^2} \, g_1^{\ 2} \, g_2^{\ 2} \, \left( c_\gamma^{\ 4} + s_\gamma^{\ 2} \, c_\gamma^{\ 2} + s_\gamma^{\ 4} \right) \, LF_{4,1,1,-3} \left[ \, \widetilde{\mu} \, , \, m_1 \, , \, m_2 \, \right] \, - \, 2 \, C_{H^2} \, g_1^{\ 2} \, g_2^{\ 2}
                                                                                                                                                              \left(\mathsf{m_1}\,\mathsf{m_2}\,\left(\mathsf{c_{\gamma}}^4 + 4\,\mathsf{s_{\gamma}}^2\,\mathsf{c_{\gamma}}^2 + \mathsf{s_{\gamma}}^4\right) + 6\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{c_{\gamma}}\,\left(\mathsf{m_1} + \mathsf{m_2}\right) + 6\,\mathsf{s_{\gamma}}^2\,\widetilde{\mu}^2\,\mathsf{c_{\gamma}}^2\right)\,\mathsf{LF_{4,1,1,-2}}\left[\widetilde{\mu}\,,\,\,\mathsf{m_1}\,,\,\,\mathsf{m_2}\right] - \left(\mathsf{m_1}\,\mathsf{m_2}\,\left(\mathsf{c_{\gamma}}^4 + 4\,\mathsf{s_{\gamma}}^2\,\mathsf{c_{\gamma}}^2 + \mathsf{s_{\gamma}}^4\right) + 6\,\mathsf{s_{\gamma}}\,\widetilde{\mu}\,\mathsf{c_{\gamma}}\,\left(\mathsf{m_1} + \mathsf{m_2}\right) + 6\,\mathsf{s_{\gamma}}^2\,\widetilde{\mu}^2\,\mathsf{c_{\gamma}}^2\right)\,\mathsf{LF_{4,1,1,-2}}\left[\widetilde{\mu}\,,\,\,\mathsf{m_1}\,,\,\,\mathsf{m_2}\right] - \left(\mathsf{m_1}\,\mathsf{m_2}\,,\,\,\mathsf{m_2}\,,\,\,\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}\,,\,\,\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}\,
                                                                                                                           12\ \mathsf{m_1}\ \mathsf{m_2}\ \mathsf{C_{H^2}}\ \mathsf{g_1}^2\ \mathsf{g_2}^2\ \mathsf{s_7}^2\ \widetilde{\mu}^2\ \mathsf{c_7}^2\ \mathsf{LF_{4,1,1,-1}}[\widetilde{\mu},\ \mathsf{m_1},\ \mathsf{m_2}]\ -\ 4\ \mathsf{C_{H^2}}\ \mathsf{g_1}^2\ \mathsf{g_2}^2\ \mathsf{LF_{3,2,1,-3}}[\widetilde{\mu},\ \mathsf{m_2},\ \mathsf{m_1}]\ -\ \mathsf{m_2}
                                                                                                                           4 \, C_{H^2} \, g_1^2 \, g_2^2 \, \left( m_1 \, m_2 + 4 \, s_\gamma \, \widetilde{\mu} \, c_\gamma \, \left( m_1 + m_2 \right) \, + 4 \, s_\gamma^2 \, \widetilde{\mu}^2 \, c_\gamma^2 \right) \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_1 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_1 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, , \, m_2 \, \right] \, + \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, , \, m_2 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_2 \, , \, m_2 \, , \, m_2 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, m_3 \, \right] \, - \, \mathsf{LF}_{3,2,1,-2} \left[ \, \widetilde{\mu} \, , \, m_2 \, , \, \, m_2 \, , \, m_3 \, , \, m_3
                                                                                                                           16 m<sub>1</sub> m<sub>2</sub> C<sub>H<sup>2</sup></sub> g<sub>1</sub> ^2 g<sub>2</sub> ^2 s<sub>\gamma</sub> ^2 \widetilde{\mu}^2 c<sub>\gamma</sub> LF<sub>3,2,1,-1</sub> [\widetilde{\mu}, m<sub>2</sub>, m<sub>1</sub>] -
                                                                                                                           3\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_{\gamma} \overline{a_d}^{pr} \left(-2 s_{\gamma} \widetilde{\mu} \overline{y_d}^{st} \left(-c_{\gamma} a_d^{pt} + s_{\gamma} \widetilde{\mu} y_d^{pt}\right) \left(-c_{\gamma} a_d^{sr} + s_{\gamma} \widetilde{\mu} y_d^{sr}\right) + c_{\gamma} \overline{a_d}^{st}
                                                                                                                                                                                                                                                                                                                                      \left(s_{\gamma}^{2}\,\tilde{\mu}^{2}\,y_{d}^{\,\text{pt}}\,y_{d}^{\,\text{sr}}+c_{\gamma}\,a_{d}^{\,\text{pt}}\,\left(c_{\gamma}\,a_{d}^{\,\text{sr}}-2\,s_{\gamma}\,\tilde{\mu}\,y_{d}^{\,\text{sr}}\right)\right)\right)\,LF_{1,1,1,1,0}\!\left[m_{\tilde{d}}^{\,\text{r}},\,m_{\tilde{d}}^{\,\text{t}},\,m_{\tilde{q}}^{\,\text{p}},\,m_{\tilde{q}}^{\,\text{s}}\right]+C_{\gamma}\,a_{d}^{\,\text{pt}}\left(c_{\gamma}\,a_{d}^{\,\text{sr}}-2\,s_{\gamma}\,\tilde{\mu}\,y_{d}^{\,\text{sr}}\right)\right)
                                                                                                                                      \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( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, + \, c_{\gamma} \, \overline{a_e}^{\, pt} \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, \left( - \, c_{\gamma} \, a_e^{\, pt} + s_{\gamma} \, \widetilde{\mu} \, y_e^{\, pt} \right) \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, + \, c_{\gamma} \, \overline{\mu} \, y_e^{\, pt} \, - \, c_{\gamma} \, \overline{a_e}^{\, pt} \, - \, c_{\gamma
                                                                                                                                                                                                                                                                                                                                             2 C_{H^2} \left( s_y^2 \widetilde{\mu}^2 \overline{y_e}^{pr} \overline{y_e}^{st} \left( s_y^2 \widetilde{\mu}^2 y_e^{pt} y_e^{sr} + c_y a_e^{pt} \left( c_y a_e^{sr} - s_y \widetilde{\mu} y_e^{sr} \right) \right) +
                                                                                                                                                                                                                   c_{\gamma} \; \overline{a_e}^{pr} \; \left( - \, s_{\gamma} \; \widetilde{\mu} \; \overline{y_e}^{st} \; \left( - \, c_{\gamma} \; a_e^{\, pt} + \, s_{\gamma} \; \widetilde{\mu} \; y_e^{\, pt} \right) \; \left( - \, c_{\gamma} \; a_e^{\, sr} + \, s_{\gamma} \; \widetilde{\mu} \; y_e^{\, sr} \right) \; + \; c_{\gamma} \; \overline{a_e}^{st}
                                                                                                                                                                                                                                                                                                                                             \left(s_{\gamma}^{2} \tilde{\mu}^{2} y_{e}^{\text{pt}} y_{e}^{\text{sr}} + c_{\gamma} a_{e}^{\text{pt}} \left(c_{\gamma} a_{e}^{\text{sr}} - s_{\gamma} \tilde{\mu} y_{e}^{\text{sr}}\right)\right)\right) LF_{2,1,1,1,0} \left[m_{\tilde{1}}^{p}, m_{\tilde{e}}^{r}, m_{\tilde{e}}^{t}, m_{\tilde{e}}^{s}\right] + c_{\gamma} a_{e}^{\text{pt}} \left(c_{\gamma} a_{e}^{\text{sr}} - s_{\gamma} \tilde{\mu} y_{e}^{\text{sr}}\right)\right)
                                                                                                                           2~C_{H^2}~\left(s_{\gamma}^{~2}~\widetilde{\mu}^2~\overline{y_e}^{pr}~\overline{y_e}^{st}~\left(s_{\gamma}^{~2}~\widetilde{\mu}^2~y_e^{pt}~y_e^{sr}+c_{\gamma}~a_e^{pt}~\left(c_{\gamma}~a_e^{~sr}-s_{\gamma}~\widetilde{\mu}~y_e^{sr}\right)\right)~+
                                                                                                                                                                                                                   c_{\gamma} \; \overline{a_{e}}^{pr} \; \left( - \, s_{\gamma} \, \widetilde{\mu} \; \overline{y_{e}}^{st} \; \left( - \, c_{\gamma} \; a_{e}^{\; pt} + s_{\gamma} \, \widetilde{\mu} \; y_{e}^{\; pt} \right) \; \left( - \, c_{\gamma} \; a_{e}^{\; sr} + s_{\gamma} \, \widetilde{\mu} \; y_{e}^{\; sr} \right) \; + \\
                                                                                                                                                                                                                                                                                                          c_{\gamma} \, \overline{a_{e}}^{\text{st}} \, \left( s_{\gamma}^{\ 2} \, \widetilde{\mu}^{2} \, y_{e}^{\, \text{pt}} \, y_{e}^{\, \text{sr}} + c_{\gamma} \, a_{e}^{\, \text{pt}} \, \left( c_{\gamma} \, a_{e}^{\, \text{sr}} - s_{\gamma} \, \widetilde{\mu} \, y_{e}^{\, \text{sr}} \right) \right) \right) \right)
                                                                                                                                                       \mathsf{LF_{3,1,1,1,-1}}\big[\,\mathsf{m}_{\bar{l}}^{\,\,\mathsf{p}}\,,\,\,\mathsf{m}_{\bar{e}}^{\,\,\mathsf{r}}\,,\,\,\mathsf{m}_{\bar{e}}^{\,\,\mathsf{t}}\,,\,\,\mathsf{m}_{\bar{l}}^{\,\,\mathsf{s}}\,\big]\,+\,2\,\,\mathsf{s}_{\gamma}\,\,\mathsf{C}_{\mathsf{H}^2}\,\,\widetilde{\mu}\,\,\mathsf{c}_{\gamma}\,\,\left(\,\mathsf{s}_{\gamma}^{\,\,2}\,\,\widetilde{\mu}^2\,\,\overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{pr}}\,\,\overline{\mathsf{y}_{\mathsf{e}}}^{\mathsf{st}}\,\,\mathsf{y}_{\mathsf{e}}^{\,\,\mathsf{sr}}\,\,\mathsf{a}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,+\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{sr}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{sr}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{sr}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{b}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{e}_{\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{e}_{\mathsf{e}}^{\,\,\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{e}_{\mathsf{e}}^{\,\,\mathsf{e}}^{\,\,\mathsf{e}}\,\,\mathsf{e}_
                                                                                                                                                                                                                   \overline{a_{e}}^{pr} \left( c_{\gamma}^{2} y_{e}^{sr} \overline{a_{e}}^{st} a_{e}^{pt} + \overline{y_{e}}^{st} \left( c_{\gamma} a_{e}^{pt} - s_{\gamma} \widetilde{\mu} y_{e}^{pt} \right) \left( c_{\gamma} a_{e}^{sr} - s_{\gamma} \widetilde{\mu} y_{e}^{sr} \right) \right) \right)
                                                                                                                                                       \mathsf{LF_{2,1,1,1,0}}\big[\,\mathsf{m}_{\tilde{l}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{\phantom{\dagger}}^{
                                                                                                                                                                                                                   \overline{a_{e}}^{\text{pr}}\left(c_{\gamma}^{2}\,y_{e}^{\,\text{sr}}\,\overline{a_{e}}^{\text{st}}\,a_{e}^{\,\text{pt}}+\overline{y_{e}}^{\text{st}}\left(c_{\gamma}\,a_{e}^{\,\text{pt}}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,\text{pt}}\right)\,\left(c_{\gamma}\,a_{e}^{\,\text{sr}}-s_{\gamma}\,\widetilde{\mu}\,y_{e}^{\,\text{sr}}\right)\right)\right)\,\text{LF}_{3,1,1,1,-1}\big[\,\mathfrak{m}_{\widetilde{l}}^{\,\text{s}}\,,
                                                                                                                                                                                   \boldsymbol{m_{\tilde{e}}}^{r},\,\boldsymbol{m_{\tilde{e}}}^{t},\,\boldsymbol{m_{\tilde{l}}}^{p}\big] \,-\, 6\,\,\boldsymbol{C_{H^{2}}}\,\left(\boldsymbol{s_{\gamma}}^{2}\,\,\widetilde{\boldsymbol{y_{d}}}^{pr}\,\overline{\boldsymbol{y_{d}}}^{st}\,\left(\boldsymbol{s_{\gamma}}^{2}\,\,\widetilde{\boldsymbol{\mu}}^{2}\,\,\boldsymbol{y_{d}}^{pt}\,\boldsymbol{y_{d}}^{sr}\,+\,\boldsymbol{c_{\gamma}}\,\,\boldsymbol{a_{d}}^{pt}\,\left(\boldsymbol{c_{\gamma}}\,\,\boldsymbol{a_{d}}^{sr}\,-\,\boldsymbol{s_{\gamma}}\,\,\widetilde{\boldsymbol{\mu}}\,\,\boldsymbol{y_{d}}^{sr}\right)\,\right)\,+\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}^{r}\,\boldsymbol{a_{\tilde{l}}}
                                                                                                                                                                                                                      c_{\gamma} \; \overline{a_{d}}^{\text{pr}} \; \left( - \, s_{\gamma} \; \widetilde{\mu} \; \overline{y_{d}}^{\text{st}} \; \left( - \, c_{\gamma} \; a_{d}^{\, \text{pt}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\, \text{pt}} \right) \; \left( - \, c_{\gamma} \; a_{d}^{\, \text{sr}} + \, s_{\gamma} \; \widetilde{\mu} \; y_{d}^{\, \text{sr}} \right) \; + \; c_{\gamma} \; \overline{a_{d}}^{\, \text{st}}
                                                                                                                                                                                                                                                                                                                                         \left( \, {s_{_{Y}}}^{2} \,\, {\tilde{\mu}^{2}} \,\, {y_{d}}^{\text{pt}} \,\, {y_{d}}^{\text{sr}} \,\, + \,\, {c_{_{Y}}} \,\, {a_{d}}^{\text{pt}} \,\, \left( \, {c_{_{Y}}} \,\, {a_{d}}^{\text{sr}} \,\, - \,\, {s_{_{Y}}} \,\, \tilde{\mu}} \,\, {y_{d}}^{\text{sr}} \right) \, \right) \, \right) \,\, \text{LF}_{2,1,1,1,0} \left[ \, {m_{\tilde{q}}}^{\, p} \,\, , \,\, {m_{\tilde{d}}}^{\text{r}} \,\, , \,\, {m_{\tilde{d}}}^{\text{t}} \,\, , \,\, {m_{\tilde{q}}}^{\text{s}} \,\, \right] \,\, + \,\, {a_{1}}^{\, p} \,\, , \,\, {a_{2}}^{\, p} \,\, , \,\, {a_{3}}^{\, p} \,\, + \,\, {a_{3}}^{\, p} \,\, , \,\, {a_{3}}^{\, p} \,\, + \,\, {a_{3}}
                                                                                                                           6~C_{H^2}~\left(s_{\gamma}^{~2}~\widetilde{\mu}^2~\overline{y_d}^{pr}~\overline{y_d}^{st}~\left(s_{\gamma}^{~2}~\widetilde{\mu}^2~y_d^{pt}~y_d^{sr}+c_{\gamma}~a_d^{pt}~\left(c_{\gamma}~a_d^{~sr}-s_{\gamma}~\widetilde{\mu}~y_d^{sr}\right)\right)~+
                                                                                                                                                                                                                      c_{_{Y}}\,\overline{a_{d}}^{pr}\,\left(-\,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_{\gamma} \overline{a_d}^{st} \left( s_{\gamma}^2 \widetilde{\mu}^2 y_d^{pt} y_d^{sr} + c_{\gamma} a_d^{pt} \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right) \right)
                                                                                                                                                       \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]\;+
                                                                                                                           6\;C_{H^2}\;\widetilde{\mu}\;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[\mathfrak{m}_{\tilde{q}}^{\,\text{p}},\;\mathfrak{m}_{\tilde{q}}^{\,\text{s}},\;\mathfrak{m}_{\tilde{d}}^{\,\text{t}},\;\mathfrak{m}_{\tilde{u}}^{\,\text{r}}\right]-
                                                                                                                               3 \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}} - 2 \widetilde{\mu} c_{\gamma} y_u^{\text{sr}} \right) \right) + C_{\gamma}^2 \left( \widetilde{\mu}^2 c_{\gamma}^2 y_u^{\text{sr}} \right) + C_{\gamma}^2 \left( \widetilde{\mu}^2 c_{\gamma}^2 y_u^{\text{pt}} \right) + C_{\gamma}^2 \left( \widetilde{\mu}^2 c_{\gamma}^2 y
                                                                                                                                                                                                                      s_{\gamma} \; \overline{a_{u}}^{\text{pr}} \; \left( -2 \; \widetilde{\mu} \; c_{\gamma} \; \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) \; + \; s_{\gamma} \; \overline{a_{u}}^{\; \text{st}}
                                                                                                                                                                                                                                                                                                                                         \left(\tilde{\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}}-2\;\tilde{\mu}\;c_{\gamma}\;y_{u}^{\;\text{sr}}\right)\right)\right)\;\mathsf{LF}_{\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{0}}\left[\,\mathsf{m}_{\bar{q}}^{\;\;p}\,,\;\mathsf{m}_{\bar{q}}^{\;\;s}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;t}\,\right]\,-\,\mathsf{LF}_{\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{0}}\left[\,\mathsf{m}_{\bar{q}}^{\;\;p}\,,\;\mathsf{m}_{\bar{q}}^{\;\;s}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;t}\,\right]\,-\,\mathsf{LF}_{\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{0}}\left[\,\mathsf{m}_{\bar{q}}^{\;\;p}\,,\;\mathsf{m}_{\bar{q}}^{\;\;s}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,\right]\,-\,\mathsf{LF}_{\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{1},\mathbf{0}}\left[\,\mathsf{m}_{\bar{q}}^{\;\;p}\,,\;\mathsf{m}_{\bar{q}}^{\;\;s}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_{\bar{u}}^{\;\;r}\,,\;\mathsf{m}_
                                                                                                                           6 \; C_{H^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(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} +
                                                                                                                                                                                                                      s_{\gamma} \overline{a_{u}}^{\text{pr}} \left( -\widetilde{\mu} c_{\gamma} \overline{y_{u}}^{\text{st}} \left( -s_{\gamma} a_{u}^{\text{pt}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{pt}} \right) \right. \\ \left. \left( -s_{\gamma} a_{u}^{\text{sr}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{sr}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right. \\ \left. \left( -s_{\gamma} a_{u}^{\text{sr}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{sr}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right] \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u}^{\text{st}} \right) + s_{\gamma} \overline{a_{u}}^{\text{st}} \right) \\ \left. \left( -s_{\gamma} a_{u}^{\text{st}} + \widetilde{\mu} c_{\gamma} y_{u
                                                                                                                                                                                                                                                                                                                                         \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}_{2,1,1,1,0} \left[ \, \mathsf{m}_{\tilde{q}}^{\; p} \; , \; \mathsf{m}_{\tilde{q}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; t} \; \right] \; + \; \mathsf{LF}_{2,1,1,1,0} \left[ \, \mathsf{m}_{\tilde{q}}^{\; p} \; , \; \mathsf{m}_{\tilde{q}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; t} \; \right] \; + \; \mathsf{LF}_{2,1,1,1,0} \left[ \, \mathsf{m}_{\tilde{q}}^{\; p} \; , \; \mathsf{m}_{\tilde{q}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; t} \; \right] \; + \; \mathsf{LF}_{2,1,1,1,0} \left[ \, \mathsf{m}_{\tilde{q}}^{\; p} \; , \; \mathsf{m}_{\tilde{q}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; \right] \; + \; \mathsf{LF}_{2,1,1,1,0} \left[ \, \mathsf{m}_{\tilde{q}}^{\; p} \; , \; \mathsf{m}_{\tilde{q}}^{\; r} \; , \; \mathsf{m}_{\tilde{u}}^{\; r} \; , \; \mathsf{m
                                                                                                                           6 \; C_{H^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}}^{\text{pr}} \; \left( -\, \widetilde{\mu} \; c_{\gamma} \; \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) \; + \; s_{\gamma} \; \overline{a_{u}}^{\; \, \text{st}}
                                                                                                                                                                                                                                                                                                                                         \left( \tilde{\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}} \; - \; \tilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{sr}} \right) \right) \right) \; LF_{3,1,1,1,-1} \left[ \, m_{\tilde{q}}^{\; p} \; , \; m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{u}}^{\; \tau} \; \right] \; + \; c_{\gamma} \; y_{u}^{\; \text{sr}} \; , \; m_{\tilde{u}}^{\; \tau} \; , \; m_{\tilde{u}}^{\; \tau
                                                                                                                           3~C_{H^2}~\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)~+
                                                                                                                                                                                                                   \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\lceil\mathsf{m}_{\widetilde{\mathsf{q}}}^{\;\;\mathsf{p}},\;\mathsf{m}_{\widetilde{\mathsf{u}}}^{\;\;\mathsf{r}},\;\mathsf{m}_{\widetilde{\mathsf{q}}}^{\;\;\mathsf{s}},\;\mathsf{m}_{\widetilde{\mathsf{u}}}^{\;\;\mathsf{t}}\right\rceil+\mathsf{M}_{\widetilde{\mathsf{q}}}^{\;\;\mathsf{p}}\right)
                                                                                                                           3 \; C_{H^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( -\tilde{\mu} c_{\gamma} \overline{y_{u}}^{st} \left( -s_{\gamma} a_{u}^{pt} + \tilde{\mu} c_{\gamma} y_{u}^{pt} \right) \right) \left( -s_{\gamma} a_{u}^{sr} + \tilde{\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)
                                                                                                                                                       \overline{a_d}^{pr} \left( c_{\gamma}^2 y_d^{sr} \overline{a_d}^{st} a_d^{pt} + \overline{y_d}^{st} \left( c_{\gamma} a_d^{pt} - s_{\gamma} \widetilde{\mu} y_d^{pt} \right) \left( c_{\gamma} a_d^{sr} - s_{\gamma} \widetilde{\mu} y_d^{sr} \right) \right) \right)
                                                                                                                                                       \mathsf{LF_{2,1,1,1,0}}\left[\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{s}}\,,\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,\mathsf{r}}\,,\,\,\mathsf{m}_{\bar{\mathsf{d}}}^{\,\,\mathsf{t}}\,,\,\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{p}}\,\right]\,-\,6\,\,\mathsf{s}_{\scriptscriptstyle{\Upsilon}}\,\,\mathsf{C}_{\mathsf{H}^{2}}\,\,\widetilde{\mu}\,\,\mathsf{c}_{\scriptscriptstyle{\Upsilon}}\,\,\left(\,\mathsf{s}_{\scriptscriptstyle{\Upsilon}}^{\,\,2}\,\,\widetilde{\mu}^{2}\,\,\overline{y_{\mathsf{d}}}^{\mathsf{pr}}\,\,\overline{y_{\mathsf{d}}}^{\mathsf{st}}\,\,y_{\mathsf{d}}^{\,\mathsf{sr}}\,\,\mathsf{a_{\mathsf{d}}}^{\mathsf{pt}}\,+\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\,\mathsf{pt}}\,\,\mathsf{b}_{\mathsf{d}}^{\,\mathsf{pt}}\,\,\mathsf
                                                                                                                                                                                                                   \overline{a_d}^{pr} \, \left( c_{\gamma}^{\, 2} \, y_d^{\, sr} \, \overline{a_d}^{st} \, a_d^{\, pt} + \overline{y_d}^{st} \, \left( c_{\gamma} \, a_d^{\, pt} - s_{\gamma} \, \widetilde{\mu} \, y_d^{\, pt} \right) \, \left( c_{\gamma} \, a_d^{\, sr} - s_{\gamma} \, \widetilde{\mu} \, y_d^{\, sr} \right) \right) \right)
                                                                                                                                                       \mathsf{LF_{3,1,1,1,-1}}\big[\,\mathsf{m_{\bar{q}}}^{\,\mathsf{s}}\,,\,\mathsf{m_{\bar{d}}}^{\,\mathsf{r}}\,,\,\mathsf{m_{\bar{d}}}^{\,\mathsf{t}}\,,\,\mathsf{m_{\bar{q}}}^{\,\mathsf{p}}\,\big]\,+\,6\,\,\mathsf{s_{\scriptscriptstyle Y}}\,\,\mathsf{C_{H^2}}\,\,\widetilde{\mu}\,\,\mathsf{c_{\scriptscriptstyle Y}}\,\,\big(\widetilde{\mu}^2\,\,\mathsf{c_{\scriptscriptstyle Y}}^2\,\,\overline{\mathsf{y_u}}^{\mathsf{pr}}\,\,\overline{\mathsf{y_u}}^{\mathsf{st}}\,\mathsf{y_u}^{\,\mathsf{sr}}\,\,\mathsf{a_u}^{\,\mathsf{pt}}\,\,+\,\,\mathsf{c_{\scriptscriptstyle Y}}\,\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\mathsf{pr}}\,\,\mathsf{c_{\scriptscriptstyle Y}}^{\,\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)
                                                                                                                                                       \text{LF}_{2,1,1,1,0}\left[\,\boldsymbol{m}_{\tilde{q}}^{\phantom{\dagger}s}\,,\,\boldsymbol{m}_{\tilde{q}}^{\phantom{\dagger}p}\,,\,\boldsymbol{m}_{\tilde{u}}^{\phantom{\dagger}r}\,,\,\boldsymbol{m}_{\tilde{u}}^{\phantom{\dagger}t}\,\right]\,-\,6\,\,s_{\scriptscriptstyle{\Upsilon}}\,\,C_{H^2}\,\,\tilde{\mu}\,\,c_{\scriptscriptstyle{\Upsilon}}\,\left(\tilde{\mu}^2\,\,c_{\scriptscriptstyle{\Upsilon}}^{\phantom{\,2}2}\,\,\overline{y_u}^{pr}\,\,\overline{y_u}^{st}\,\,y_u^{\,sr}\,\,a_u^{\,pt}\,+\,3\,\,s_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,A_u^{\,pt}\,\,
                                                                                                                                                                                                                   \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{r}}\,\big]\,-\,3\,\,\mathsf{s}_{\scriptscriptstyle{\Upsilon}}\,\mathsf{C}_{\mathsf{H}^2}\,\tilde{\mu}\,\,\mathsf{c}_{\scriptscriptstyle{\Upsilon}}\,\left(\tilde{\mu}^2\,\,\mathsf{c}_{\scriptscriptstyle{\Upsilon}}^{\,\,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}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{pt}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\scriptscriptstyle{\mathsf{u}}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\mathsf{u}}^{\,\mathsf{q}}\,\,\mathsf{s}_{\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)
                                                                                                                                                       \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)\,\text{LF}_{2,2,1,1,-1}\left[\mathsf{m}_{\widetilde{\mathfrak{a}}}^{\,\text{s}}\mathsf{,}\right]
                                                                                                                                                                                   \mathbf{m}_{\widetilde{\mathbf{u}}}^{\mathsf{t}},\ \mathbf{m}_{\widetilde{\mathbf{a}}}^{\mathsf{p}},\ \mathbf{m}_{\widetilde{\mathbf{u}}}^{\mathsf{r}}\big] \ - \ 6 \ C_{\mathsf{H}^2} \ \left(\widetilde{\mu}^2 \ C_{\mathsf{Y}}^2 \ \overline{y_{\mathsf{u}}}^{\mathsf{pr}} \ \overline{y_{\mathsf{u}}}^{\mathsf{st}} \ \left(\widetilde{\mu}^2 \ C_{\mathsf{Y}}^2 \ y_{\mathsf{u}}^{\mathsf{pt}} \ y_{\mathsf{u}}^{\mathsf{sr}} + s_{\mathsf{Y}} \ a_{\mathsf{u}}^{\mathsf{pt}} \ \left(s_{\mathsf{Y}} \ a_{\mathsf{u}}^{\mathsf{sr}} - \widetilde{\mu} \ c_{\mathsf{Y}} \ y_{\mathsf{u}}^{\mathsf{sr}}\right)\right) \ + \ c_{\mathsf{Y}} \ c_{\mathsf{Y} \ c_{\mathsf{Y}} \ c_{\mathsf{Y}}
                                                                                                                                                                                                                      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}_{2,1,1,1,0}\left[\mathsf{m}_{\tilde{u}}^{\;r},\;\mathsf{m}_{\tilde{q}}^{\;p},\;\mathsf{m}_{\tilde{q}}^{\;s},\;\mathsf{m}_{\tilde{u}}^{\;t}\right]\;+
                                                                                                                           6 \; C_{H^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(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{pt}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \; a_u^{\; \text{sr}} \right) \; + \\ \left(s_{\gamma} \; a_u^{\; \text{sr}} + s_{\gamma} \;
                                                                                                                                                                                                                   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) \; \left( -\,s_{\gamma} \; a_{u}^{\; sr} + \,\widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \; s_{\gamma} \; \overline{a_{u}}^{st} 
                                                                                                                                                                                                                                                                                                                                         \left( \tilde{\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}} \; - \; \tilde{\mu} \; c_{\gamma} \; y_{u}^{\; \text{sr}} \right) \right) \right) \; LF_{3,1,1,1,-1} \left[ m_{\tilde{u}}^{\; r} \; , \; m_{\tilde{q}}^{\; p} \; , \; m_{\tilde{u}}^{\; s} \; , \; m_{\tilde{u}}^{\; t} \right] \; + \; c_{\gamma} \; y_{u}^{\; \text{sr}} \; \right] \; + \; c_{\gamma} \; y_{u}^{\; \text{sr}} 
                                                                                                                           3~C_{H^2}~\left(\widetilde{\mu}^2~c_{_{Y}}^2~\overline{y_u}^{\text{pr}}~\overline{y_u}^{\text{st}}~\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}}~-~2~\widetilde{\mu}~c_{_{Y}}~y_u^{\text{sr}}\right)\right)~+
                                                                                                                                                                                                                   s_{\gamma} \; \overline{a_{u}}^{pr} \; \left( -2 \; \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{st} \; \left( -s_{\gamma} \; a_{u}^{\; pt} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; pt} \right) \; \left( -s_{\gamma} \; a_{u}^{\; sr} + \widetilde{\mu} \; c_{\gamma} \; y_{u}^{\; sr} \right) \; + \\
                                                                                                                                                                                                                                                                                                          s_{\gamma} \overline{a_u}^{st} \left( \tilde{\mu}^2 c_{\gamma}^2 y_u^{pt} y_u^{sr} + s_{\gamma} a_u^{pt} \left( s_{\gamma} a_u^{sr} - 2 \tilde{\mu} c_{\gamma} y_u^{sr} \right) \right) \right)
                                                                                                                                                       \text{LF}_{2,2,1,1,-1}\big[\text{m}_{\bar{u}}^{\text{r}}\text{, m}_{\bar{u}}^{\text{t}}\text{, m}_{\bar{q}}^{\text{p}}\text{, m}_{\bar{q}}^{\text{s}}\big] + 6 \text{ s}_{\gamma} \text{ $C_{H^2}$ $\widetilde{\mu}$ $c_{\gamma}$ $\Big(\widetilde{\mu}^2 \text{ $c_{\gamma}^2$ $\overline{y_u}^{\text{pr}}$ $\overline{y_u}^{\text{st}}$ $y_u^{\text{sr}}$ $a_u^{\text{pt}}$ + $a_u^{\text{pt}}$ $a_u^{\text{
                                                                                                                                                                                                                   \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)
                                                                                                                                                       \text{LF}_{2,1,1,1,0}\big[\text{m}_{\tilde{u}}^{\phantom{\tilde{u}}}\text{,}\text{m}_{\tilde{q}}^{\phantom{\tilde{u}}}\text{,}\text{m}_{\tilde{q}}^{\phantom{\tilde{u}}}\text{,}\text{m}_{\tilde{u}}^{\phantom{\tilde{u}}}\text{,}\text{m}_{\tilde{u}}^{\phantom{\tilde{u}}}\big] - 6\,\,\text{s}_{\scriptscriptstyle Y}\,\text{C}_{\text{H}^2}\,\tilde{\mu}\,\,\text{c}_{\scriptscriptstyle Y}\,\,\big(\tilde{\mu}^2\,\,\text{c}_{\scriptscriptstyle Y}^{\phantom{Y}^2}\,\,\overline{\text{y}_u}^{\text{pr}}\,\,\overline{\text{y}_u}^{\text{st}}\,\,\text{y}_u^{\text{sr}}\,\,\text{a}_u^{\text{pt}}\big)
                                                                                                                                                                                                                   \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)
                                                                                                                                                           LF_{3,1,1,1,-1}[m_{\tilde{u}}^{t}, m_{\tilde{a}}^{p}, m_{\tilde{a}}^{s}, m_{\tilde{u}}^{r}])
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