```
216\;C_{H^2}\;c_{\gamma}^{\;2}\;\overline{y_u}^{pr}\;y_u^{\;pr}\,\big)\;\big)\;+\;\frac{1}{2}\;\sum_{p}\;s_{2\;\gamma}\;c_{\gamma}\;g_{1}^{\;2}\;\frac{_{1}}{_{m_0}^{\;4}}\;y_u^{\;1112}\;\left(-\,C_{H^2}\,+\,m_{_{\overline{u}}}^{\;2}\right)\;LF_{1,0}\left[\,m_{_{\overline{u}}}^{\;p}\,\right]\;+\;\frac{_{1}}{_{1}}\;\sum_{p}\;s_{2\;\gamma}\;c_{\gamma}\;g_{1}^{\;2}\;\frac{_{1}}{_{m_0}^{\;4}}\;y_u^{\;1112}\;\left(-\,C_{H^2}\,+\,m_{_{\overline{u}}}^{\;2}\right)\;LF_{1,0}\left[\,m_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;2}\,n_{_{\overline{u}}}^{\;
          \frac{3}{2} \; s_{2\,\gamma} \; c_{\gamma} \; \frac{1}{m_{_{0}}{^{4}}} \; \overline{y_{d}}^{pr} \; y_{d}{^{pr}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; LF_{1,0} \left[ \, m_{_{\overline{d}}}{^{r}} \, \right] \; + \\ \frac{1}{2} \; \sum_{p} s_{2\,\gamma} \; c_{\gamma} \; g_{1}{^{2}} \; \frac{1}{m_{_{0}}{^{4}}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; LF_{1,0} \left[ \, m_{_{\overline{d}}}{^{r}} \, \right] \; + \\ \frac{1}{2} \; \sum_{p} s_{2\,\gamma} \; c_{\gamma} \; g_{1}{^{2}} \; \frac{1}{m_{_{0}}{^{4}}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; LF_{1,0} \left[ \, m_{_{\overline{d}}}{^{r}} \, \right] \; + \\ \frac{1}{2} \; \sum_{p} s_{2\,\gamma} \; c_{\gamma} \; g_{1}{^{2}} \; \frac{1}{m_{_{0}}{^{4}}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; LF_{1,0} \left[ \, m_{_{\overline{d}}}{^{r}} \, \right] \; + \\ \frac{1}{2} \; \sum_{p} s_{2\,\gamma} \; c_{\gamma} \; g_{1}{^{2}} \; \frac{1}{m_{_{0}}{^{4}}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; LF_{1,0} \left[ \, m_{_{\overline{d}}}{^{r}} \, \right] \; + \\ \frac{1}{2} \; \sum_{p} s_{2\,\gamma} \; c_{\gamma} \; g_{1}{^{2}} \; \frac{1}{m_{_{0}}{^{4}}} \; y_{u}{^{\text{ili2}}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; C_{H^{2}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; C_{H^{2}} \; \left( C_{H^{2}} - m_{_{\overline{0}}}{^{2}} \right) \; C_{H^{2}} \; C_{H^{2}
                                                   \frac{1}{2} \; s_{2 \, \text{\tiny $\gamma$}} \; c_{\text{\tiny $\gamma$}} \; \frac{1}{m_{\text{\tiny $0$}}^4} \; y_u^{\; \text{\tiny $1$} \text{\tiny $1$} \text{\tiny $2$}} \; \left( C_{H^2} - m_{\text{\tiny $0$}}^{\; \; 2} \right) \; \left( \overline{y_e}^{pr} \; y_e^{pr} \; + \sum_{p} g_1^{\; 2} \right) \; LF_{1,0} \left[ m_{\tilde{l}}^{\; \; p} \right] \; + \\ \frac{1}{2} \; m_{\text{\tiny $0$}}^{\; \; p} \; \left( m_{\text{\tiny $0$}}^{\; \; p} \; \right) \; \left( m_{\text{\tiny $0$}}^{\; \; p} \; \right) \; \left( m_{\text{\tiny $0$}}^{\; \; p} \; \right) \; + \\ \frac{1}{2} \; m_{\text{\tiny $0$}} \; m_{\text{\tiny $0$}} \; \left( m_{\text{\tiny $0$}} \; \right) \; \left( m_{\text{\tiny
          \frac{1}{2} \; s_{2 \; \text{Y}} \; c_{\text{Y}} \; \frac{1}{m_{\text{D}}^{4}} \; y_{u} \\ ^{\text{1112}} \; \left( - \; C_{\text{H}^{2}} \; + \; m_{\text{D}}^{\; 2} \right) \; \left( - \; 3 \; \overline{y_{d}}^{\text{pr}} \; y_{d}^{\text{pr}} \; + \; 3 \; \overline{y_{u}}^{\text{pr}} \; y_{u}^{\text{pr}} \; + \; \sum_{p} \; g_{1}^{\; 2} \right) \; LF_{\text{1,0}} \left[ \; m_{\tilde{q}}^{\; p} \; \right] \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}}^{\; p} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q}} \; \right) \; + \; \left( - \; m_{\tilde{q
     \sum_{p} s_{2 \, \gamma} \, c_{\gamma} \, g_{1}^{2} \, \frac{1}{m_{_{D}}^{4}} \, y_{u}^{\, \text{ili2}} \, \left( C_{H^{2}} - m_{_{\overline{D}}}^{\, 2} \right) \, LF_{1,0} \left[ m_{u}^{\, \, p} \right] \, + \, C_{1} \, \left( m_{_{D}}^{\, \, p} \right) \, \left( m_{_{D}}^{\, \, \, p} \right) \, \left( m_{_{D}}^{\, \, \, p} \right) \,
          \frac{3}{2} \; \mathsf{S}_{2 \; \gamma} \; \mathsf{C}_{\gamma} \; \frac{1}{\mathsf{m_{_{\boldsymbol{0}}}}^4} \; \overline{y_{\boldsymbol{u}}}^{\mathsf{pr}} \; \mathsf{y_{\boldsymbol{u}}}^{\mathsf{pr}} \; \mathsf{y_{\boldsymbol{u}}}^{\mathsf{ili2}} \; \left( - \, \mathsf{C}_{\mathsf{H}^2} + \, \mathsf{m_{_{\boldsymbol{0}}}}^2 \right) \; \mathsf{LF}_{\mathsf{1,0}} \left[ \, \mathsf{m_{_{\boldsymbol{0}}}}^r \, \right] \; + \\
          \frac{\text{3}}{\text{8}} \text{ $S_{4}_{\text{Y}}$ $c_{\text{Y}}$} \frac{\text{1}}{\text{m}_{\text{o}}^{\text{4}}} \text{ $y_{u}$}^{\text{11i2}} \left(g_{1}^{2} + g_{2}^{2}\right) \left(-C_{H^{2}} + m_{\text{D}}^{-2}\right)$ $LF_{\text{1,0}}[m_{\text{D}}]$ } - C_{\text{D}} \left(-C_{\text{D}} + m_{\text{D}}^{-2}\right) \left(-C_{\text{D}} + m_{\text{D}}^{-2}\right)$ $LF_{\text{1,0}}[m_{\text{D}}]$ } - C_{\text{D}} \left(-C_{\text{D}} + m_{\text{D}}^{-2}\right)$ } + C_{\text{D}} \left(-C_{\text{D}} + m_{\text{D}}^{-2}\right)$ $LF_{\text{1,0}}[m_{\text{D}}]$ } - C_{\text{D}} \left(-C_{\text{D}} + m_{\text{D}}^{-2}\right)$ } + C_{\text{D}} \left(-C_{\text{D
          \frac{1}{4} \; s_{\gamma} \; y_{u}^{\; \text{pi2}} \; \left( \overline{y_{d}}^{\text{pr}} \; y_{d}^{\; \text{ilr}} \; \left( 4 \; c_{\gamma}^{\; 2} + s_{\gamma}^{\; 2} \right) \; + \; 3 \; c_{\gamma}^{\; 2} \; \overline{y_{u}}^{\text{pr}} \; y_{u}^{\; \text{ilr}} \right) \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{LF}_{\text{1,1}}[\, m_{\scriptscriptstyle \oplus} \,] \; - \; 1 \; \text{L
          \frac{1}{2} \; s_{\gamma} \; C_{H^2} \; c_{\gamma}^{\; 2} \; \overline{y_d}^{pr} \; y_d^{\, 11r} \; y_u^{\, pi2} \; \mathsf{LF}_{1,2} \left[ \, m_{_{\bar{\Phi}}} \, \right] \; - \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 11i2} \; \mathsf{LF}_{1,1,9} \left[ \, m_{1} \, , \; m_{\tilde{q}}^{\; i1} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 2} \; y_u^{\; 2} \; \mathsf{LF}_{1,1,1,9} \left[ \, m_{1} \, , \; m_{1}^{\; 2} \, y_u^{\; 2} \, \right] \; + \; \frac{1}{36} \; s_{\gamma} \; g_{1}^{\; 2} \; y_u^{\; 2} \; \mathsf{LF}_{1,1,1,1,1} \left[ \, m_{1} \, , \; m_{1}^{\; 2} \, y_u^{\; 2} \, y_u^{\; 2} \; y_u^{
                                                                            \mathsf{s_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,-1}} \big[ \mathsf{m_{1}}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; - \; \tfrac{4}{9} \; \mathsf{s_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\mathsf{ili2}} \; \mathsf{LF_{1,1,0}} \big[ \mathsf{m_{1}}, \; \mathsf{m_{\tilde{u}}}^{\mathsf{i2}} \big] \; + \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; + \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \, \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q}}}^
               \frac{2}{9} \; s_{\gamma} \; g_{1}^{2} \; y_{u}^{\; \text{ili2}} \; \mathsf{LF}_{2,1,-1} \big[ \; m_{1} \; , \; m_{\bar{u}}^{\; \bar{1}^{2}} \big] \; + \; m_{1} \; \widetilde{\mu} \; c_{\gamma} \; g_{1}^{2} \; \frac{1}{m_{\bar{u}}^{\; 4}} \; y_{u}^{\; \text{ili2}} \; \left( c_{H^{2}} - m_{\bar{u}}^{2} \right) \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; - \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; - \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; - \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; \mathsf{LF}_{1,1,0} \left[ \; m_{1} \; , \; \widetilde{\mu} \; \right] \; + \; 
          \frac{3}{4} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{1,1,0} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; LF_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; F_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; F_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{2}^{\; 2} \; y_{u}^{\; \text{ili2}} \; F_{2,1,-1} \left[ \, m_{2} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \right] \; + \; \frac{3}{8} \; s_{\gamma} \; g_{\gamma} \; g_{\gamma} \; + \; \frac{3}{8} \; s_{\gamma} \; 
3\; m_2\; \widetilde{\mu}\; c_{\gamma}\; g_2^2\; \frac{1}{m_0^4}\; y_u^{\; i\, 1\, i\, 2}\; \left( C_{H^2} - m_{\bar{\Phi}}^{\; 2} \right) \; \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; - \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, m_2 \, , \; \widetilde{\mu} \, \right] \; + \, \left( c_{\gamma}^{\; 2} - s_{\gamma}^{\; 2} \right) \; LF_{1,1,0} \left[ \, 
          \frac{4}{3}\; s_{\gamma}\; g_{3}^{\;2}\; y_{u}^{\;i1i2}\; LF_{1,1,0}\big[\,m_{3}\,,\,m_{\tilde{q}}^{\;i1}\big] \; + \; \frac{2}{3}\; s_{\gamma}\; g_{3}^{\;2}\; y_{u}^{\;i1i2}\; LF_{2,1,-1}\big[\,m_{3}\,,\,m_{\tilde{q}}^{\;i1}\big] \; - \; \frac{1}{3}\; s_{\gamma}\; g_{3}^{\;2}\; y_{u}^{\;2}\; g_{\alpha}^{\;2}\; y_{\alpha}^{\;2}\; g_{\alpha}^{\;2}\; y_{\alpha}^{\;2}\; g_{\alpha}^{\;2}\; g
               3\;c_{\gamma}\;\frac{_{1}}{^{m_{_{g}}^{4}}}\;y_{u}^{\;\text{ili2}}\;\left(C_{H^{2}}-m_{_{\overline{0}}}^{\;2}\right)\;\left(c_{\gamma}\;\overline{a_{d}}^{pr}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{d}}^{pr}\right)\;\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\;\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right]-\left(m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{\;\;p}\right)\left(s_{\gamma}\;a_{d}^{pr}+\widetilde{\mu}\;c_{\gamma}\;y_{d}^{pr}\right)\;LF_{1,1,\theta}\left[m_{_{\overline{0}}}^{\;\;r},\;m_{_{\overline{0}}}^{p}\right]
          \frac{1}{2} s_{\gamma} \overline{y_d}^{pr} y_d^{i1r} y_u^{pi2} LF_{1,1,0} [m_{\tilde{d}}^{r}, \tilde{\mu}] +
     c_{\gamma} \; \frac{1}{m_{e}^{\; 4}} \; y_{u}^{\; \text{ili2}} \; \left( C_{H^{2}} - m_{\Phi}^{\; 2} \right) \; \left( c_{\gamma} \; \overline{a_{e}}^{pr} - s_{\gamma} \; \widetilde{\mu} \; \overline{y_{e}}^{pr} \right) \; \left( s_{\gamma} \; a_{e}^{\; pr} + \widetilde{\mu} \; c_{\gamma} \; y_{e}^{\; pr} \right) \; \text{LF}_{\text{1,1,0}} \left[ m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right] \; - \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; , \; m_{\tilde{l}}^{\; p} \right) \; \left( m_{\tilde{e}}^{\; r} \; ,
               \frac{1}{2}\;\frac{1}{{m_{_{D}}}^{2}}\;y_{u}^{\textrm{ili2}}\;\left(c_{\gamma}\;\overline{a_{e}}^{\textrm{pr}}-s_{\gamma}\;\widetilde{\mu}\;\overline{y_{e}}^{\textrm{pr}}\right)\;\left(s_{\gamma}\;c_{\gamma}\;a_{e}^{\textrm{pr}}\;\left(2\;C_{H^{2}}-m_{_{\overline{D}}}^{2}\right)+\widetilde{\mu}\;y_{e}^{\textrm{pr}}\;\left(2\;C_{H^{2}}\;c_{\gamma}^{2}+m_{_{\overline{D}}}^{2}\;s_{\gamma}^{2}\right)\right)
                                        \text{LF}_{2,1,0}\left[\text{M}_{\tilde{l}}^{\text{p}},\,\text{M}_{\tilde{e}}^{\text{r}}\right] + \frac{1}{2}\,\frac{1}{m_{\text{m}}^{\,2}}\,y_{u}^{\,\text{ili2}}\,\left(c_{\gamma}\,\,\overline{a_{e}}^{\text{pr}} - s_{\gamma}\,\widetilde{\mu}\,\,\overline{y_{e}}^{\text{pr}}\right)
                                                   \left(\,\mathsf{S}_{\,\mathsf{Y}}\;\mathsf{c}_{\,\mathsf{Y}}\;\mathsf{a}_{\,\mathsf{e}}^{\,\,\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{C}_{\mathsf{H}^2}\;-\,\mathsf{m}_{_{\bar{\!\Phi}}}^{\,\,\,2}\,\right)\;+\;\widetilde{\mu}\;\,\mathsf{y}_{\,\mathsf{e}}^{\,\,\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{C}_{\mathsf{H}^2}\;\mathsf{c}_{\,\mathsf{Y}}^{\,\,2}\;+\,\mathsf{m}_{_{\bar{\!\Phi}}}^{\,\,2}\;\mathsf{s}_{\,\mathsf{Y}}^{\,\,2}\,\right)\;\right)\;\mathsf{LF}_{\mathsf{3,1,-1}}\big[\,\mathsf{m}_{_{\!\tilde{\!\mathsf{I}}}}^{\,\,\,\mathsf{p}}^{\,\,\mathsf{p}}^{\,\,\,\mathsf{p}},\;\mathsf{m}_{_{\!\tilde{\!\mathsf{e}}}}^{\,\,\mathsf{r}}^{\,\,\mathsf{r}}\,\big]\;+\;\mathsf{F}_{\mathsf{3,1,-1}}^{\,\,\mathsf{p}}\,\mathsf{m}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}^{\,\,\mathsf{p}}^{\,\,\mathsf{p}},\;\mathsf{m}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}^{\,\,\mathsf{p}}\,\mathsf{m}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\mathsf{p}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_{_{\!\mathsf{e}}}^{\,\,\mathsf{e}}\,\mathsf{n}_
     s_{\gamma} \; C_{H^2} \; y_u^{\; \text{ili2}} \; \left( - \, c_{\gamma} \; \overline{a_e}^{pr} + s_{\gamma} \; \widetilde{\mu} \; \overline{y_e}^{pr} \right) \; \left( - \, c_{\gamma} \; a_e^{\; pr} + s_{\gamma} \; \widetilde{\mu} \; y_e^{\; pr} \right) \; LF_{3,1,0} \left[ \, m_{\tilde{1}}^{\; p} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; - \; c_{\gamma} \; a_e^{\; pr} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_e^{\; pr} \right] \; LF_{3,1,0} \left[ \, m_{\tilde{1}}^{\; p} \, , \; m_{\tilde{e}}^{\; r} \, \right] \; - \; c_{\gamma} \; a_e^{\; pr} \; + \; s_{\gamma} \; \widetilde{\mu} \; y_e^{\; pr} \right] \; .
     3 \, s_{\gamma} \, C_{H^2} \, y_u^{\,\, \text{ili2}} \, \left( - \, c_{\gamma} \, \, \overline{a_e}^{pr} + \, s_{\gamma} \, \widetilde{\mu} \, \, \overline{y_e}^{pr} \right) \, \left( - \, c_{\gamma} \, a_e^{\,\, pr} + \, s_{\gamma} \, \widetilde{\mu} \, \, y_e^{\,\, pr} \right) \, LF_{4,1,-1} \left[ \, \boldsymbol{m}_{\tilde{1}}^{\,\, p} \,, \, \, \boldsymbol{m}_{\tilde{e}}^{\,\, r} \, \right] \, + \, c_{\gamma} \, \widetilde{\mu} \, \, \boldsymbol{m}_{\tilde{e}}^{\,\, r} \, \boldsymbol{m}_{\tilde{e}}^{\,\, r
2\; s_{\scriptscriptstyle Y}\; C_{H^2}\; y_u^{\;\; \text{ili2}}\; \left(-\; c_{\scriptscriptstyle Y}\; \overline{a_e}^{pr}\; +\; s_{\scriptscriptstyle Y}\; \widetilde{\mu}\; \overline{y_e}^{pr}\right) \; \left(-\; c_{\scriptscriptstyle Y}\; a_e^{\;\; pr}\; +\; s_{\scriptscriptstyle Y}\; \widetilde{\mu}\; y_e^{\;\; pr}\right) \; LF_{5,1,-2}\left[\; m_{\tilde{1}}^{\;\; p}\; ,\; m_{\tilde{e}}^{\;\; r}\; \right] \; -\; c_{\scriptscriptstyle Y}\; a_e^{\;\; pr}\; +\; c_{\scriptscriptstyle Y}\; \widetilde{\mu}\; y_e^{\;\; pr}\right] \; .
               \frac{3}{2} \; \frac{1}{m_{_{D}}^{2}} \; y_{u}^{\; \text{iii}} \; \left( \, c_{_{Y}} \; \overline{a_{d}}^{\, \text{pr}} \, - \, s_{_{Y}} \; \widetilde{\mu} \; \overline{y_{d}}^{\, \text{pr}} \, \right) \; \left( \, s_{_{Y}} \; c_{_{Y}} \; a_{d}^{\, \text{pr}} \; \left( \, 2 \; C_{H^{2}} \, - \, m_{_{\overline{\!\varpi}}}^{\, \, 2} \, \right) \, + \, \widetilde{\mu} \; y_{d}^{\, \text{pr}} \; \left( \, 2 \; C_{H^{2}} \; c_{_{Y}}^{\, \, 2} \, + \, m_{_{\overline{\!\varpi}}}^{\, \, 2} \; s_{_{Y}}^{\, \, 2} \, \right) \, \right) \; .
                                        \text{LF}_{2,1,0}\left[\text{m}_{\bar{d}}^{\text{p}},\text{m}_{\bar{d}}^{\text{r}}\right] + \tfrac{3}{2} \; \tfrac{1}{\text{m}_{\text{m}}^2} \; y_{\text{u}}^{\text{ili2}} \; \left(c_{\text{y}} \; \overline{a_{\text{d}}}^{\text{pr}} - s_{\text{y}} \; \widetilde{\mu} \; \overline{y_{\text{d}}}^{\text{pr}}\right)
                                                   \left(\,\mathsf{S}_{\,\mathsf{Y}}\;\mathsf{C}_{\,\mathsf{Y}}\;\mathsf{a}_{\,\mathsf{d}}^{\,\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{C}_{\mathsf{H}^{2}}\;-\,\mathsf{m}_{_{\bar{\!\mathfrak{D}}}}^{\,\,2}\,\right)\;+\;\widetilde{\mu}\;\,\mathsf{y}_{\,\mathsf{d}}^{\,\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{C}_{\mathsf{H}^{2}}\;\mathsf{c}_{\,\mathsf{Y}}^{\,\,2}\;+\,\mathsf{m}_{_{\bar{\!\mathfrak{D}}}}^{\,\,2}\;\mathsf{s}_{\,\mathsf{Y}}^{\,\,2}\,\right)\,\right)\;\mathsf{LF}_{\mathsf{3,1,-1}}\!\left[\,\mathsf{m}_{\,\tilde{\!\mathsf{q}}}^{\,\,\mathsf{p}}\,,\;\mathsf{m}_{\,\tilde{\!\mathsf{d}}}^{\,\,\mathsf{r}}\,\right]\;+\;\widetilde{\mu}^{\,\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{C}_{\mathsf{H}^{2}}\;\mathsf{c}_{\,\mathsf{Y}}^{\,\,2}\;+\,\mathsf{m}_{_{\bar{\!\mathfrak{D}}}}^{\,2}\;\mathsf{s}_{\,\mathsf{Y}}^{\,\,2}\,\right)\,\right)\;\mathsf{LF}_{\mathsf{3,1,-1}}\!\left[\,\mathsf{m}_{\,\tilde{\!\mathsf{q}}}^{\,\,\mathsf{p}}\,,\;\mathsf{m}_{\,\tilde{\!\mathsf{d}}}^{\,\,\mathsf{r}}\,\right]\;+\;\widetilde{\mu}^{\,\mathsf{pr}}\;\mathsf{s}_{\,\mathsf{P}}^{\,\mathsf{pr}}\;\mathsf{s}_{\,\mathsf{P}}^{\,\mathsf{pr}}\,\right]
     3 \, s_{\scriptscriptstyle Y} \, C_{H^2} \, y_u^{\, \text{ili2}} \, \left( - \, c_{\scriptscriptstyle Y} \, \overline{a_d}^{\, \text{pr}} + s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, \overline{y_d}^{\, \text{pr}} \right) \, \left( - \, c_{\scriptscriptstyle Y} \, a_d^{\, \text{pr}} + s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_d^{\, \text{pr}} \right) \, LF_{3,1,0} \left[ \, m_{\tilde{q}}^{\, \, p} \, , \, m_{\tilde{d}}^{\, \, r} \, \right] \, - \, c_{\scriptscriptstyle Y} \, a_d^{\, \, \text{pr}} + s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_d^{\, \, \text{pr}} \right] \, .
     9 \; \mathsf{S}_{\gamma} \; \mathsf{C}_{\mathsf{H}^2} \; \mathsf{y_u}^{\mathsf{ili2}} \; \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_{4,1,-1}} \left[ \, \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, , \; \mathsf{m_{\tilde{d}}}^{\, \mathsf{r}} \, \right] \; + \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \right] \; \mathsf{LF_{4,1,-1}} \left[ \, \mathsf{m_{\tilde{q}}}^{\, \mathsf{p}} \, , \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \, \right] \; + \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}} \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{pr}
     6 \, s_{\scriptscriptstyle Y} \, C_{H^2} \, y_{\scriptscriptstyle U}{}^{\text{ili2}} \, \left( - \, c_{\scriptscriptstyle Y} \, \overline{a_{\scriptscriptstyle d}}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, \overline{y_{\scriptscriptstyle d}}{}^{\text{pr}} \right) \, \left( - \, c_{\scriptscriptstyle Y} \, a_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} \right) \, LF_{5,1,-2} \left[ \, m_{\widetilde{\mathsf{q}}}{}^{\, \mathsf{p}} \, , \, m_{\widetilde{\mathsf{d}}}{}^{\, \mathsf{r}} \, \right] \, + \, c_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} \right] \, + \, c_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} \right] \, + \, c_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{\text{pr}} + \, s_{\scriptscriptstyle Y} \, \widetilde{\mu} \, y_{\scriptscriptstyle d}{}^{
     3\;c_{\gamma}\;\frac{1}{m_{\varpi}^{4}}\;y_{u}^{\;\textrm{ili2}}\;\left(C_{H^{2}}-m_{\underline{\Phi}}^{\;2}\right)\;\left(c_{\gamma}\;\overline{a_{u}}^{\textrm{pr}}+s_{\gamma}\;\widetilde{\mu}\;\overline{y_{u}}^{\textrm{pr}}\right)\;\left(-\,s_{\gamma}\;a_{u}^{\;\textrm{pr}}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;\textrm{pr}}\right)\;LF_{1,1,0}\left[m_{\tilde{q}}^{\;\textrm{p}}\,,\;m_{\tilde{u}}^{\;\textrm{r}}\right]\;-1
     s_{\gamma}\,\overline{y_u}^{\text{pr}}\,y_u^{\,\text{pi2}}\,y_u^{\,\text{ilr}}\,L\,F_{1,1,0}\left[\,m_{\tilde{q}}^{\,\,\,}^{\,\,\rho}\,,\,\,\widetilde{\mu}\,\right]\,+\,\frac{3}{2}\,\,\frac{1}{m_{\tilde{g}}^2}\,\,y_u^{\,\,\text{ili2}}
                                                   \frac{3}{2} \; \frac{1}{m_{m}^{2}} \; y_{u}^{\; \text{ili2}} \; \left( \overline{a_{u}}^{\text{pr}} \; \left( 2 \; C_{H^{2}} \; c_{\gamma}^{\; 2} + m_{\varpi}^{\; 2} \; s_{\gamma}^{\; 2} \right) \; + \; s_{\gamma} \; \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{\text{pr}} \; \left( 2 \; C_{H^{2}} - m_{\varpi}^{\; 2} \right) \right)
                                                        \left(-s_{\gamma}\;a_{u}^{\;pr}+\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;pr}\right)\;LF_{3,1,-1}\left\lceil m_{\tilde{u}}^{\;r},\;m_{\tilde{q}}^{\;p}
ight
ceil+
     3 \, s_{\scriptscriptstyle Y} \, C_{H^2} \, y_u^{\, \text{ili2}} \, \left( s_{\scriptscriptstyle Y} \, \overline{a_u}^{\text{pr}} - \widetilde{\mu} \, c_{\scriptscriptstyle Y} \, \overline{y_u}^{\text{pr}} \right) \, \left( s_{\scriptscriptstyle Y} \, a_u^{\, \text{pr}} - \widetilde{\mu} \, c_{\scriptscriptstyle Y} \, y_u^{\, \text{pr}} \right) \, LF_{3,1,0} \left[ \, m_{\tilde{u}}^{\, \text{r}} \, , \, m_{\tilde{q}}^{\, \text{p}} \, \right] - \left[ \, m_{\tilde{u}}^{\, \text{r}} \, , \, m_{\tilde{q}}^{\, \text{p}} \, \right] \, .
     9 \, \mathsf{s_{Y}} \, \mathsf{C_{H^{2}}} \, \mathsf{y_{u}}^{\mathtt{ili2}} \, \left( \mathsf{s_{Y}} \, \overline{\mathsf{a_{u}}}^{\mathtt{pr}} - \widetilde{\mu} \, \mathsf{c_{Y}} \, \overline{\mathsf{y_{u}}}^{\mathtt{pr}} \right) \, \left( \mathsf{s_{Y}} \, \mathsf{a_{u}}^{\mathtt{pr}} - \widetilde{\mu} \, \mathsf{c_{Y}} \, \mathsf{y_{u}}^{\mathtt{pr}} \right) \, \mathsf{LF_{4,1,-1}} \big[ \, \mathsf{m_{\tilde{u}}}^{\mathtt{r}} \, , \, \, \mathsf{m_{\tilde{a}}}^{\mathtt{p}} \big] \, + \, \mathsf{m_{\tilde{a}}}^{\mathtt{pr}} \, \mathsf{a_{\tilde{a}}}^{\mathtt{pr}} \, , \, \, \mathsf{m_{\tilde{a}}}^{\mathtt{pr}} \, \mathsf{a_{\tilde{a}}}^{\mathtt{pr}} \, 
     6\; s_{\scriptscriptstyle Y}\; C_{H^2}\; y_u^{\;\text{ili2}}\; \left(s_{\scriptscriptstyle Y}\; \overline{a_u}^{\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; \overline{y_u}^{\text{pr}}\right) \; \left(s_{\scriptscriptstyle Y}\; a_u^{\;\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\;\text{pr}}\right) \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{r}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{p}}\right] \; - \; \widetilde{\mu}^{\;\text{pr}} \; \left(s_{\scriptscriptstyle Y}\; a_u^{\;\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\;\text{pr}}\right) \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{r}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{p}}\right] \; - \; \widetilde{\mu}^{\;\text{pr}} \; \left(s_{\scriptscriptstyle Y}\; a_u^{\;\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\;\text{pr}}\right) \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{r}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{p}}\right] \; - \; \widetilde{\mu}^{\;\text{pr}} \; \left(s_{\scriptscriptstyle Y}\; a_u^{\;\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\;\text{pr}}\right) \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{r}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{p}}\right] \; - \; \widetilde{\mu}^{\;\text{pr}} \; \left(s_{\scriptscriptstyle Y}\; a_u^{\;\text{pr}} - \widetilde{\mu}\; c_{\scriptscriptstyle Y}\; y_u^{\;\text{pr}}\right) \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{r}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{p}}\right] \; - \; \widetilde{\mu}^{\;\text{pr}} \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}^{\;\text{pr}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{pr}}\right] \; + \; \widetilde{\mu}^{\;\text{pr}} \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{pr}}\right] \; + \; \widetilde{\mu}^{\;\text{pr}} \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{pr}}\right] \; + \; \widetilde{\mu}^{\;\text{pr}} \; + \; \widetilde{\mu}^{\;\text{pr}} \; \mathsf{LF}_{5,1,-2}\left[\mathsf{m}_{\bar{u}}\;,\; \mathsf{m}_{\bar{q}}^{\;\text{pr}}\right] \; + \; \widetilde{\mu}^{\;\text{pr}} \; + \; \widetilde{\mu
               \frac{1}{2} \; \mathsf{S}_{\gamma} \; \overline{\mathsf{y_u}}^{\mathsf{pr}} \; \mathsf{y_u}^{\mathsf{pi2}} \; \mathsf{y_u}^{\mathsf{i1r}} \; \mathsf{LF_{1,1,0}} \big[ \, \mathsf{m_{\bar{u}}}^{\mathsf{r}} \, , \; \widetilde{\mu} \, \big] \; - \; \frac{3}{4} \; \mathsf{S}_{\gamma} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\mathsf{i1i2}} \; \mathsf{LF_{2,1,-1}} \left[ \, \widetilde{\mu} \, , \; \mathsf{m_1} \, \right] \; - \; \mathsf{m_1} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \frac{1}{\mathsf{m_0}^2} \; \mathsf{m_1}^2 \; \mathsf{m_1}^2 \; \mathsf{m_2}^2 \; \mathsf{m_2}^2 \; \mathsf{m_3}^2 \; \mathsf{m
                                        y_{u}^{\text{ili2}}\,\left(C_{H^{2}}\,\,c_{\gamma}^{2}\,+\,s_{\gamma}^{2}\,\left(-\,C_{H^{2}}\,+\,m_{\Phi}^{2}\right)\,\right)\,\,\mathsf{LF}_{2,1,0}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,i\,1i\,2}\,\,\mathsf{LF}_{3,1,-2}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,i\,1i\,2}\,\,\mathsf{LF}_{3,1,-2}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,i\,1i\,2}\,\,\mathsf{LF}_{3,1,-2}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,i\,1i\,2}\,\,\mathsf{LF}_{3,1,-2}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,i\,1i\,2}\,\,\mathsf{LF}_{3,1,-2}\,[\,\widetilde{\mu}\,,\,\,\mathsf{m}_{1}\,]\,\,+\,\frac{1}{2}\,\,s_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{u}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,\,2}\,\,s_{\gamma}^{\,
     2\; \mathsf{m_1}\; \mathsf{C_{H^2}}\; \widetilde{\mu}\; \mathsf{c_{\gamma}}\; \mathsf{g_1}^2\; \mathsf{s_{\gamma}}^2\; \mathsf{y_u}^{\mathsf{ili2}}\; \mathsf{LF_{3,1,0}}\left[\,\widetilde{\mu}\;,\; \mathsf{m_1}\,\right]\; +\; 4\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_1}^2\; \mathsf{y_u}^{\mathsf{ili2}}\; \mathsf{LF_{4,1,-2}}\left[\,\widetilde{\mu}\;,\; \mathsf{m_1}\,\right]\; +\; 4\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_1}^2\; \mathsf{g_1}^2\; \mathsf{g_1}^2\; \mathsf{g_1}^2\; \mathsf{g_2}^2\; \mathsf{g_1}^2\; \mathsf{g_2}^2\; \mathsf{g_3}^2\; \mathsf{g_3}
     6 \; \mathsf{m_1} \; \mathsf{C_{H^2}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{s_{\gamma}}^2 \; \mathsf{y_u}^{\mathsf{ili2}} \; \mathsf{LF_{4,1,-1}} [\, \tilde{\mu} \,, \; \mathsf{m_1} \,] \; - 2 \; \mathsf{s_{\gamma}} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\mathsf{ili2}} \; \mathsf{LF_{5,1,-3}} [\, \tilde{\mu} \,, \; \mathsf{m_1} \,] \; - 2 \; \mathsf{s_{\gamma}} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\mathsf{ili2}} \; \mathsf{LF_{5,1,-3}} [\, \tilde{\mu} \,, \; \mathsf{m_1} \,] \; - 2 \; \mathsf{s_{\gamma}} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\mathsf{ili2}} \; \mathsf{LF_{5,1,-3}} [\, \tilde{\mu} \,, \; \mathsf{m_1} \,] \; - 2 \; \mathsf{s_{\gamma}} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \mathsf{g
     4\; m_1\; C_{H^2}\; \tilde{\mu}\; c_{\gamma}\; g_1{}^2\; s_{\gamma}{}^2\; y_u^{\; \text{ili2}}\; LF_{5,1,-2}\left[\, \tilde{\mu}\, ,\; m_1\, \right] \; -\frac{9}{4}\; s_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; y_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; -3\; m_2\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; x_u^{\; \text{ili2}}\; LF_{2,1,-1}\left[\,
                                                        \frac{1}{m_{_{0}}{^{2}}}\;y_{u}^{\text{iii2}}\;\left(C_{H^{2}}\;c_{_{\gamma}}{^{2}}+s_{_{\gamma}}{^{2}}\;\left(-\,C_{H^{2}}+m_{_{\overline{0}}}{^{2}}\right)\right)\;LF_{2,1,0}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iii2}}\;LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\;m_{2}\,\right]\,+\,\frac{3}{2}\;s_{_{\gamma}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;g_{2}{^{2}}\;y_{u}^{\text{iiii2}}\;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}}\;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}^{2} y_{u}^{i1i2} \left(-2 s_{\gamma} C_{H^{2}} m_{\Phi}^{2} + m_{2} \widetilde{\mu} c_{\gamma} \left(C_{H^{2}} c_{\gamma}^{2} + s_{\gamma}^{2} \left(-C_{H^{2}} + m_{\Phi}^{2}\right)\right)\right) LF_{3,1,-1}[\widetilde{\mu}, m_{2}] - C_{H^{2}}
     6\; \mathsf{m_2}\; \mathsf{C_{H^2}}\; \widetilde{\boldsymbol{\mu}}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{s_{\gamma}}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{3,1,0}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{4,1,-2}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{4,1,-2}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{4,1,-2}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{4,1,-2}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\texttt{ili2}}\; \mathsf{LF_{4,1,-2}}\; [\, \widetilde{\boldsymbol{\mu}}\;,\; \mathsf{m_2}\,]\; +\; 12\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{g_2}^2\;
     18\; \mathsf{m_2}\; \mathsf{C_{H^2}}\; \tilde{\mu}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{s_{\gamma}}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{4,1,-1}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}\; \mathsf{g_2}^2\; \mathsf{y_u}^{\text{ili2}}\; \mathsf{LF_{5,1,-3}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; \mathsf{C_{H^2}}[\,\tilde{\mu}\;,\; \mathsf{m_2}\,] \; - \; 6\; \mathsf{s_{\gamma}}\; 
     12\; m_2\; C_{H^2}\; \tilde{\mu}\; c_{\gamma}\; g_2{}^2\; s_{\gamma}{}^2\; y_u{}^{\text{ili2}}\; LF_{5,1,-2}\left[\, \tilde{\mu}\, ,\; m_2\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}\; y_d{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; LF_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}\; y_d{}^{\text{pr}}\; y_d{}^{\text{ilr}}\; y_u{}^{\text{pi2}}\; F_{2,1,-1}\left[\, \tilde{\mu}\, ,\; m_d^{\text{-}\, r}\, \right] \; + \; \frac{1}{4}\; s_{\gamma}\; \overline{y_d}\; y_d{}^{\text{pi2}}\; y_d{}^{\text{pi2}}\;
                                                   s_{\gamma}\,\overline{y_{u}}^{\text{pr}}\,y_{u}^{\,\text{pi2}}\,y_{u}^{\,\text{ilr}}\,LF_{2,1,-1}\big[\widetilde{\mu}\,,\,m_{\widetilde{q}}^{\,\,p}\big]\,+\,\frac{1}{4}\,s_{\gamma}\,\overline{y_{u}}^{\text{pr}}\,y_{u}^{\,\,\text{pi2}}\,y_{u}^{\,\,\text{ilr}}\,LF_{2,1,-1}\big[\widetilde{\mu}\,,\,m_{\widetilde{u}}^{\,\,r}\big]\,+\,\frac{1}{4}\,s_{\gamma}\,\overline{y_{u}}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,LF_{2,1,-1}\big[\widetilde{\mu}\,,\,m_{\widetilde{u}}^{\,\,r}\big]\,+\,\frac{1}{4}\,s_{\gamma}\,\overline{y_{u}}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,LF_{2,1,-1}\big[\widetilde{\mu}\,,\,m_{\widetilde{u}}^{\,\,r}\big]\,+\,\frac{1}{4}\,s_{\gamma}\,\overline{y_{u}}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,LF_{2,1,-1}\big[\widetilde{\mu}\,,\,m_{\widetilde{u}}^{\,\,r}\big]\,+\,\frac{1}{4}\,s_{\gamma}\,\overline{y_{u}}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,x_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u}^{\,pr}\,y_{u
               \frac{2}{9} \; m_1 \; g_1^2 \; \left( s_{_{
m Y}} \; a_u^{\; i1i2} - \widetilde{\mu} \; c_{_{
m Y}} \; y_u^{\; i1i2} 
ight) \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} 
ight] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i1} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i2} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i2} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; \right] \; + \; {\sf LF}_{1,1,1,1,0} \left[ m_1 \; , \; m_{_{
m 	ilde{q}}}^{\; i2} \; , \; m_{_{
m 	ilde{u}}}^{\; i2} \; , \; m_{_{
m 	il
               \frac{1}{18} \, \, \mathbf{m_1} \, \, \mathbf{C_{H^2}} \, \, \mathbf{g_1}^2 \, \, \left( - \, \mathbf{s_{\gamma}} \, \, \mathbf{a_u}^{\, \, \mathbf{i} \, \mathbf{1} \, \mathbf{i} \, 2} \, + \, \widetilde{\boldsymbol{\mu}} \, \, \mathbf{c_{\gamma}} \, \, \mathbf{y_u}^{\, \, \mathbf{i} \, \mathbf{1} \, \mathbf{i} \, 2} \right) \, \, \mathbf{LF_{2,2,1,-1}} \big[ \, \mathbf{m_1} \, , \, \, \mathbf{m_{\tilde{q}}^{\, \, \mathbf{i} \, \mathbf{1}}} \, , \, \, \mathbf{m_{\tilde{u}}^{\, \, \mathbf{i} \, 2}} \big] \, - \, \mathbf{m_{\tilde{q}}^{\, \, \mathbf{i} \, \mathbf{1}}} \, \, \, \mathbf{m_{\tilde{q}}^{\, \, \mathbf{i} \, \mathbf{1}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i} \, \mathbf{1}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \mathbf{i} \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \mathbf{i} \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i}}} \, \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \, \mathbf{i}}} \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \, \mathbf{i}}} \, \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \, \mathbf{i}}} \, \, \, \mathbf{m_{\tilde{q}}^{\, \, \, \, \mathbf{i}}} \, \, \, \mathbf{m_{
                                                        \mathsf{s_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,-1}} \big[ \, \mathsf{m_{1}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \tilde{\mu} \, \big] \; - \; \frac{1}{6} \; \mathsf{m_{1}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_{1}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \tilde{\mu} \, \big] \; + \; \frac{1}{6} \; \mathsf{m_{1}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \; \mathsf{m_{1}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \tilde{\mu} \, \big] \; + \; \frac{1}{6} \; \mathsf{m_{1}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{1}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \; \mathsf{m_{1}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \tilde{\mu} \, \big] \; + \; \frac{1}{6} \; \mathsf{m_{1}} \; \mathsf{m_{2}} \; \mathsf{m_{2}}^{2} \; \mathsf{m_{2}} \; \mathsf{m_{2}}^{2} \; \mathsf{m_{2}}^{2} \; \mathsf{m_{2}} \; \mathsf{m_{2}}^{2} \; \mathsf{m_{2}}^{
               \frac{1}{18} \; \mathsf{m_1} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \left( - \, \mathsf{s_{\scriptscriptstyle Y}} \; \mathsf{a_u}^{\, \texttt{ili2}} + \widetilde{\mu} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{y_u}^{\, \texttt{ili2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\tilde{u}}}^{\, \texttt{i2}} \, , \; \mathsf{m_{\tilde{q}}}^{\, \texttt{i1}} \big] \; + \\
               \frac{2}{3}\,\,\mathsf{s_{Y}}\,\mathsf{g_{1}}^{2}\,\,\mathsf{y_{u}}^{\,\,\mathrm{ili2}}\,\,\mathsf{LF_{1,1,1,-1}}\big[\,\mathsf{m_{1}}\,,\,\,\mathsf{m_{\tilde{u}}}^{\,\,\mathrm{i2}}\,,\,\,\tilde{\mu}\,\big]\,+\,\frac{2}{3}\,\,\mathsf{m_{1}}\,\,\tilde{\mu}\,\,\mathsf{c_{Y}}\,\,\mathsf{g_{1}}^{2}\,\,\mathsf{y_{u}}^{\,\,\mathrm{ili2}}\,\,\mathsf{LF_{1,1,1,0}}\big[\,\mathsf{m_{1}}\,,\,\,\mathsf{m_{\tilde{u}}}^{\,\,\mathrm{i2}}\,,\,\,\tilde{\mu}\,\big]\,-\,\mathsf{m_{1}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}\,\,\mathsf{m_{2}}^{\,\,\mathrm{in}}
               \frac{1}{12} \; \mathsf{s_{\gamma}} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\text{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \, \mathsf{m_1} \, , \; \tilde{\mu} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, \big] \; - \; \frac{1}{12} \; \mathsf{m_1} \; \mathsf{C_{H^2}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\text{ili2}} \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1} \, , \; \tilde{\mu} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, \big] \; + \; \frac{1}{12} \; \mathsf{m_2} \; \mathsf{C_{H^2}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_u}^{\text{ili2}} \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1} \, , \; \tilde{\mu} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, \big] \; + \; \frac{1}{12} \; \mathsf{m_2} \; \mathsf{C_{H^2}} \; \tilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{g_2}^2 \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{g_2}^2
                                                        \mathsf{s_{\gamma}}\,\mathsf{C_{H^2}}\,\,\mathsf{g_{1}}^2\,\,\mathsf{y_{u}}^{\,\text{ili2}}\,\,\mathsf{LF_{2,2,1,-2}}\big[\,\mathsf{m_{1}}\,,\,\,\tilde{\mu}\,,\,\,\mathsf{m_{\tilde{u}}}^{\,\text{i2}}\,\big]\,+\,\frac{1}{3}\,\,\mathsf{m_{1}}\,\,\mathsf{C_{H^2}}\,\,\tilde{\mu}\,\,\mathsf{c_{\gamma}}\,\,\mathsf{g_{1}}^2\,\,\mathsf{y_{u}}^{\,\text{ili2}}\,\,\mathsf{LF_{2,2,1,-1}}\big[\,\mathsf{m_{1}}\,,\,\,\tilde{\mu}\,,\,\,\mathsf{m_{\tilde{u}}}^{\,\text{i2}}\,\big]\,+\,\frac{1}{3}\,\,\mathsf{m_{1}}\,\,\mathsf{C_{H^2}}\,\,\tilde{\mu}\,\,\mathsf{c_{\gamma}}\,\,\mathsf{g_{1}}^2\,\,\mathsf{y_{u}}^{\,\text{ili2}}\,\,\mathsf{LF_{2,2,1,-1}}\big[\,\mathsf{m_{1}}\,,\,\,\tilde{\mu}\,,\,\,\mathsf{m_{\tilde{u}}}^{\,\text{i2}}\,\big]\,+\,\mathsf{m_{1}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,\text{i2}}\,\,\mathsf{m_{2}}^{\,
          \frac{3}{2} \; \mathsf{S}_{\gamma} \; \mathsf{g_{2}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,-1}} \big[ \, \mathsf{m_{2}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \widetilde{\mu} \, \big] \; + \; \frac{3}{2} \; \mathsf{m_{2}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{2}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_{2}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \widetilde{\mu} \, \big] \; + \; \frac{3}{2} \; \mathsf{m_{2}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{2}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_{2}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \widetilde{\mu} \, \big] \; + \; \frac{3}{2} \; \mathsf{m_{2}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{2}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_{2}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \widetilde{\mu} \, \big] \; + \; \frac{3}{2} \; \mathsf{m_{2}} \; \widetilde{\mu} \; \mathsf{c_{\gamma}} \; \mathsf{g_{2}}^{2} \; \mathsf{y_{u}}^{\text{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_{2}} \, , \; \mathsf{m_{\tilde{q}}}^{\text{il}} \, , \; \widetilde{\mu} \, \big] \; + \; \frac{3}{2} \; \mathsf{m_{2}} \;
                                                             s_{\gamma} \; C_{H^2} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-2} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{il}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, \big] \; + \; \frac{3}{4} \; m_2 \; C_{H^2} \; \tilde{\mu} \; c_{\gamma} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; LF_{2,2,1,-1} \big[ \, m_2 \, , \; \tilde{\mu} \, , \; m_{\tilde{q}}^{\; \text{ili2}} \, g_2^{\; 2} \; y_u^{\; \text{ili2}} \; h_2^{\; 2} \; g_2^{\; 2} \; y_u^{\; \text{ili2}} \; h_2^{\; 2} \; g_2^{\; 2
                                                        \textbf{m}_{3} \hspace{0.1cm} \textbf{g}_{3}^{\hspace{0.1cm} 2} \hspace{0.1cm} \left( \hspace{0.1cm} \textbf{s}_{\gamma} \hspace{0.1cm} \textbf{a}_{u}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{i}} \hspace{0.1cm} - \hspace{0.1cm} \tilde{\mu} \hspace{0.1cm} \textbf{c}_{\gamma} \hspace{0.1cm} \textbf{y}_{u}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{i}}^{\hspace{0.1cm} 2} \right) \hspace{0.1cm} \textbf{LF}_{\textbf{1,1,1,0}} \big[ \hspace{0.1cm} \textbf{m}_{3} \hspace{0.1cm} , \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{1}} \hspace{0.1cm} , \hspace{0.1cm} \textbf{m}_{\tilde{u}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{2}} \big] \hspace{0.1cm} + \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{i}} \hspace{0.1cm} , \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{1}} \hspace{0.1cm} , \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{1}} \hspace{0.1cm} \big] \hspace{0.1cm} + \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{1}} \hspace{0.1cm} , \hspace{0.1cm} \textbf{m}_{\tilde{q}}^{\hspace{0.1cm} \textbf{i} \hspace{0.1cm} \textbf{1}} \hspace{0.1cm} \big] \hspace{0.1cm} + \hspace{0.1cm} \textbf{i} \hspace{0.1cm} \boldsymbol{1} \hspace{0.1cm} \boldsymbol{1}} \hspace{0.1cm} \boldsymbol{1} \hspace{0.1cm} 
                                                        \mathsf{m_{3}}\;\mathsf{C_{H^{2}}}\;\mathsf{g_{3}}^{2}\;\left(-\,\mathsf{s_{Y}}\;\mathsf{a_{u}}^{\,\mathsf{ili2}}\,+\,\widetilde{\mu}\;\mathsf{c_{Y}}\;\mathsf{y_{u}}^{\,\mathsf{ili2}}\right)\;\mathsf{LF_{2,2,1,-1}}\!\left[\,\mathsf{m_{3}}\,,\;\mathsf{m_{\tilde{q}}^{\,\mathsf{il}}}^{\,\mathsf{il}}\,,\;\mathsf{m_{\tilde{u}}^{\,\mathsf{il}}}^{\,\mathsf{il}}\,\right]\,+\,\widetilde{\mu}\;\mathsf{c_{Y}}\;\mathsf{y_{u}}^{\,\mathsf{ili2}}\right)\;\mathsf{LF_{2,2,1,-1}}\!\left[\,\mathsf{m_{3}}\,,\;\mathsf{m_{\tilde{q}}^{\,\mathsf{il}}}^{\,\mathsf{il}}\,,\;\mathsf{m_{\tilde{u}}^{\,\mathsf{il}}}^{\,\mathsf{il}}\,\right]\,+\,\widetilde{\mu}\;\mathsf{c_{Y}}\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf{il}}\,,\;\mathsf{v_{U}}^{\,\mathsf
                                                   m_3 C_{H^2} g_3^2 \left(-s_{\gamma} a_u^{i1i2} + \tilde{\mu} c_{\gamma} y_u^{i1i2}\right) LF_{2,2,1,-1}[m_3, m_{\tilde{u}}^{i2}, m_{\tilde{q}}^{i1}] +
\widetilde{\mu} \hspace{0.1cm} y_{d}^{\hspace{0.1cm} \text{ilr}} \hspace{0.1cm} y_{u}^{\hspace{0.1cm} \text{pi2}} \hspace{0.1cm} \left( -\hspace{0.1cm} c_{\gamma} \hspace{0.1cm} \overline{a_{d}}^{\hspace{0.1cm} \text{pr}} + \hspace{0.1cm} s_{\gamma} \hspace{0.1cm} \widetilde{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \right) \hspace{0.1cm} \text{LF}_{1,1,1,0} \hspace{0.1cm} \left[ \hspace{0.1cm} \boldsymbol{m_{\tilde{d}}}^{\hspace{0.1cm} \text{r}} \hspace{0.1cm} , \hspace{0.1cm} \boldsymbol{m_{\tilde{q}}}^{\hspace{0.1cm} \text{p}} \hspace{0.1cm} , \hspace{0.1cm} \widetilde{\mu} \hspace{0.1cm} \right] \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \widetilde{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} \right] \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \widetilde{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \widetilde{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \overline{y_{d}}^{\hspace{0.1cm} \text{pr}} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} \underline{\mu} \hspace{0.1cm} + \hspace{0.1cm} \boldsymbol{s}_{\gamma} \hspace{0.1cm} \underline{\mu} \hspace{
          \frac{1}{2}\;\mathsf{C}_{\mathsf{H}^2}\,\widetilde{\mu}\;\mathsf{y_d}^{\texttt{ilr}}\;\mathsf{y_u}^{\texttt{pi2}}\;\left(-\,\mathsf{c}_{\curlyvee}\,\overline{\mathsf{a_d}}^{\texttt{pr}}\,+\,\mathsf{s}_{\curlyvee}\,\widetilde{\mu}\;\overline{\mathsf{y_d}}^{\texttt{pr}}\right)\;\mathsf{LF}_{\texttt{2,1,1,0}}\!\left[\,\mathsf{m_{\tilde{d}}}^{\texttt{r}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\texttt{p}}\,,\,\,\widetilde{\mu}\,\right]\,+\,\mathsf{constant}
               \frac{1}{4} \; \mathsf{C_{H^2}} \, \widetilde{\mu} \; \mathsf{y_d}^{\mathsf{ilr}} \; \mathsf{y_u}^{\mathsf{pi2}} \; \left( \mathsf{c_{\gamma}} \, \overline{\mathsf{a_d}}^{\mathsf{pr}} - \mathsf{s_{\gamma}} \, \widetilde{\mu} \, \overline{\mathsf{y_d}}^{\mathsf{pr}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_{\tilde{d}}}^{\mathsf{r}} \, \mathsf{,} \; \widetilde{\mu} \, \mathsf{,} \; \mathsf{m_{\tilde{q}}}^{\mathsf{p}} \, \big] \; + \; \mathsf{m_{\tilde{d}}}^{\mathsf{pr}} \; \mathsf{m_{\tilde{d}}}^{\mathsf{pr}} \, \mathsf{m_{
                                                        \mathsf{C_{H^2}}\,\widetilde{\mu}\,\,\mathsf{y_d}^{\,\texttt{iir}}\,\,\mathsf{y_u}^{\,\texttt{pi2}}\,\left(-\,\mathsf{c_{\scriptscriptstyle Y}}\,\,\overline{\mathsf{a_d}}^{\,\texttt{pr}}\,+\,\mathsf{s_{\scriptscriptstyle Y}}\,\widetilde{\mu}\,\,\overline{\mathsf{y_d}}^{\,\texttt{pr}}\right)\,\,\mathsf{LF_{2,1,1,0}}\left[\,\mathsf{m_{\tilde{q}}}^{\,\texttt{p}}\,,\,\,\mathsf{m_{\tilde{d}}}^{\,\texttt{r}}\,,\,\,\widetilde{\mu}\,\right]\,+\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,\,\mathsf{a_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}\,,\,\,\mathsf{m_{\tilde{q}}}^{\,\texttt{pr}}
                                                        \mathsf{C_{H^2}}\; \widetilde{\boldsymbol{\mu}}\; \mathsf{y_d}^{\texttt{ilr}}\; \mathsf{y_u}^{\texttt{pi2}}\; \left(\mathsf{c_{\boldsymbol{\gamma}}}\; \overline{\mathsf{a_d}}^{\texttt{pr}} - \mathsf{s_{\boldsymbol{\gamma}}}\; \widetilde{\boldsymbol{\mu}}\; \overline{\mathsf{y_d}}^{\texttt{pr}}\right) \; \mathsf{LF_{3,1,1,-1}} \left[\mathsf{m_{\tilde{q}}}^{\texttt{p}},\; \mathsf{m_{\tilde{d}}}^{\texttt{r}},\; \widetilde{\boldsymbol{\mu}}\right] \; + \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \right] \; + \; \mathsf{m_{\tilde{d}}}^{\texttt{pr}} \; 
                                                             \mathsf{C}_{\mathsf{H}^2}\,\widetilde{\mu}\,\,\mathsf{y_d}^{\text{ilr}}\,\,\mathsf{y_u}^{\text{pi2}}\,\left(\mathsf{c}_{\curlyvee}\,\overline{\mathsf{a_d}}^{\text{pr}}\,-\,\mathsf{s}_{\curlyvee}\,\widetilde{\mu}\,\,\overline{\mathsf{y_d}}^{\text{pr}}\right)\,\,\mathsf{LF}_{2,2,1,-1}\big[\,\mathsf{m_{\tilde{q}}}^{\,\,p}\,,\,\,\widetilde{\mu}\,,\,\,\mathsf{m_{\tilde{d}}}^{\,\,r}\,\big]\,\,+\,\,\mathsf{m_{\tilde{q}}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}_{\tilde{q}}^{\,p}\,,\,\,\,\mathsf{pr}
                                                             \text{m}_{1} \; \text{C}_{\text{H}^{2}} \; \text{g}_{1}^{\; \; 2} \; \left( \, \text{s}_{\gamma} \; \text{a}_{u}^{\; \; \text{i1i}2} \, - \, \widetilde{\mu} \; \text{c}_{\gamma} \; \text{y}_{u}^{\; \; \text{i1i}2} \right) \; \text{LF}_{2,\text{1,1,0}} \big[ \, \text{m}_{\bar{q}}^{\; \; \text{i1}} \, \text{, m}_{\text{1}} \, , \; \text{m}_{\bar{u}}^{\; \; \text{i2}} \, \big] \; + \\
                                                        \mathbf{m_{1}}\;C_{H^{2}}\;g_{1}^{\;2}\;\left(-\,s_{\gamma}\;a_{u}^{\;i\,1\,\dot{1}\,2}\,+\,\widetilde{\mu}\;c_{\gamma}\;y_{u}^{\;i\,1\,\dot{1}\,2}\right)\;\mathsf{LF}_{3,1,1,-1}\!\left[\,\mathsf{m_{\tilde{q}}}^{\;i\,1}\,,\;\mathsf{m_{1}},\;\mathsf{m_{\tilde{u}}}^{\;i\,2}\,\right]\,+\,\widetilde{\mu}^{\;2}\left(-\,s_{\gamma}^{\;2}\;a_{u}^{\;i\,1\,\dot{1}\,2}\,+\,\widetilde{\mu}^{\;2}\;c_{\gamma}^{\;2}\;y_{u}^{\;i\,1\,\dot{1}\,2}\right)
                                                             \text{m}_{3} \; \text{C}_{\text{H}^{2}} \; \text{g}_{\text{3}}^{\; \; 2} \; \left( \, \text{s}_{\text{Y}} \; a_{\text{u}}^{\; \text{i1i}2} \, - \, \widetilde{\mu} \; \text{c}_{\text{Y}} \; \text{y}_{\text{u}}^{\; \text{i1i}2} \right) \; \text{LF}_{\text{2,1,1,0}} \big[ \, \text{m}_{\tilde{\text{q}}}^{\; \text{i1}} \, , \; \text{m}_{\text{3}} \, , \; \text{m}_{\tilde{\text{u}}}^{\; \text{i2}} \, \big] \; + \; \text{c}_{\text{Y}} \; \text{m}_{\text{2}} \; , \; \text{c}_{\text{3}} \; , \; \text{c}_{\text{3}
                                                             \mathsf{m_{3}}\;\mathsf{C_{H^{2}}}\;\mathsf{g_{3}}^{2}\;\left(-\,\mathsf{s_{\gamma}}\;\mathsf{a_{u}}^{\,\mathsf{ili2}}\,+\,\widetilde{\mu}\;\mathsf{c_{\gamma}}\;\mathsf{y_{u}}^{\,\mathsf{ili2}}\right)\;\mathsf{LF_{3,1,1,-1}}\!\left[\,\mathsf{m_{\tilde{q}}}^{\,\mathsf{il}}\,,\;\mathsf{m_{3}}\,,\;\mathsf{m_{\tilde{u}}}^{\,\mathsf{il}}\,^{2}\,\right]\,+\,
                                                             \textbf{m}_{1} \; \textbf{C}_{\textbf{H}^{2}} \; \textbf{g}_{1}^{\; \; 2} \; \left( \, \textbf{s}_{\gamma} \; a_{u}^{\; \; \textbf{i} \, \textbf{i} \, \textbf{i} \, 2} \, - \, \widetilde{\mu} \; \textbf{c}_{\gamma} \; \textbf{y}_{u}^{\; \; \textbf{i} \, \textbf{i} \, \textbf{i} \, 2} \, \right) \; \textbf{LF}_{\textbf{2},\textbf{1},\textbf{1},\textbf{0}} \left[ \, \textbf{m}_{\tilde{u}}^{\; \; \textbf{i} \, \textbf{2}} \, , \; \textbf{m}_{\textbf{1}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{1}} \, \right] \; + \, \left[ \, \textbf{m}_{\tilde{u}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, \right] \; + \, \left[ \, \textbf{m}_{\tilde{u}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, \right] \; + \, \left[ \, \textbf{m}_{\tilde{u}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i} \, \textbf{3}} \, \right] \; + \, \left[ \, \textbf{m}_{\tilde{u}}^{\; \; \textbf{i} \, \textbf{3}} \, , \; \textbf{m}_{\tilde{q}}^{\; \; \textbf{i}
                                                                  \mathsf{m_1} \; \mathsf{C_{H^2}} \; \mathsf{g_1}^2 \; \left( - \, \mathsf{s_{\scriptscriptstyle Y}} \; \mathsf{a_u}^{\text{ili2}} + \widetilde{\mu} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{y_u}^{\text{ili2}} \right) \; \mathsf{LF_{3,1,1,-1}} \big[ \, \mathsf{m_{\tilde{u}}}^{\text{i2}}, \; \mathsf{m_1}, \; \mathsf{m_{\tilde{q}}}^{\text{il}} \big] \; + \\
                                                                  \textbf{m}_{3} \; \textbf{C}_{\textbf{H}^{2}} \; \textbf{g}_{\textbf{3}}^{\; \; 2} \; \left( \, \textbf{s}_{\text{Y}} \; \textbf{a}_{\textbf{u}}^{\; \; \textbf{i} \textbf{1} \textbf{i} \textbf{2}} \, - \, \widetilde{\boldsymbol{\mu}} \; \textbf{c}_{\text{Y}} \; \textbf{y}_{\textbf{u}}^{\; \; \textbf{i} \textbf{1} \textbf{i} \textbf{2}} \right) \; \textbf{LF}_{\textbf{2},\textbf{1},\textbf{1},\textbf{0}} \left[ \, \textbf{m}_{\tilde{\textbf{u}}}^{\; \; \tilde{\textbf{i}} \, \textbf{2}} \, , \; \textbf{m}_{\textbf{3}} \, , \; \textbf{m}_{\tilde{\textbf{q}}}^{\; \; \tilde{\textbf{i}} \, \textbf{1}} \right] \; + \, \left[ \, \textbf{m}_{\tilde{\textbf{u}}}^{\; \; \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, \textbf{2}} \, , \; \textbf{m}_{\tilde{\textbf{3}}} \, , \; \textbf{m}_{\tilde{\textbf{q}}}^{\; \; \tilde{\textbf{i}} \, \textbf{1}} \right] \; + \, \left[ \, \textbf{m}_{\tilde{\textbf{u}}}^{\; \; \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, \textbf{2}} \, , \; \textbf{m}_{\tilde{\textbf{3}}} \, , \; \textbf{m}_{\tilde{\textbf{q}}}^{\; \; \tilde{\textbf{i}} \, \textbf{1}} \right] \; + \, \left[ \, \textbf{m}_{\tilde{\textbf{i}}}^{\; \; \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, , \; \textbf{m}_{\tilde{\textbf{i}}} \, \tilde{\textbf{i}} \, \tilde{\textbf{i}} \, , \; \textbf{m}_{\tilde{\textbf{i}}} \, \tilde{\textbf{i}} \, , \; \textbf{m}_{\tilde{\textbf{i}}} \, , \; \textbf{m}_{\tilde{\textbf{i}}} \, \tilde{\textbf{i}} \, , \; \textbf{m}_{\tilde{\textbf{i}}} \, , \; \textbf{m}_
```

 $\mathsf{m_3} \; \mathsf{C_{H^2}} \; \mathsf{g_3}^2 \; \left(- \, \mathsf{s_{\scriptscriptstyle Y}} \; \mathsf{a_u}^{\, \mathsf{i} \, \mathsf{1} \, \mathsf{i} \, \mathsf{2}} \, + \, \widetilde{\boldsymbol{\mu}} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{y_u}^{\, \mathsf{i} \, \mathsf{1} \, \mathsf{i} \, \mathsf{2}} \right) \; \mathsf{LF_{3,1,1,-1}} \left[\, \mathsf{m_{\tilde{u}}}^{\, \mathsf{i} \, \mathsf{2}} \, , \; \mathsf{m_3} \, , \; \mathsf{m_{\tilde{q}}}^{\, \mathsf{i} \, \mathsf{1}} \, \right] \, \right)$

 $s_{\gamma} \; y_{u}^{\; \text{ili2}} \; + \; \hbar \; \left(\frac{1}{144} \; s_{\gamma} \; \frac{1}{m_{\text{D}}^{2}} \; \left(\text{18} \; y_{u}^{\; \text{pi2}} \; \left(\overline{y_{d}}^{\; \text{pr}} \; y_{d}^{\; \text{ilr}} \; \left(-2 \; C_{H^{2}} \; c_{\gamma}^{\; 2} \; + \; m_{\bar{\text{D}}}^{\; 2} \; \left(1 + \; s_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{pr}} \; y_{u}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}}^{\; 2} \; \overline{y_{u}}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; \text{ilr}} \; \left(1 + \; c_{\gamma}^{\; 2} \right) \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; 2} \; \overline{y_{u}}^{\; 2} \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; 2} \; + \; 3 \; m_{\bar{\text{D}}^{\; 2}} \; \overline{y_{u}}^{\; 2} \; + \;$

 $Y_u^{i1}_{-i2} \rightarrow$