```
\frac{1}{2}\,\sum_{p}\,s_{2\,\gamma}\,\,s_{\gamma}\,\,g_{1}^{\,2}\,\,\frac{1}{m_{\text{\tiny D}}^{\,4}}\,\,y_{e}^{\,\text{ili2}}\,\,\left(m_{H}^{2}\,+\,m_{\bar{\text{\tiny D}}}^{\,2}\right)\,\,LF_{1,0}\left[\,m_{\bar{\text{\tiny d}}}^{\,\,p}\,\right]\,+\,\frac{3}{2}\,\,s_{2\,\gamma}\,\,s_{\gamma}\,\,\frac{1}{m_{\text{\tiny D}}^{\,4}}\,\,\overline{y_{d}}^{pr}\,\,y_{d}^{\,pr}\,\,y_{e}^{\,\,\text{ili2}}
                                                         \left(m_{H}^{2} + m_{\varpi}^{2}\right) \text{ LF}_{\text{1,0}}\left[m_{\tilde{d}}^{-r}\right] - \frac{1}{2} \sum_{p} s_{2}_{\text{Y}} s_{\gamma} g_{1}^{2} \frac{1}{m_{e}^{4}} y_{e}^{\text{ili2}} \left(m_{H}^{2} + m_{\varpi}^{2}\right) \text{ LF}_{\text{1,0}}\left[m_{e}^{-p}\right] + \frac{1}{2} \left(m_{H}^{2} + m_{\varpi}^{2}\right) \left(m_{H}^{2} + m_{\varpi}^{2}\right) \text{ LF}_{\text{1,0}}\left[m_{e}^{-p}\right] + \frac{1}{2} \left(m_{H}^{2} + m_{\varpi}^{2}\right) \left(m_{H}^
          \frac{1}{2} \; {\rm S_{2 \, Y}} \; {\rm S_{Y}} \; \frac{1}{{m_{\rm g}}^4} \; \overline{{\rm y_e}}^{\rm pr} \; {\rm y_e}^{\rm pr} \; {\rm y_e}^{\rm ili2} \; \left( {\rm m_H^2 + m_{\rm g}}^2 \right) \; {\rm LF_{1,0}} \left[ {\rm m_{\tilde{e}}}^{\rm r} \right] \; + \\
                                                    s_{2\,\gamma}\,s_{\gamma}\,\frac{_{1}}{_{m_{_{0}}}^{\,4}}\,y_{e}^{\,i\,1\,i\,2}\,\left(m_{H}^{2}+m_{_{\overline{0}}}^{\,2}\right)\,\left(\overline{y_{e}}^{pr}\,y_{e}^{\,pr}\,+\sum_{p}g_{_{1}}^{\,2}\right)\,LF_{1,0}\left[\,m_{_{\overline{0}}}^{\,\,p}\,\right]\,-\,\frac{_{1}}{_{1}}\left[\,m_{_{1}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{1}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}}^{\,p}\,g_{_{2}
          \frac{1}{2} \; {s_2}_{\gamma} \; {s_{\gamma}} \; \frac{1}{{m_{_{0}}}^4} \; {y_e}^{\text{ili2}} \; \left( m_H^2 + m_{_{\overline{0}}}^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_{1,0} \left\lceil m_{_{\overline{0}}}^{\sim p} \right\rceil \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_u}^{\text{pr}} \; y_d^{\text{pr}} + \sum_p g_1{}^2 \right) \; LF_{1,0} \left\lceil m_{_{\overline{0}}}^{\sim p} \right\rceil \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} + 3 \; \overline{y_d}^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{\text{pr}} \right) \; + \left( -3 \; \overline{y_d}^{\text{pr}} \; y_d^{
\sum\nolimits_{p}\,{{s_{2}}_{\,\gamma}}\,\,{{s_{\gamma}}}\,\,{{g_{1}}^{2}}\,\,\frac{{_{1}}^{}}{{{m_{e}}^{4}}}\,\,{{y_{e}}^{i\,1i\,2}}\,\,\left( {{m_{H}^{2}}+{m_{\bar{\Phi}}}^{2}} \right)\,\,L{F_{1,0}}\left[ {{m_{\bar{u}}}^{p}} \right]\,-
               \frac{3}{2} \; \mathsf{S}_{2\, \text{Y}} \; \mathsf{S}_{\text{Y}} \; \frac{1}{\mathsf{m}_{\text{D}}^{\; 4}} \; y_{e}^{\; \text{ili2}} \; \overline{y_{u}}^{\text{pr}} \; y_{u}^{\; \text{pr}} \; \left(\mathsf{m}_{\text{H}}^{2} + \mathsf{m}_{\text{D}}^{\; 2}\right) \; \mathsf{LF}_{1,0} \left[\mathsf{m}_{\tilde{u}}^{\; \text{r}}\right] \; - \; \mathsf{m}_{\tilde{u}}^{\; \text{r}} \; \mathsf{m}_{\tilde{u}}^{\; \text{r
               \frac{3}{8} \; \mathsf{S_{4}}_{\,\,\gamma} \; \mathsf{S_{\gamma}} \; \frac{1}{\mathsf{m_{_{0}}}^{4}} \; \mathsf{y_{e}}^{\text{ili2}} \; \left( \mathsf{g_{1}}^{2} + \mathsf{g_{2}}^{2} \right) \; \left( \mathsf{m_{H}}^{2} + \mathsf{m_{_{\mathbb{D}}}}^{2} \right) \; \mathsf{LF_{1,0}} \left[ \mathsf{m_{_{\mathbb{D}}}} \right] \; - \; \frac{3}{4} \; \mathsf{c_{\gamma}} \; \mathsf{s_{\gamma}}^{2} \; \overline{\mathsf{y_{e}}}^{\text{pr}} \; \mathsf{y_{e}}^{\text{ilr}} \; \mathsf{LF_{1,1}} \left[ \mathsf{m_{_{\mathbb{D}}}} \right] \; - \; \mathsf{m_{_{\mathbb{D}}}}^{2} \; \mathsf{h_{_{\mathbb{D}}}} \; \mathsf{h_{_{\mathbb{D}}}}^{2} \; \mathsf{h_{_{\mathbb{D}}}^{2}} \; \mathsf{h_{_{\mathbb{
     c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \text{ili2}} \; \mathsf{LF}_{1,1,0} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; + \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \, \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; 2} \; y_{e}^{\; \, \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; \dot{1}2} \; y_{e}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; \dot{1}2} \; y_{e}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; \dot{1}2} \; y_{e}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,-1} \left[ \, \mathsf{m}_{1} \, , \; \mathsf{m}_{\check{e}}^{\; \dot{1}2} \, \right] \; - \; \frac{1}{2} \; c_{\gamma} \; g_{1}^{\; \dot{1}2} \; y_{e}^{\; \dot{1}2} \; 
          \frac{1}{4}\;c_{\gamma}\;g_{1}^{\;2}\;y_{e}^{\;i1i2}\;LF_{1,1,0}\!\left[\,m_{1}\,,\,m_{\tilde{l}}^{\;i1}\,\right]\,+\,\frac{1}{8}\;c_{\gamma}\;g_{1}^{\;2}\;y_{e}^{\;i1i2}\;LF_{2,1,-1}\!\left[\,m_{1}\,,\,m_{\tilde{l}}^{\;i1}\,\right]\,+\,\frac{1}{8}\;c_{\gamma}\;g_{1}^{\;2}\;y_{e}^{\;i1i2}\;LF_{2,1,-1}\!\left[\,m_{1}\,,\,m_{\tilde{l}}^{\;i1}\,\right]\,+\,\frac{1}{8}\;c_{\gamma}\;g_{1}^{\;2}\;y_{e}^{\;i1i2}\;LF_{2,1,-1}\!\left[\,m_{1}\,,\,m_{\tilde{l}}^{\;i1}\,\right]\,+\,\frac{1}{8}\;c_{\gamma}\;g_{1}^{\;2}\;y_{e}^{\;3}
\mathsf{m_1} \; \mathsf{S_{\gamma}} \; \widetilde{\mu} \; \mathsf{g_1}^2 \; \tfrac{1}{\mathsf{m_0}^4} \; \mathsf{y_e}^{\text{ili2}} \; \left(\mathsf{m_H}^2 + \mathsf{m_{\bar{\Phi}}}^2\right) \; \left(\mathsf{c_{\gamma}}^2 - \mathsf{S_{\gamma}}^2\right) \; \mathsf{LF_{1,1,0}} \left[\mathsf{m_1} \, , \; \widetilde{\mu} \, \right] \; - \; \tfrac{3}{4} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^2 \; \mathsf{y_e}^{\text{ili2}} \; \mathsf{LF_{1,1,0}} \left[\mathsf{m_2} \, , \; \mathsf{m_{\tilde{l}}}^{\text{il}}\right] \; + \; \mathsf{m_{\tilde{l}}}^{\text{il}} \; + \; \mathsf{m_{\tilde{l}}}^2 \; \mathsf{l_{\tilde{l}}} \; \mathsf{l_{\tilde
          \frac{3}{8} \; c_{\gamma} \; g_{2}^{2} \; y_{e}^{\text{ili2}} \; \mathsf{LF}_{2,1,-1} \big[ \, \mathsf{m}_{2} \, , \; \mathsf{m}_{\bar{l}}^{\; \text{il}} \, \big] \; + \; 3 \; \mathsf{m}_{2} \; \mathsf{s}_{\gamma} \; \widetilde{\mu} \; g_{2}^{2} \; \frac{1}{\mathsf{m}_{0}^{\, 4}} \; y_{e}^{\; \text{ili2}} \; \left( \, \mathsf{m}_{H}^{2} + \, \mathsf{m}_{\bar{d}}^{\, 2} \, \right) \; \left( \, c_{\gamma}^{\; 2} - \, s_{\gamma}^{\; 2} \, \right) \; \mathsf{LF}_{1,1,0} \left[ \, \mathsf{m}_{2} \, , \; \widetilde{\mu} \, \right] \; + \; \mathsf{M}_{2} \; \mathsf{m}_{3} \; \mathsf{m}_{2} \; \mathsf{m}_{3} 
     3\; s_{\gamma}\; \frac{_{1}}{_{m_{o}}^{_{4}}}\; y_{e}^{\;\text{ili2}}\; \left(m_{H}^{2}+m_{_{\bar{0}}}^{^{2}}\right)\; \left(s_{\gamma}\; \overline{a_{d}}^{pr}+\widetilde{\mu}\; c_{\gamma}\; \overline{y_{d}}^{pr}\right)\; \left(c_{\gamma}\; a_{d}^{\;pr}-s_{\gamma}\; \widetilde{\mu}\; y_{d}^{\;pr}\right)\; LF_{1,1,0}\left[m_{_{\bar{d}}}^{\;r},\; m_{_{\bar{q}}}^{\;p}\right]\; +\left(m_{_{\bar{d}}}^{\;p}+m_{_{\bar{0}}}^{\;p}\right)\; \left(s_{\gamma}\; \overline{a_{d}}^{\;pr}+\widetilde{\mu}\; c_{\gamma}\; \overline{y_{d}}^{\;pr}\right)\; \left(s_{\gamma}\; a_{d}^{\;pr}-s_{\gamma}\; \widetilde{\mu}\; y_{d}^{\;pr}\right)\; LF_{1,1,0}\left[m_{_{\bar{d}}}^{\;r},\; m_{_{\bar{q}}}^{\;p}\right]\; +\left(m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}\right)\; \left(s_{\gamma}\; a_{d}^{\;pr}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+m_{_{\bar{d}}}^{\;p}+
     s_{\gamma} \; \frac{1}{m_{_{0}}{}^{4}} \; y_{e}{}^{\text{ili2}} \; \left(m_{H}^{2} + m_{_{\mathbb{D}}}{}^{2}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; c_{\gamma} \; \overline{y_{e}}{}^{\text{pr}}\right) \; \left(c_{\gamma} \; a_{e}{}^{\text{pr}} - s_{\gamma} \; \widetilde{\mu} \; y_{e}{}^{\text{pr}}\right) \; \text{LF}_{\text{1,1,0}} \left[m_{\tilde{e}}{}^{\text{r}} \, , \; m_{\tilde{l}}{}^{\text{p}}\right] \; - \left(m_{\tilde{e}}{}^{\text{pr}} \, , \; m_{\tilde{l}}{}^{\text{p}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; c_{\gamma} \; \overline{y_{e}}{}^{\text{pr}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; c_{\gamma} \; \overline{y_{e}}{}^{\text{pr}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; c_{\gamma} \; \overline{y_{e}}{}^{\text{pr}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; c_{\gamma} \; \overline{y_{e}}{}^{\text{pr}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; \overline{a_{e}}{}^{\text{pr}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; \overline{a_{e}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}{}^{\text{pr}} + \widetilde{\mu} \; \overline{a_{e}}\right) \; \left(s_{\gamma} \; \overline{a_{e}}\right) \; \left(s_{\gamma
          \frac{1}{2}~c_{\gamma}\,\overline{y_{e}}^{\text{pr}}~y_{e}^{\text{pi2}}~y_{e}^{\text{ilr}}~\mathsf{LF}_{\text{1,1,0}}\left[\,\mathsf{m_{e}^{\,r}}\,,~\widetilde{\mu}\,\right]\,+\,\frac{1}{2}~\frac{1}{\mathsf{m_{e}^{\,2}}}~y_{e}^{\text{ili2}}
                                                         \left(\overline{a_{e}}^{pr} \left(m_{\bar{\scriptscriptstyle{\Phi}}}^2 \, c_{_{\,\boldsymbol{\gamma}}}^{\phantom{\gamma}2} - 2 \, m_{H}^2 \, s_{_{\,\boldsymbol{\gamma}}}^{\phantom{\gamma}2}\right) \, - \, s_{_{\,\boldsymbol{\gamma}}} \, \widetilde{\boldsymbol{\mu}} \, \, c_{_{\,\boldsymbol{\gamma}}} \, \overline{\boldsymbol{y}_{e}}^{pr} \, \left(2 \, m_{H}^2 + m_{\bar{\scriptscriptstyle{\Phi}}}^{\phantom{\alpha}2}\right) \right) \, \left(c_{_{\,\boldsymbol{\gamma}}} \, a_{e}^{\phantom{e}pr} - s_{_{\,\boldsymbol{\gamma}}} \, \widetilde{\boldsymbol{\mu}} \, \, \boldsymbol{y}_{e}^{\phantom{e}pr}\right) \, \, LF_{2,\text{1,0}} \left[m_{\bar{\scriptscriptstyle{\boldsymbol{\gamma}}}}{}^{\phantom{e}p} \, , \, m_{\bar{\scriptscriptstyle{\boldsymbol{e}}}}^{\phantom{e}r}\right] \, - \, m_{\bar{\scriptscriptstyle{\boldsymbol{\alpha}}}}^{\phantom{e}p} \, m_
          \frac{1}{2} \ \frac{1}{m_{\text{m}}^2} \ y_{\text{e}}^{\text{ili2}} \ \left( \overline{a_{\text{e}}}^{\text{pr}} \ \left( m_{\underline{\Phi}}^2 \ c_{\gamma}^{\ 2} - 2 \ m_{\text{H}}^2 \ s_{\gamma}^{\ 2} \right) \ - \ s_{\gamma} \ \widetilde{\mu} \ c_{\gamma} \ \overline{y_{\text{e}}}^{\text{pr}} \ \left( 2 \ m_{\text{H}}^2 + m_{\underline{\Phi}}^{\ 2} \right) \right) \ \left( c_{\gamma} \ a_{\text{e}}^{\text{pr}} - s_{\gamma} \ \widetilde{\mu} \ y_{\text{e}}^{\text{pr}} \right)
                                          \mathsf{LF_{3,1,-1}}\big[\mathsf{m}_{\tilde{l}}^{\mathsf{-p}},\,\mathsf{m}_{\tilde{e}}^{\mathsf{-r}}\big] \,-\, \mathsf{m}_{\mathsf{H}}^{2}\, \mathsf{c}_{\mathsf{Y}}\, \mathsf{y}_{e}^{\,\mathsf{ili2}}\, \left(\mathsf{c}_{\mathsf{Y}}\, \overline{\mathsf{a}_{e}}^{\mathsf{pr}} - \mathsf{s}_{\mathsf{Y}}\, \widetilde{\mu}\, \overline{\mathsf{y}_{e}}^{\mathsf{pr}}\right) \, \left(\mathsf{c}_{\mathsf{Y}}\, \mathsf{a}_{e}^{\,\mathsf{pr}} - \mathsf{s}_{\mathsf{Y}}\, \widetilde{\mu}\, \mathsf{y}_{e}^{\,\mathsf{pr}}\right) \, \mathsf{LF_{3,1,0}}\big[\mathsf{m}_{\tilde{l}}^{\,\mathsf{-p}},\, \mathsf{m}_{\tilde{e}}^{\,\mathsf{-r}}\big] \, + \, \mathsf{LF_{3,1,0}}\big[\mathsf{m}_{\tilde{l}}^{\,\mathsf{-p}},\, \mathsf{m}_{\tilde{e}}^{\,\mathsf{-r}}\big] + \, \mathsf{LF_{3,1,0}}\big[\mathsf{m}_{\tilde{l}}^{\,\mathsf{-p}},\, \mathsf{m}_{\tilde{e}}^{\,\mathsf{-p}}\big] + \, \mathsf{LF_{3,1,0}}\big[\mathsf{m}_{\tilde{l}}^{\,\mathsf{-p}},\, \mathsf{m}_{\tilde{l}}^{\,\mathsf{-p}}\big] + \, \mathsf{LF_{3,1,0}}\big[\mathsf{
     3\; \text{m}_{\text{H}}^2\; \text{c}_{\text{Y}}\; \text{y}_{\text{e}}^{\text{ili2}}\; \left(\text{c}_{\text{Y}}\; \overline{\text{a}_{\text{e}}}^{\text{pr}} - \text{s}_{\text{Y}}\; \widetilde{\mu}\; \overline{\text{y}_{\text{e}}}^{\text{pr}}\right) \; \left(\text{c}_{\text{Y}}\; \text{a}_{\text{e}}^{\text{pr}} - \text{s}_{\text{Y}}\; \widetilde{\mu}\; \text{y}_{\text{e}}^{\text{pr}}\right) \; \text{LF}_{4,1,-1}\big[\text{m}_{\widetilde{\text{l}}}^{\text{p}},\; \text{m}_{\widetilde{\text{e}}}^{\text{r}}\big] \; - \; \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}_{\widetilde{\text{e}}}^{\text{pr}} + \text{m}_{\widetilde{\text{e}}}^{\text{pr}} = \text{m}
     2\; m_H^2\; c_\gamma\; y_e^{\;\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_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;r}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; LF_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;r}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; LF_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;r}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; LF_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; LF_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; LF_{5,1,-2}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr} - s_\gamma\; \widetilde{\mu}\; y_e^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr} - \; c_\gamma\; a_e^{\;pr}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{e}}^{\;pr}\big] \; - \; c_\gamma\; a_e^{\;pr}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{l}}^{\;p}\big] \; - \; c_\gamma\; a_e^{\;pr}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{l}}^{\;p}\big] \; - \; c_\gamma\; a_e^{\;p}\big[m_{\tilde{l}}^{\;p}\text{, } m_{\tilde{l}}^{\;p}\big] \; - \; c_\gamma\; a_e^{\;p}\big[m_{\tilde{l}}^{\;p}\big] \; - \; c_\gamma\; a
     c_{\gamma}\,\overline{y_e}^{\text{pr}}\,y_e^{\,\text{pi2}}\,y_e^{\,\text{ilr}}\,LF_{1,1,0}\!\left[\,m_{\tilde{l}}^{\,\,}^{\,\,},\,\tilde{\mu}\,\right]\,+\,\frac{3}{2}\,\,\frac{1}{m_{\text{p}}^{\,\,2}}\,\,y_e^{\,\text{ili2}}
                                                         \left(\overline{a_d}^{\text{pr}}\left(m_{\bar{\text{\tiny $\Phi$}}}^2 \, c_{\gamma}^{\ 2} - 2 \, m_{\text{\tiny $H$}}^2 \, s_{\gamma}^{\ 2}\right) \, - \, s_{\gamma} \, \widetilde{\mu} \, c_{\gamma} \, \overline{y_d}^{\text{pr}} \, \left(2 \, m_{\text{\tiny $H$}}^2 + m_{\bar{\text{\tiny $\Phi$}}}^2\right)\right) \, \left(c_{\gamma} \, a_d^{\, \text{pr}} - s_{\gamma} \, \widetilde{\mu} \, y_d^{\, \text{pr}}\right) \, \text{LF}_{2,1,0} \left[m_{\bar{\text{\tiny $q$}}}^{\, \text{p}} \, , \, m_{\bar{\text{\tiny $d$}}}^{\, \text{r}}\right] \, - \, \left(m_{\bar{\text{\tiny $A$}}}^2 + m_{\bar{\text{\tiny $A$}}}^2\right) \, \left(m_{\bar{\text{\tiny $A$}}}^2 + m_{\bar{\text{\tiny $A$}}}^2}\right) \, \left(m_{\bar{\text{\tiny $A$}}}^2 + m_{\bar{\text{\tiny $A$}}}^2\right) \, \left(m_{\bar{\text
          \frac{\text{3}}{\text{2}} \ \frac{\text{1}}{\text{m}_{\text{0}}^{2}} \ y_{\text{e}}^{\text{iii2}} \ \left( \overline{a_{\text{d}}}^{\text{pr}} \ \left( m_{\underline{\text{0}}}^{2} \ c_{\gamma}^{2} - 2 \ m_{\text{H}}^{2} \ s_{\gamma}^{2} \right) - s_{\gamma} \ \widetilde{\mu} \ c_{\gamma} \ \overline{y_{\text{d}}}^{\text{pr}} \ \left( 2 \ m_{\text{H}}^{2} + m_{\underline{\text{0}}}^{2} \right) \right) \ \left( c_{\gamma} \ a_{\text{d}}^{\text{pr}} - s_{\gamma} \ \widetilde{\mu} \ y_{\text{d}}^{\text{pr}} \right)
                                          \mathsf{LF_{3,1,-1}}\big[\mathsf{m}_{\bar{\mathsf{q}}}^{\mathsf{p}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{r}}\big] - 3\,\mathsf{m}_{\mathsf{H}}^{2}\,c_{\mathsf{Y}}\,y_{e}^{\mathsf{ili2}}\,\left(c_{\mathsf{Y}}\,\overline{a_{\mathsf{d}}}^{\mathsf{pr}} - s_{\mathsf{Y}}\,\widetilde{\mu}\,\overline{y_{\mathsf{d}}}^{\mathsf{pr}}\right)\,\left(c_{\mathsf{Y}}\,a_{\mathsf{d}}^{\mathsf{pr}} - s_{\mathsf{Y}}\,\widetilde{\mu}\,y_{\mathsf{d}}^{\mathsf{pr}}\right)\,\mathsf{LF_{3,1,0}}\big[\mathsf{m}_{\bar{\mathsf{q}}}^{\mathsf{p}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{r}}\big] + 2\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}}\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{m}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{M}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{M}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{M}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(s_{\mathsf{Y}},\,\mathsf{M}_{\bar{\mathsf{d}}}^{\mathsf{pr}})\,(
     9\; m_H^2\; c_{\scriptscriptstyle Y}\; y_e^{\;\text{ili2}}\; \left(c_{\scriptscriptstyle Y}\; \overline{a_d}^{pr}\; -\; s_{\scriptscriptstyle Y}\; \widetilde{\mu}\; \overline{y_d}^{pr}\right) \; \left(c_{\scriptscriptstyle Y}\; a_d^{\;pr}\; -\; s_{\scriptscriptstyle Y}\; \widetilde{\mu}\; y_d^{\;pr}\right) \; LF_{4,1,-1}\big[\, m_{\tilde{q}}^{\;\;p}\;,\; m_{\tilde{d}}^{\;\;r}\,\big] \; -\; m_{\tilde{d}}^{\;\;p} \; -\; m_{\tilde{d}}^{\;\;p} \; +\; m_{\tilde{d}}^{\;\;p} \; -\; m_{\tilde{d}}^{\;\;p} \; +\; m
     6\;{\text{m}_{\text{H}}^2}\;{c_{\text{Y}}}\;{y_{\text{e}}}^{\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({c_{\text{Y}}}\;{a_{\text{d}}}^{\text{pr}}-{s_{\text{Y}}}\;\widetilde{\mu}\;{y_{\text{d}}}^{\text{pr}}\right)\;\text{LF}_{5,1,-2}\left[{\text{m}_{\tilde{\textbf{q}}}}^{\text{p}},\;{\text{m}_{\tilde{\textbf{d}}}}^{\text{r}}\right]-{\text{m}_{\tilde{\textbf{q}}}}^{\text{pr}}\right)\;
     3 \; s_{\gamma} \; \frac{1}{m_{_{\boldsymbol{\theta}}}^{4}} \; y_{e}^{\; \textbf{ili2}} \; \left( m_{H}^{2} + m_{_{\boldsymbol{\theta}}}^{\; 2} \right) \; \left( s_{\gamma} \; \overline{a_{u}}^{pr} - \widetilde{\mu} \; c_{\gamma} \; \overline{y_{u}}^{pr} \right) \; \left( c_{\gamma} \; a_{u}^{\; pr} + s_{\gamma} \; \widetilde{\mu} \; y_{u}^{\; pr} \right) \; \mathsf{LF}_{\textbf{1},\textbf{1},\textbf{0}} \left[ m_{\tilde{q}}^{\; p} \, , \; m_{\tilde{u}}^{\; r} \right] \; + \; \mathbf{1} \; \mathbf{
          \frac{3}{2} \ \frac{1}{m_{\text{\tiny D}}^2} \ y_{\text{\tiny e}}^{\text{\tiny ili2}} \ \left( s_{\text{\tiny Y}} \ \overline{a_{\text{\tiny u}}}^{\text{\tiny pr}} - \widetilde{\mu} \ c_{\text{\tiny Y}} \ \overline{y_{\text{\tiny u}}}^{\text{\tiny pr}} \right) \ \left( s_{\text{\tiny Y}} \ c_{\text{\tiny Y}} \ a_{\text{\tiny u}}^{\text{\tiny pr}} \ \left( 2 \ m_{\text{\tiny H}}^2 + m_{\text{\tiny D}}^2 \right) + \widetilde{\mu} \ y_{\text{\tiny u}}^{\text{\tiny pr}} \ \left( - m_{\text{\tiny D}}^2 \ c_{\text{\tiny Y}}^2 + 2 \ m_{\text{\tiny H}}^2 \ s_{\text{\tiny Y}}^2 \right) \right)
                                          \text{LF}_{2,1,0}\left[\text{m}_{\bar{u}}^{\text{r}}\text{, }\text{m}_{\bar{q}}^{\text{p}}\right] - \tfrac{3}{2}\ \tfrac{1}{\text{m}_{\text{o}}^2}\ \text{ye}^{\text{ili2}}\ \left(\text{s}_{\text{y}}\ \overline{\text{a}_{u}}^{\text{pr}} - \widetilde{\mu}\ \text{c}_{\text{y}}\ \overline{\text{y}_{u}}^{\text{pr}}\right)
                                                    \left(\,\mathsf{s}_{\gamma}\;\mathsf{c}_{\gamma}\;\mathsf{a_{\mathsf{u}}}^{\mathsf{pr}}\;\left(\,\mathsf{2}\;\mathsf{m}_{\mathsf{H}}^{2}\,+\,\mathsf{m}_{\bar{\Phi}}^{\,2}\,\right)\,+\,\widetilde{\mu}\;\mathsf{y_{\mathsf{u}}}^{\mathsf{pr}}\;\left(\,-\,\mathsf{m}_{\bar{\Phi}}^{\,2}\;\mathsf{c}_{\gamma}^{\,2}\,+\,\mathsf{2}\;\mathsf{m}_{\mathsf{H}}^{2}\;\mathsf{s}_{\gamma}^{\,2}\,\right)\,\right)\;\mathsf{LF_{3,1,-1}}\!\left[\,\mathsf{m}_{\tilde{\mathsf{u}}}^{\,\,\mathsf{r}}\,,\,\,\mathsf{m}_{\tilde{\mathsf{q}}}^{\,\,\mathsf{p}}\,\right]\,-\,\mathsf{m}_{\bar{\mathsf{u}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\right]\,+\,\mathsf{m}_{\bar{\mathsf{u}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr}}\,\mathsf{m}_{\bar{\mathsf{q}}}^{\,\,\mathsf{pr
     3\; m_H^2\; c_{_{Y}}\; y_e^{\;\text{ili2}}\; \left(-\; s_{_{Y}}\; \overline{a_u}^{\text{pr}}\; +\; \widetilde{\mu}\; c_{_{Y}}\; \overline{y_u}^{\text{pr}}\right) \; \left(-\; s_{_{Y}}\; a_u^{\;\text{pr}}\; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\text{pr}}\right) \; LF_{3,1,0}\left[\left.m_{\widetilde{u}}^{\;\;\text{r}}\; ,\; m_{\widetilde{q}}^{\;\;\text{p}}\right.\right] \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}}\right) \; LF_{3,1,0}\left[\left.m_{\widetilde{u}}^{\;\;\text{r}}\; ,\; m_{\widetilde{q}}^{\;\;\text{p}}\right.\right] \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}}\right] \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}} \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}}\right) \; LF_{3,1,0}\left[\left.m_{\widetilde{u}}^{\;\;\text{r}}\; ,\; m_{\widetilde{q}}^{\;\;\text{p}}\right.\right] \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}} \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}}\right] \; +\; \widetilde{\mu}\; c_{_{Y}}\; y_u^{\;\;\text{pr}} \; +\; \widetilde{\mu
     9\; \text{m}_{\text{H}}^2\; \text{c}_{\text{Y}}\; \text{y}_{\text{e}}^{\,\text{ili2}}\; \left(-\, \text{s}_{\text{Y}}\; \overline{\text{a}_{\text{u}}}^{\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \overline{\text{y}_{\text{u}}}^{\,\text{pr}}\right) \; \left(-\, \text{s}_{\text{Y}}\; \text{a}_{\text{u}}^{\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{y}_{\text{u}}^{\,\text{pr}}\right) \; \text{LF}_{4,1,-1}\left[\, \text{m}_{\widetilde{\text{u}}}^{\,\,\text{r}}\; ,\; \text{m}_{\widetilde{\text{q}}}^{\,\,\text{p}}\, \right] \; - \; \text{m}_{\widetilde{\text{u}}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{y}_{\text{u}}^{\,\,\text{pr}}\right) \; \text{LF}_{4,1,-1}\left[\, \text{m}_{\widetilde{\text{u}}}^{\,\,\text{r}}\; ,\; \text{m}_{\widetilde{\text{q}}}^{\,\,\text{p}}\, \right] \; - \; \text{m}_{\widetilde{\text{u}}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{y}_{\text{u}}^{\,\,\text{pr}}\right] \; - \; \text{m}_{\widetilde{\text{u}}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{y}_{\text{u}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{v}_{\text{u}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{v}_{\text{u}}^{\,\,\text{pr}}\right] \; - \; \text{m}_{\widetilde{\text{u}}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{v}_{\text{u}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{v}_{\text{u}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{Y}}\; \text{v}_{\text{u}}^{\,\,\text{pr}}\right) \; - \; \text{c}_{\text{U}}^{\,\,\text{pr}} + \widetilde{\mu}\; \text{c}_{\text{U}}
     6\; \mathsf{m_{H}^{2}}\; \mathsf{c_{\gamma}}\; \mathsf{y_{e}^{i1i2}}\; \left(-\, \mathsf{s_{\gamma}}\; \overline{\mathsf{a_{u}}}^{\mathsf{pr}}\, +\, \widetilde{\mu}\; \mathsf{c_{\gamma}}\; \overline{\mathsf{y_{u}}}^{\mathsf{pr}}\right) \; \left(-\, \mathsf{s_{\gamma}}\; \mathsf{a_{u}}^{\mathsf{pr}}\, +\, \widetilde{\mu}\; \mathsf{c_{\gamma}}\; \mathsf{y_{u}}^{\mathsf{pr}}\right) \; \mathsf{LF_{5,1,-2}}\left[\, \mathsf{m_{\tilde{u}}}^{\,\mathsf{r}}\, ,\, \, \mathsf{m_{\tilde{q}}}^{\,\mathsf{p}}\, \right] \; -\, \mathsf{m_{\tilde{u}}^{\mathsf{pr}}} \; \mathsf{m_{\tilde{u}}^{\mathsf{p
          \frac{\text{3}}{\text{4}} \; c_{\text{Y}} \; g_{\text{1}}^{\; 2} \; y_{\text{e}}^{\; \text{ili2}} \; \left( c_{\text{Y}}^{\; 2} + s_{\text{Y}}^{\; 2} \right) \; \mathsf{LF}_{\text{2,1,-1}} \left[ \, \widetilde{\mu} \, , \; \mathsf{m}_{\text{1}} \, \right] \; + \; \mathsf{m}_{\text{1}} \; s_{\text{Y}} \; \widetilde{\mu} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; \frac{1}{\mathsf{m}_{\text{e}}^{\; 2}} \; y_{\text{e}}^{\; \text{ili2}} \; g_{\text{1}}^{\; 2} \; g_{\text{1}
                                                    \left(-\,c_{\gamma}^{\,\,2}\,\left(m_{H}^{2}\,+\,m_{\Phi}^{\,\,2}\right)\,+\,m_{H}^{2}\,\,s_{\gamma}^{\,\,2}\right)\,\,LF_{2,1,0}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,11i\,2}\,\left(\,c_{\gamma}^{\,\,2}\,+\,s_{\gamma}^{\,\,2}\right)\,\,LF_{3,1,-2}\left[\,\widetilde{\mu}\,,\,\,m_{1}\,\right]\,+\,\frac{1}{2}\,\,c_{\gamma}\,\,g_{1}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e}^{\,\,2}\,\,y_{e
     2\; m_1\; m_H^2\; s_\gamma\; \widetilde{\mu}\; g_1^{\;2}\; c_\gamma^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{2}}\; \mathsf{LF}_{3,1,0} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{2}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{2}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{i}\,\textrm{2}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{1}\,\textrm{2}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{i}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{1}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{1}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{1}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{1}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{1}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{3}}\; \left(\,c_\gamma^{\;2} + s_\gamma^{\;2}\,\right)\; \mathsf{LF}_{4,1,-2} \left[\,\widetilde{\mu}\;,\; m_1\,\right] \; - \; 4\; m_H^2\; c_\gamma\; g_1^{\;2}\; y_e^{\,\textrm{i}\,\textrm{3}}\; y_e^{\,\textrm{i}
     6\; \mathsf{m_1}\; \mathsf{m_H^2}\; \mathsf{s_{Y}}\; \tilde{\boldsymbol{\mu}}\; \mathsf{g_1}^2\; \mathsf{c_{Y}}^2\; \mathsf{y_e}^{\mathsf{i}\mathsf{1}\mathsf{i}\mathsf{2}}\; \mathsf{LF_{4,1,-1}}[\,\tilde{\boldsymbol{\mu}}\;,\; \mathsf{m_1}\,] \; + \; 2\; \mathsf{m_H^2}\; \mathsf{c_{Y}}\; \mathsf{g_1}^2\; \mathsf{y_e}^{\mathsf{i}\mathsf{1}\mathsf{i}\mathsf{2}}\; \left(\mathsf{c_{Y}}^2 + \mathsf{s_{Y}}^2\right)\; \mathsf{LF_{5,1,-3}}[\,\tilde{\boldsymbol{\mu}}\;,\; \mathsf{m_1}\,] \; + \; \mathsf{m_1}^2\; \mathsf{m_1}^2\; \mathsf{m_2}^2\; \mathsf{m_1}^2\; \mathsf{m_2}^2\; \mathsf{m_2}^2\; \mathsf{m_2}^2\; \mathsf{m_2}^2\; \mathsf{m_3}^2\; \mathsf{
     4\; \mathsf{m_1}\; \mathsf{m_H^2}\; \mathsf{s_{\gamma}}\; \widetilde{\mu}\; \mathsf{g_1}^2\; \mathsf{c_{\gamma}}^2\; \mathsf{y_e}^{\mathsf{ili2}}\; \mathsf{LF_{5,1,-2}}[\widetilde{\mu},\; \mathsf{m_1}]\; -\frac{9}{4}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{y_e}^{\mathsf{ili2}}\; \left(\mathsf{c_{\gamma}}^2+\mathsf{s_{\gamma}}^2\right)\; \mathsf{LF_{2,1,-1}}[\widetilde{\mu},\; \mathsf{m_2}]\; -\frac{9}{4}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{y_e}^{\mathsf{ili2}}\; \left(\mathsf{c_{\gamma}}^2+\mathsf{s_{\gamma}}^2\right)\; \mathsf{LF_{2,1,-1}}[\widetilde{\mu},\; \mathsf{m_2}]\; -\frac{9}{4}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{y_e}^{\mathsf{ili2}}\; \left(\mathsf{c_{\gamma}}^2+\mathsf{s_{\gamma}}^2\right)\; \mathsf{LF_{2,1,-1}}[\widetilde{\mu},\; \mathsf{m_2}]\; -\frac{9}{4}\; \mathsf{c_{\gamma}}\; \mathsf{g_2}^2\; \mathsf{g_2}^2
     3~\text{m}_2~\text{s}_{\gamma}~\widetilde{\mu}~\text{g}_2^{~2}~\frac{_1}{_{\text{m}_{\text{o}}^{~2}}}~\text{y}_e^{~\text{ili}~2}~\left(\text{c}_{\gamma}^{~2}~\left(\text{m}_{\text{H}}^2+\text{m}_{_{\text{D}}}^{~2}\right)~-\text{m}_{\text{H}}^2~\text{s}_{\gamma}^{~2}\right)~\text{LF}_{2,\text{1,0}}\left[\,\widetilde{\mu}\,,~\text{m}_2\,\right]~+
          \frac{3}{2}~c_{\gamma}~g_{2}^{~2}~y_{e}^{~i\,1i\,2}~\left(c_{\gamma}^{~2}+s_{\gamma}^{~2}\right)~LF_{3,1,-2}\left[\,\widetilde{\mu}\,\text{, }m_{2}\,\right] +
                                                                                                                                                                                       \frac{1}{m_{_{\Phi}}{^{2}}}\;y_{e}^{\,\text{ili2}}\;\left(2\;m_{H}^{2}\;c_{_{Y}}\;m_{_{\Phi}}{^{2}}\;\left(c_{_{Y}}{^{2}}+s_{_{Y}}{^{2}}\right)\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{H}^{2}+m_{_{\Phi}}{^{2}}\right)\;-\;m_{H}^{2}\;s_{_{Y}}{^{2}}\right)\right)\;\mathsf{LF}_{3,1,_{_{1},_{_{1}}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;-\;m_{_{1}}^{2}\;s_{_{Y}}{^{2}}\right)\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{Y}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{2}}\;\widetilde{\mu}\;\left(c_{_{Y}}{^{2}}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{2}}\;s_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}\,\right]\;+\;m_{_{1}}\;s_{_{1}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}^{2}\right]\;+\;m_{_{1}}\;s_{_{1}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}^{2}\right]\;+\;m_{_{2}}\;s_{_{1}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}^{2}\right]\;+\;m_{_{2}}\;s_{_{1}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}^{2}\right]\;+\;m_{_{2}}\;s_{_{1}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;\mathsf{LF}_{3,1,_{_{1}}}\left[\,\widetilde{\mu}\,,\;m_{_{2}}^{2}\right]\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^{2}+m_{_{2}}^{2}\right)\;+\;m_{_{2}}\;\widetilde{\mu}\;\left(m_{_{1}}^
     18 \mathrm{m_2}~\mathrm{m_H^2}~\mathrm{s_{\scriptscriptstyle Y}}~\widetilde{\mu}~\mathrm{g_2}^2~\mathrm{c_{\scriptscriptstyle Y}}^2~\mathrm{y_e}^{\mathrm{ili2}}~\mathrm{LF_{4,1,-1}}[\widetilde{\mu}\,,~\mathrm{m_2}] +
     6\;{\rm m_H^2}\;c_{\rm Y}\;g_{\rm 2}{}^2\;y_{\rm e}{}^{\rm i1i2}\;\left(c_{\rm Y}{}^2+s_{\rm Y}{}^2\right)\;{\rm LF_{5,1,-3}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;{\rm m_H^2}\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;c_{\rm Y}{}^2\;y_{\rm e}{}^{\rm i1i2}\;{\rm LF_{5,1,-2}}\left[\widetilde{\mu}\;,\;{\rm m_2}\right]\;+\;12\;{\rm m_2}\;m_{\rm H}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;s_{\rm Y}\;\widetilde{\mu}\;g_{\rm 2}{}^2\;s_{\rm
               \frac{1}{4} \; c_{\gamma} \, \overline{y_e}^{\text{pr}} \; y_e^{\text{pi2}} \; y_e^{\text{ilr}} \; \mathsf{LF}_{2,1,-1} \big[ \widetilde{\mu}, \, \mathsf{m}_{\widetilde{e}}^{\text{r}} \big] \; + \; \frac{1}{2} \; c_{\gamma} \, \overline{y_e}^{\text{pr}} \; y_e^{\text{pi2}} \; y_e^{\text{ilr}} \; \mathsf{LF}_{2,1,-1} \big[ \widetilde{\mu}, \, \mathsf{m}_{\widetilde{l}}^{\text{p}} \big] \; + \; \frac{1}{2} \; c_{\gamma} \, \overline{y_e}^{\text{pr}} \; y_e^{\text{pi2}} \; y_e^{\text{ilr}} \; \mathsf{LF}_{2,1,-1} \big[ \widetilde{\mu}, \, \mathsf{m}_{\widetilde{l}}^{\text{p}} \big] \; + \; \frac{1}{2} \; c_{\gamma} \, \overline{y_e}^{\text{pr}} \; y_e^{\text{pi2}} \; y_e^{\text{pi3}} \; y_
     \mathbf{m_1} \ \mathbf{g_1}^2 \ \left( \mathbf{c_{\gamma}} \ \mathbf{a_e^{i1i2}} - \mathbf{s_{\gamma}} \ \widetilde{\mu} \ \mathbf{y_e^{i1i2}} \right) \ \mathsf{LF_{1,1,1,0}} \left[ \mathbf{m_1}, \ \mathbf{m_{\tilde{e}}^{i2}}, \ \mathbf{m_{\tilde{l}}^{i1}} \right] + \mathbf{m_{\tilde{e}}^{i2}} 
                                                    \mathsf{m_1} \, \mathsf{m_H^2} \, \mathsf{g_1}^2 \, \left( \mathsf{c_Y} \, \mathsf{a_e^{i1i2}} - \mathsf{s_Y} \, \widetilde{\mu} \, \mathsf{y_e^{i1i2}} \right) \, \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_1}, \, \mathsf{m_e^{i2}}, \, \mathsf{m_1^{i1}} \big] + 
     c_{\gamma}\,g_{1}{}^{2}\,y_{e}{}^{\text{ili2}}\,LF_{1,1,1,-1}\big[\,\mathsf{m}_{1},\,\mathsf{m}_{\tilde{e}}{}^{\text{i2}},\,\tilde{\mu}\,\big]\,+\,\mathsf{m}_{1}\,s_{\gamma}\,\tilde{\mu}\,g_{1}{}^{2}\,y_{e}{}^{\text{ili2}}\,LF_{1,1,1,0}\big[\,\mathsf{m}_{1},\,\mathsf{m}_{\tilde{e}}{}^{\text{i2}},\,\tilde{\mu}\,\big]\,+\,\mathsf{m}_{1}\,s_{\gamma}\,\tilde{\mu}\,g_{1}{}^{2}\,y_{e}{}^{\text{ili2}}\,LF_{1,1,1,0}\big[\,\mathsf{m}_{1},\,\mathsf{m}_{\tilde{e}}{}^{\text{i2}},\,\tilde{\mu}\,\big]\,+\,\mathsf{m}_{1}\,s_{\gamma}\,\tilde{\mu}\,g_{1}{}^{2}\,y_{e}{}^{\text{ili2}}\,g_{1}{}^{2}\,y_{e}{}^{\text{ili2}}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{2}\,g_{1}{}^{
                                                         \mathsf{m_1} \, \mathsf{m_H^2} \, \mathsf{g_1^2} \, \left( \mathsf{c_Y} \, \mathsf{a_e^{i1i2}} - \mathsf{s_Y} \, \widetilde{\mu} \, \mathsf{y_e^{i1i2}} \right) \, \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_1}, \, \mathsf{m_{\tilde{l}}^{i1}}, \, \mathsf{m_{\tilde{e}}^{i2}} \big] \, - \, \mathsf{m_{\tilde{l}}^{i2}} \, \mathsf{m_{\tilde{l}}^{
               \frac{1}{2} \; \mathbf{c_{\text{Y}}} \; \mathbf{g_{\text{1}}}^2 \; \mathbf{y_{\text{e}}}^{\text{ili2}} \; \mathbf{LF_{1,1,1,-1}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{l}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \frac{1}{2} \; \mathbf{m_{\text{1}}} \; \mathbf{s_{\text{Y}}} \; \boldsymbol{\tilde{\mu}} \; \mathbf{g_{\text{1}}}^2 \; \mathbf{y_{\text{e}}}^{\text{ili2}} \; \mathbf{LF_{1,1,1,0}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{l}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\text{1}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\text{1}}}, \; \mathbf{m_{\tilde{\text{1}}}}, \; \boldsymbol{\tilde{\mu}} \big] \; - \; \mathbf{m_{\tilde{\text{1}}}}^{\text{il}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \mathbf{m_{\tilde{\text{1}}}, \; \boldsymbol{\tilde{\mu}}} \big[ \; \mathbf{m_{\tilde{\text{1}}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \boldsymbol{\tilde{\mu}} \big[ \; \boldsymbol{\tilde{\mu}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \boldsymbol{\tilde{\mu}} \big[ \; \boldsymbol{\tilde{\mu}}, \; \boldsymbol{\tilde{\mu}} \big[ \; \boldsymbol{\tilde{
                                                         \mathsf{m_{H}^{2}}\,\mathsf{c_{Y}}\,\mathsf{g_{1}}^{2}\,\mathsf{y_{e}^{i1i2}}\,\mathsf{LF_{2,2,1,-2}}\big[\mathsf{m_{1}},\,\widetilde{\mu},\,\mathsf{m_{e}^{i2}}\big]\,-\,\frac{1}{2}\,\,\mathsf{m_{1}}\,\mathsf{m_{H}^{2}}\,\mathsf{s_{Y}}\,\widetilde{\mu}\,\,\mathsf{g_{1}^{2}}\,\mathsf{y_{e}^{i1i2}}\,\mathsf{LF_{2,2,1,-1}}\big[\mathsf{m_{1}},\,\widetilde{\mu},\,\mathsf{m_{e}^{i2}}\big]\,+\,\mathsf{m_{e}^{i2}}\big]\,+\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_{e}^{i2}}\,\mathsf{m_
                                                    \left[\text{ $m_{H}^{2}$ $c_{\gamma}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-2}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{H}^{2}$ $s_{\gamma}$ $\tilde{\mu}$ $g_{1}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{2}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{2}^{2}$ $y_{e}^{i1i2}$ $LF_{2,2,1,-1}[\text{ $m_{1}$, $\tilde{\mu}$, $m_{\tilde{\chi}}^{i1}$}]$ + $\frac{1}{4}$ $m_{1}$ $m_{2}^{2}$ $y_{e}^{i1i2}$ $h_{1}^{2}$ $y_{e
                                                         c_{\gamma} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, i \, 2} \, LF_{1,1,1,-1} \big[ \, m_{2} \, , \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, + \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, i \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, i \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, i \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, 1 \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, 1 \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, i \, 1 \, 1 \, 2} \, LF_{1,1,1,0} \big[ \, m_{2} \, , \, \, \, m_{\tilde{l}}^{\, \ i \, 1} \, , \, \, \tilde{\mu} \, \big] \, - \, \frac{3}{2} \, m_{2} \, s_{\gamma} \, \tilde{\mu} \, g_{2}^{\, 2} \, y_{e}^{\, 2} \, g_{2}^{\, 2}
                                                    \mathsf{m}_{\mathsf{H}}^{2}\,\mathsf{c}_{\mathsf{Y}}\,\mathsf{g_{2}}^{2}\,\mathsf{y_{e}}^{\mathsf{i}\,\mathsf{i}\,\mathsf{i}\,\mathsf{2}}\,\mathsf{LF}_{\mathsf{2},\mathsf{2},\mathsf{1},\mathsf{-2}}\big[\mathsf{m}_{\mathsf{2}}\,,\,\,\widetilde{\mu}\,,\,\,\mathsf{m}_{\widetilde{\mathsf{l}}}^{\,\,\mathsf{i}\,\mathsf{1}}\big]\,-\,\frac{3}{4}\,\,\mathsf{m}_{\mathsf{2}}\,\,\mathsf{m}_{\mathsf{H}}^{2}\,\mathsf{s}_{\mathsf{Y}}\,\widetilde{\mu}\,\,\mathsf{g_{2}}^{2}\,\,\mathsf{y_{e}}^{\,\mathsf{i}\,\mathsf{1}\,\mathsf{i}\,\mathsf{2}}\,\,\mathsf{LF}_{\mathsf{2},\mathsf{2},\mathsf{1},\mathsf{-1}}\big[\mathsf{m}_{\mathsf{2}}\,,\,\,\widetilde{\mu}\,,\,\,\mathsf{m}_{\widetilde{\mathsf{l}}}^{\,\,\mathsf{i}\,\mathsf{1}}\big]\,+\,\mathsf{m}_{\mathsf{1}}^{\,\,\mathsf{1}}\,\mathsf{m}_{\mathsf{2}}^{\,\,\mathsf{1}}\,\,\mathsf{m}_{\mathsf{2}}^{\,\,\mathsf{1}}\,\,\mathsf{m}_{\mathsf{2}}^{\,\,\mathsf{2}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{2}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{2}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{\,\mathsf{3}}\,\,\mathsf{m}_{\mathsf{3}}^{
                                                         \mathsf{m_1} \; \mathsf{m_H^2} \; \mathsf{g_1^2} \; \left( - \, \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{a_e}^{\, \texttt{i} \, \texttt{i} \, \texttt{i} \, \texttt{2}} + \, \mathsf{s_{\scriptscriptstyle Y}} \; \widetilde{\boldsymbol{\mu}} \; \mathsf{y_e}^{\, \texttt{i} \, \texttt{i} \, \texttt{1}} \right) \; \mathsf{LF_{2,1,1,0}} \left[ \, \mathsf{m_{\tilde{e}}}^{\, \texttt{i} \, \texttt{2}}, \; \mathsf{m_1}, \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{1}} \right] \; + \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{1}} \right] \; + \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{1}} \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{i}} \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{i}} \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i} \, \texttt{i}} \; \mathsf{m_{\tilde{l}}}^{\, \texttt{i}} \; 
                                                               \textbf{m}_{1} \ \textbf{m}_{H}^{2} \ \textbf{g}_{1}^{2} \ \left(\textbf{c}_{\gamma} \ \textbf{a}_{e}^{\, \textbf{i} \, \textbf{1} \, \textbf{i} \, \textbf{2}} - \textbf{s}_{\gamma} \ \tilde{\mu} \ \textbf{y}_{e}^{\, \textbf{i} \, \textbf{1} \, \textbf{i} \, \textbf{2}} \right) \ \textbf{LF}_{3, \textbf{1}, \textbf{1}, \textbf{-1}} \big[ \, \textbf{m}_{\tilde{e}}^{\, \, \textbf{i} \, \textbf{2}} \, , \ \textbf{m}_{\textbf{1}} \, , \ \textbf{m}_{\tilde{\textbf{1}}}^{\, \, \textbf{i} \, \textbf{1}} \big] \ + \\ \textbf{m}_{\tilde{\textbf{1}}}^{\, \, \textbf{i} \, \textbf{1}} + \textbf{m}_{\tilde{\textbf{1}}}^{\, \, \textbf{i} \, \textbf{1}} + \textbf{m}_{\tilde{\textbf{1}}}^{\, \, \textbf{i} \, \textbf{1}} \big[ \, \textbf{m}_{\tilde{\textbf{2}}}^{\, \, \textbf{i} \, \textbf{1}} \, , \ \textbf{m}_{\tilde{\textbf{1}}} \, , \ \textbf{m}_{\tilde{\textbf{1}}}
                                                               \mathbf{m_{1}} \; \mathbf{m_{H}^{2}} \; \mathbf{g_{1}}^{2} \; \left( - \, \mathbf{c_{\gamma}} \; \mathbf{a_{e}}^{\, \text{ili2}} + \, \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} \right) \; \mathbf{LF_{2,1,1,0}} \left[ \, \mathbf{m_{\tilde{l}}}^{\, \text{il}} \, , \; \mathbf{m_{1}} \, , \; \mathbf{m_{\tilde{e}}}^{\, \text{il}} \, \right] \; + \; \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} \right] \; + \; \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} + \; \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} \right) \; \mathbf{LF_{2,1,1,0}} \left[ \, \mathbf{m_{\tilde{l}}}^{\, \text{il}} \, , \; \mathbf{m_{1}} \, , \; \mathbf{m_{\tilde{e}}}^{\, \text{il}} \, \right] \; + \; \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} + \; \mathbf{y_{e}}^{\, \text{ili2}} \, \right] \; + \; \mathbf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathbf{y_{e}}^{\, \text{ili2}} + \; \mathbf
```

 $m_1 m_H^2 g_1^2 (c_{\gamma} a_e^{i1i2} - s_{\gamma} \tilde{\mu} y_e^{i1i2}) LF_{3,1,1,-1}[m_{\tilde{l}}^{-i1}, m_1, m_{\tilde{e}}^{-i2}])$

 $Y_{e}^{\text{i1_i2_}} \rightarrow c_{\gamma} \; y_{e}^{\text{i1i2}} \; + \; \hbar \; \left(\frac{1}{\text{16}} \; c_{\gamma} \; \frac{1}{\text{m}_{\text{g}}^{2}} \; \left(\text{m}_{\bar{\text{g}}}^{2} \; y_{e}^{\text{i1i2}} \; \left(3 \; g_{2}^{2} \; \left(1 + 2 \; c_{\gamma}^{2} + 2 \; s_{\gamma}^{2} \right) + g_{1}^{2} \; \left(5 + 2 \; c_{\gamma}^{2} + 2 \; s_{\gamma}^{2} \right) \right) \; + \; 2 \; \left(1 + 2 \; c_{\gamma}^{2} + 2 \; s_{\gamma}^{2} \right) \; + \; 2 \; c_{\gamma}^{2} \; + \; 2 \; c_{$