```
 C_{dW}^{\text{i1\_i2\_}} \rightarrow  \hbar \left( -\frac{1}{48} \ g_2 \ c_{\gamma} \ \frac{1}{m_{\text{g}}^2} \ \left( s_{\gamma}^{\ 2} \ \overline{y_d}^{\text{pr}} \ \left( y_d^{\text{pi2}} \ y_d^{\text{i1r}} + 18 \ y_d^{\text{pr}} \ y_d^{\text{i1i2}} \right) \right. \\ \left. + \ y_d^{\text{pi2}} \ \overline{y_u}^{\text{pr}} \ y_u^{\text{i1r}} \ \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) \right. \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) \right. \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) \right. \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right. \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] \right. \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] \right] \\ \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma}^{\ 2} \right) \right] + \left. \left( c_{\gamma}^{\ 2} + 3 \ s_{\gamma
                                                                                                                                                  \frac{1}{8} \; g_2 \; c_{\gamma} \; s_{\gamma}^{\; 2} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; \mathsf{LF}_{1,2} [\, \mathsf{m}_{\bar{\Phi}}\,] \; + \\ \frac{1}{144} \; g_2 \; c_{\gamma} \; g_1^{\; 2} \; y_d^{\; i1i2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_1^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; y_d^{\; i1i2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; y_d^{\; i1i2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; y_d^{\; i1i2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; y_d^{\; 2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_2^{\; 2} \; c_{\gamma} \; g_1^{\; 2} \; \mathsf{LF}_{2,1,0} \big[\, \mathsf{m}_{1} \,, \; \mathsf{m}_{\bar{q}}^{\; i1} \,\big] \; - \\ \frac{1}{8} \; g_1^{\; 2} \; \mathsf{LF}_{2,1,0} \, g_1^{\; 2} \; \mathsf{LF}_{
                                                                                                                                                       \frac{1}{72} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{3,1,-1} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{il}} \big] \; + \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{il}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{il}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{il}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{il}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{4,1,-2} \big[ \mathsf{m}_1, \; \mathsf{m}_{\tilde{\mathsf{q}}}^{\; \text{ili2}} \big] \; - \; \frac{1}{144} \; g_1^2 \; \mathsf{m}_1 \; \mathsf{m}_1 \; \mathsf{m}_1 \; \mathsf{m}_2 \; \mathsf
                                                                                                                                                                     \frac{1}{16} c_{\gamma} g_2^3 y_d^{i1i2} LF_{2,1,0}[m_2, m_{\tilde{q}}^{i1}] - \frac{1}{8} c_{\gamma} g_2^3 y_d^{i1i2} LF_{3,1,-1}[m_2, m_{\tilde{q}}^{i1}] +
                                                                                                                                                       \frac{3}{16}\;c_{\gamma}\;g_{2}^{\;3}\;y_{d}^{\;i1i2}\;\mathsf{LF}_{4,1,-2}\!\left[\mathsf{m}_{2}\,,\,\mathsf{m}_{\tilde{q}}^{\;i1}\right]\,+\,\frac{1}{3}\;g_{2}\;c_{\gamma}\;g_{3}^{\;2}\;y_{d}^{\;i1i2}\;\mathsf{LF}_{2,1,0}\!\left[\mathsf{m}_{3}\,,\,\mathsf{m}_{\tilde{q}}^{\;i1}\right]\,-\,\frac{1}{3}\;g_{2}^{\;2}\;c_{\gamma}\;g_{3}^{\;2}\;y_{d}^{\;i1i2}\;\mathsf{LF}_{2,1,0}\!\left[\mathsf{m}_{3}\,,\,\mathsf{m}_{\tilde{q}}^{\;i1}\right]\,-\,\frac{1}{3}\;g_{2}^{\;2}\;c_{\gamma}^{\;2}\;g_{3}^{\;2}\;y_{d}^{\;i1i2}\;\mathsf{LF}_{2,1,0}\!\left[\mathsf{m}_{3}\,,\,\mathsf{m}_{\tilde{q}}^{\;i1}\right]
                                                                                                                                                                                             g_2 c_{\gamma} g_3^2 y_d^{i1i2} LF_{3,1,-1}[m_3, m_{\tilde{q}}^{i1}] + \frac{1}{3} g_2 c_{\gamma} g_3^2 y_d^{i1i2} LF_{4,1,-2}[m_3, m_{\tilde{q}}^{i1}] - \frac{1}{3} g_2 c_{\gamma} g_3^2 y_d^{i1i2} LF_{4,1,-2}[m_3, m_{\tilde{q}}^{i1}]
                                                                                                                                                                                             g_2\;c_{\gamma}\;\overline{y_d}^{\text{pr}}\;y_d^{\text{pi2}}\;y_d^{\text{ilr}}\;\mathsf{LF_{3,1,-1}}\big[\tilde{\mu}\,,\,\mathsf{m_{\tilde{d}}}^{\text{r}}\big]\,+\,\frac{1}{8}\;g_2\;c_{\gamma}\;\overline{y_d}^{\text{pr}}\;y_d^{\text{pi2}}\;y_d^{\text{ilr}}\;\mathsf{LF_{4,1,-2}}\big[\tilde{\mu}\,,\,\mathsf{m_{\tilde{d}}}^{\text{r}}\big]\,-\,\frac{1}{8}\;g_2^{\text{r}}\;p_d^{\text{pi3}}\;y_d^{\text{pi4}}\;p_d^{\text{r}}\,\mathsf{LF_{4,1,-2}}\big[\tilde{\mu}\,,\,\mathsf{m_{\tilde{d}}}^{\text{r}}\big]\,-\,\frac{1}{8}\;g_2^{\text{r}}\;p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{\text{r}}\,p_d^{
                                                                                                                                                                                             g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{3,1,-1} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{\; pr} \; y_u^{\; i1r} \; LF_{4,1,-2} \big[ \tilde{\mu} \, , \; m_{\tilde{u}}^{\; r} \, \big] \; + \; \frac{1}{8} \; g_2 \; c_{\gamma} \; y_d^{\; pi2} \; \overline{y_u}^{\; pr} \; y_u^{\; pr
                                                                                                                                                                                                                     g_2 \; m_1 \; g_1^{\; 2} \; \left( c_{\scriptscriptstyle Y} \; a_d^{\; \text{ili2}} - s_{\scriptscriptstyle Y} \; \widetilde{\mu} \; y_d^{\; \text{ili2}} \right) \; \mathsf{LF}_{2,1,1,0} \left[ m_1 \, , \; m_{\bar{d}}^{\; \text{il}} , \; m_{\bar{q}}^{\; \text{il}} \right] \; + \; c_{\scriptscriptstyle X} \; \widetilde{\mu} \; \widetilde{\mu} \; c_{\scriptscriptstyle X} \; \widetilde{\mu} \; c_{\scriptscriptstyle X} \; \widetilde{\mu} \; \widetilde
                                                                                                                                                       \frac{1}{144} \; \mathsf{g_2} \; \mathsf{m_1} \; \mathsf{g_1}^2 \; \left( - \, \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{a_d}^{\, \texttt{i} \, \texttt{i} \, \texttt{i} \, \texttt{2}} + \, \mathsf{s_{\scriptscriptstyle Y}} \; \widetilde{\boldsymbol{\mu}} \; \mathsf{y_d}^{\, \texttt{i} \, \texttt{i} \, \texttt{i} \, \texttt{2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1} \, , \; \mathsf{m_{\bar{d}}^{\, \texttt{i} \, \texttt{2}}} \, , \; \mathsf{m_{\bar{q}}^{\, \texttt{i} \, \texttt{1}}} \big] \; + \\
                                                                                                                                                       \frac{1}{72} g_2 m_1 g_1^2 \left(-c_{\gamma} a_d^{\text{ili2}} + s_{\gamma} \tilde{\mu} y_d^{\text{ili2}}\right) LF_{3,1,1,-1}[m_1, m_{\tilde{d}}^{\text{il}2}, m_{\tilde{q}}]
                                                                                                                                                       \frac{1}{144} g_2 m_1 g_1^2 (c_{\gamma} a_d^{i1i2} - s_{\gamma} \tilde{\mu} y_d^{i1i2}) LF_{2,2,1,-1}[m_1, m_{\tilde{q}}^{i1}, m_{\tilde{d}}^{i2}] +
                                                                                                                                                       \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_1}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}}, \; \widetilde{\mu} \, \big] \; - \; \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \, \mathsf{m_1}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}}, \; \widetilde{\mu} \, \big] \; - \; \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \, \mathsf{m_1}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}}, \; \widetilde{\mu} \, \big] \; - \; \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \, \mathsf{m_2}, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}}, \; \widetilde{\mu} \, \big] \; - \; \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^{\mathsf{ili2}} \; \mathsf{d_{ii}} \; \mathsf{d_{ii
                                                                                                                                                  \frac{1}{24} \; g_2 \; m_1 \; s_\gamma \, \widetilde{\mu} \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{2,1,1,0} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \text{il}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2 \; c_\gamma \; g_1^2 \; y_d^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \text{il}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \text{il}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \text{ili2}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \; \text{ili2}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \; \text{ili2}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \; \text{ili2}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_2^2 \; c_\gamma \; g_1^2 \; y_d^{\; \; \; \; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \; m_1 \, , \; m_{\tilde{q}}^{\; \; \; \text{ili2}} \, , \; \widetilde{\mu} \, \right] \; + \; \frac{1}{24} \; g_1^2 \; g
                                                                                                                                                       \frac{1}{24} \; \mathsf{g_2} \; \mathsf{m_1} \; \mathsf{s_{\scriptscriptstyle Y}} \; \tilde{\mu} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-1}} \big[ \mathsf{m_1}, \; \mathsf{m_{\tilde{q}}^{\mathsf{il}}}, \; \tilde{\mu} \big] + \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_1}^2 \; \mathsf{g_2} \; \mathsf{g_2}^2 \; \mathsf{g_3}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_1}, \; \tilde{\mu}, \; \mathsf{m_{\tilde{d}}^{\mathsf{il}}} \big] \; + \\ \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\scriptscriptstyle Y}} \; \mathsf{g_2}^2 \; \mathsf{g_3}^2 \; \mathsf{g_3}^2 \; \mathsf{g_3}^2 \; + \\ \frac{1}{24} \; \mathsf{g_3}^2 
                                                                                                                                                                                                                     g_2 \; m_1 \; s_{\gamma} \; \widetilde{\mu} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-1} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{d}}^{\text{il}2} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{il}1} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{ili2}} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{ili2}} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{ili2}} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; y_d^{\text{ili2}} \; \mathsf{LF}_{2,2,1,-2} \big[ m_1 \,, \; \widetilde{\mu} \,, \; m_{\bar{q}}^{\text{ili2}} \big] \; + \; \frac{1}{48} \; g_2 \; c_{\gamma} \; g_1^2 \; \mathsf{LF}_{2,2,1} \, \mathsf{LF}_{2,2} \, \mathsf{LF}_{2,2} \, \mathsf{LF}_{2,2} \, \mathsf{LF}_{2,2}
                                                                                                                                                       \frac{1}{48} \; \mathsf{g_2} \; \mathsf{m_1} \; \mathsf{s_{\gamma}} \; \widetilde{\boldsymbol{\mu}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathsf{m_1}, \, \widetilde{\boldsymbol{\mu}}, \, \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; - \; \frac{1}{8} \; \mathsf{c_{\gamma}} \; \mathsf{g_2}^3 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{1,1,1,0}} \big[ \, \mathsf{m_2}, \, \mathsf{m_{\tilde{q}}}^{\mathsf{il}}, \, \widetilde{\boldsymbol{\mu}} \, \big] \; - \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \; \mathsf{m_{\tilde{q
                                                                                                                                                                                                  c_{\gamma} \; g_{2}^{\; 3} \; y_{d}^{\; 11\dot{1}2} \; \mathsf{LF}_{2,1,1,-1} \big[ \; \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \dot{1}1} \; , \; \tilde{\mu} \, \big] \; + \; \frac{1}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,1,0} \big[ \; \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \dot{1}1} \; , \; \tilde{\mu} \, \big] \; + \; \frac{1}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,1,0} \big[ \; \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \dot{1}1} \; , \; \tilde{\mu} \, \big] \; + \; \frac{1}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,1,0} \big[ \; \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \dot{1}1} \; , \; \tilde{\mu} \, \big] \; + \; \frac{1}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \dot{1}1\dot{1}2} \; \mathsf{LF}_{2,1,1,0} \, g_{2}^{\; \dot{1}1} \; , \; \tilde{\mu} \, g_{2}^{\;
                                                                                                                                                                                             c_{\gamma} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-2} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{il}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,-1} \left[ \mathsf{m}_{2} \; , \; \mathsf{m}_{\tilde{q}}^{\; \text{ili2}} \; , \; \tilde{\mu} \right] \; + \; \frac{3}{8} \; \mathsf{m}_{2} \; s_{\gamma} \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; \text{ili2}} \; \mathsf{LF}_{3,1,1} \; , \; \tilde{\mu} \; g_{2}^{\; 3} \; y_{d}^{\; 3} \;
                                                                                                                                                                                                            \mathsf{c_{\gamma}} \ \mathsf{g_2}^3 \ \mathsf{y_d}^{\texttt{ili2}} \ \mathsf{LF_{2,2,1,-2}} \big[ \mathsf{m_2}, \ \tilde{\mu}, \ \mathsf{m_{\tilde{q}}}^{\texttt{il}} \big] \ + \ \tfrac{3}{16} \ \mathsf{m_2} \ \mathsf{s_{\gamma}} \ \tilde{\mu} \ \mathsf{g_2}^3 \ \mathsf{y_d}^{\texttt{ili2}} \ \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_2}, \ \tilde{\mu}, \ \mathsf{m_{\tilde{q}}}^{\texttt{il}} \big] \ + \ \mathtt{m_2}^{\texttt{il}} \ \mathsf{m_2} \ \mathsf{s_{\gamma}} \ \tilde{\mu} \ \mathsf{g_2}^3 \ \mathsf{y_d}^{\texttt{ili2}} \ \mathsf{LF_{2,2,1,-1}} \big[ \mathsf{m_2}, \ \tilde{\mu}, \ \mathsf{m_{\tilde{q}}}^{\texttt{il}} \big] \ + \ \mathtt{m_2}^{\texttt{il}} \ \mathsf{m_2} \ \mathsf{m_2}^{\texttt{il}} \ \mathsf{
                                                                                                                                                                                        \mathbf{g_2} \; \mathbf{m_3} \; \mathbf{g_3}^2 \; \left( \mathbf{c_{_Y}} \; \mathbf{a_d}^{\text{ili2}} - \mathbf{s_{_Y}} \, \widetilde{\boldsymbol{\mu}} \; \mathbf{y_d}^{\text{ili2}} \right) \; \mathsf{LF_{2,2,1,-1}} \big[ \, \mathbf{m_3} \, , \; \mathbf{m_{\tilde{d}}}^{\text{i2}} \, , \; \mathbf{m_{\tilde{q}}}^{\text{i2}} \, , \; \mathbf{m_
                                                                                                                                                                                                  \mathsf{g_2} \; \mathsf{m_3} \; \mathsf{g_3}^2 \; \left( \mathsf{c_{_{Y}}} \; \mathsf{a_d}^{\text{ili2}} - \mathsf{s_{_{Y}}} \, \tilde{\mu} \; \mathsf{y_d}^{\text{ili2}} \right) \; \mathsf{LF_{3,1,1,_{-1}}} \big[ \, \mathsf{m_3} \, \text{,} \; \mathsf{m_{\bar{q}}}^{\text{-i2}} \, \text{,} \; \mathsf{m_{\bar{q}}}^{\text{-i1}} \big] \; + \; \mathsf{m_{\bar{q}}}^{\text{-i2}} \, \mathsf{m_{\bar{q}}}^{\text{-i2
                                                                                                                                                                                             {\rm g_2} \; {\rm m_3} \; {\rm g_3}^2 \; \left( - \, {\rm c_{_Y}} \; {\rm a_d}^{\, \text{ili2}} + \, {\rm s_{_Y}} \; \widetilde{\mu} \; {\rm y_d}^{\, \text{ili2}} \right) \; {\rm LF_{2,2,1,,-1}} \big[ \, {\rm m_3} \, , \; {\rm m_{\bar{d}}}^{\, \text{il}} \, , \; {\rm m_{\bar{d}}}^{\, \text{il}} \, \big] \; + \\
                                                                                                                                                                                                                          \mathbf{g_2}\; \widetilde{\boldsymbol{\mu}}\; \mathbf{y_d}^{\text{pi2}}\; \mathbf{y_u}^{\text{ilr}}\; \left(-\,\mathbf{s_\gamma}\; \overline{\mathbf{a_u}}^{\text{pr}} + \widetilde{\boldsymbol{\mu}}\; \mathbf{c_\gamma}\; \overline{\mathbf{y_u}}^{\text{pr}}\right) \; \text{LF}_{2,2,1,-1}\big[\mathbf{m_{\tilde{q}}}^{\text{p}},\; \widetilde{\boldsymbol{\mu}},\; \mathbf{m_{\tilde{u}}}^{\text{r}}\big] \; + \\
                                                                                                                                                                                                                g_2 \; \tilde{\mu} \; y_d^{\text{pi2}} \; y_u^{\text{iir}} \; \left( s_{_{Y}} \; \overline{a_u}^{\text{pr}} - \tilde{\mu} \; c_{_{Y}} \; \overline{y_u}^{\text{pr}} \right) \; \mathsf{LF_{2,2,1,-1}} \left[ \, \mathsf{m}_{\tilde{u}}^{\,\, r} \, , \; \tilde{\mu} \, , \; \mathsf{m}_{\tilde{q}}^{\,\, p} \, \right] \; - \; \tilde{\mu} \; c_{_{Y}} \; \overline{y_u}^{\text{pr}} \; , \; \tilde{\mu}_{_{Y}} \; , \; \tilde{\mu}_{_{Y}} \; \tilde{\mu}_{_
                                                                                                                                                       \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{il}2} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{il}2} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{il}2} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{ili2}} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{ili2}} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{ili2}} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{3,1,1,-2}} \big[ \tilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{d}}}^{\mathsf{ili2}} \big] \; + \\ \frac{1}{12} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{g_2} \; \mathsf{g_1}^2 \; \mathsf{g_2} \; \mathsf{g_2}^2 \; \mathsf{g_2}^2 \; \mathsf{g_3}^2 \; \mathsf{g_
                                                                                                                                                  \frac{1}{12} g_2 m_1 s_{\gamma} \tilde{\mu} g_1^2 y_d^{i1i2} LF_{3,1,1,-1} [\tilde{\mu}, m_1, m_{\tilde{d}}^{i2}] -
                                                                                                                                                       \frac{1}{24} \; \mathsf{g_2} \; \mathsf{c_{\gamma}} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \widetilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; - \; \frac{1}{24} \; \mathsf{g_2} \; \mathsf{m_1} \; \mathsf{s_{\gamma}} \; \widetilde{\mu} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \widetilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; + \; \frac{1}{24} \; \mathsf{g_2} \; \mathsf{m_2} \; \mathsf{s_{\gamma}} \; \widetilde{\mu} \; \mathsf{g_1}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \widetilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; + \; \frac{1}{24} \; \mathsf{g_2} \; \mathsf{m_2} \; \mathsf{s_{\gamma}} \; \widetilde{\mu} \; \mathsf{g_2}^2 \; \mathsf{y_d}^{\mathsf{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \widetilde{\mu} \,, \; \mathsf{m_1} \,, \; \mathsf{m_{\tilde{q}}}^{\mathsf{il}} \big] \; + \; \frac{1}{24} \; \mathsf{g_2} \; \mathsf{m_2}^2 \; \mathsf{g_2}^2 \; \mathsf{m_2}^2 \; \mathsf{g_2}^2 \; \mathsf{g_3}^2 \;
                                                                                                                                                  \frac{1}{8} \; \mathsf{c_{Y}} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,-1}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}}^{\mathtt{ili2}} \; \mathsf{LF_{2,1,1,0}} \big[ \, \widetilde{\mu} \,, \; \mathsf{m_{2}} \,, \; \mathsf{m_{\tilde{q}}}^{\mathtt{il}} \big] \; + \; \frac{1}{8} \; \mathsf{m_{2}} \; \mathsf{s_{Y}} \, \widetilde{\mu} \; \mathsf{g_{2}}^{3} \; \mathsf{y_{d}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}} \; \mathsf{g_{2}}^{\mathtt{ili2}} \; \mathsf{g_{2}}^{\mathtt{il
                                                                                                                                                                                             \mathbf{g_2}\;\widetilde{\boldsymbol{\mu}}\;\mathbf{y_d}^{\text{pi2}}\;\mathbf{y_u}^{\text{iir}}\;\left(-\,\mathbf{s_{\scriptscriptstyle Y}}\;\overline{\mathbf{a_u}}^{\text{pr}}\,+\,\widetilde{\boldsymbol{\mu}}\;\mathbf{c_{\scriptscriptstyle Y}}\;\overline{\mathbf{y_u}}^{\text{pr}}\right)\;\mathbf{LF_{2,1,1,0}}\!\left[\,\widetilde{\boldsymbol{\mu}}\;,\;\mathbf{m_{\tilde{q}}}^{\text{p}}\;,\;\mathbf{m_{\tilde{u}}}^{\text{r}}\,\right]\;+
                                                                                                                                                                                             \mathbf{g_2}\; \widetilde{\boldsymbol{\mu}}\; \mathbf{y_d}^{\text{pi2}}\; \mathbf{y_u}^{\text{iir}}\; \left(-\,\mathbf{s_{\scriptscriptstyle Y}}\; \overline{\mathbf{a_u}}^{\text{pr}} + \widetilde{\boldsymbol{\mu}}\; \mathbf{c_{\scriptscriptstyle Y}}\; \overline{\mathbf{y_u}}^{\text{pr}}\right) \; \mathbf{LF_{3,1,1,-1}} \left[\, \widetilde{\boldsymbol{\mu}} \, , \; \mathbf{m_{\bar{q}}}^{\text{p}} \, , \; \mathbf{m_{\bar{u}}}^{\text{r}} \, \right] \, \right)
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