$$
\begin{aligned}
Y_d^{i1\_i2\_} \rightarrow {}& c_\gamma\, y_d^{i1i2} + \hbar\left(\frac{1}{144}\, c_\gamma\, \frac{1}{m_\Phi^2}\left(m_\Phi^2\, y_d^{i1i2}\left(96\, g_3^2 + 27\, g_2^2\left(1 + 2\, c_\gamma^2 + 2\, s_\gamma^2\right) + g_1^2\left(5 + 18\, c_\gamma^2 + 18\, s_\gamma^2\right)\right) +\right.\right. \\
& 54\,\overline{y_d}^{pr}\left(m_\Phi^2\, y_d^{pi2}\, y_d^{i1r}\left(1 + s_\gamma^2\right) + 4\, m_H^2\, s_\gamma^2\, y_d^{pr}\, y_d^{i1i2}\right) + \\
& \left.18\, y_d^{pi2}\, \overline{y_u}^{pr}\, y_u^{i1r}\left(m_\Phi^2\left(1 + c_\gamma^2\right) + 2\, m_H^2\, s_\gamma^2\right)\right) - \frac{1}{2}\sum_p s_{2\gamma}\, s_\gamma\, g_1^2\, \frac{1}{m_\Phi^4}\, y_d^{i1i2} \\
& \left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_d^p\right] + \frac{3}{2}\, s_{2\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, \overline{y_d}^{pr}\, y_d^{pr}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_d^r\right] - \\
& \frac{1}{2}\sum_p s_{2\gamma}\, s_\gamma\, g_1^2\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_e^p\right] + \frac{1}{2}\, s_{2\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\, \overline{y_e}^{pr}\, y_e^{pr} \\
& \left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_e^r\right] + \frac{1}{2}\, s_{2\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(\overline{y_e}^{pr}\, y_e^{pr} + \sum_p g_1^2\right) LF_{1,0}\left[m_l^p\right] - \\
& \frac{1}{2}\, s_{2\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(-3\,\overline{y_d}^{pr}\, y_d^{pr} + 3\,\overline{y_u}^{pr}\, y_u^{pr} + \sum_p g_1^2\right) LF_{1,0}\left[m_q^p\right] + \\
& \sum_p s_{2\gamma}\, s_\gamma\, g_1^2\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_u^p\right] - \\
& \frac{3}{2}\, s_{2\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\,\overline{y_u}^{pr}\, y_u^{pr}\left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_u^r\right] - \\
& \frac{3}{8}\, s_{4\gamma}\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(g_1^2 + g_2^2\right)\left(m_H^2 + m_\Phi^2\right) LF_{1,0}\left[m_\Phi\right] - \\
& \frac{1}{4}\, c_\gamma\, y_d^{pi2}\left(3\, s_\gamma^2\,\overline{y_d}^{pr}\, y_d^{i1r} + \overline{y_u}^{pr}\, y_u^{i1r}\left(c_\gamma^2 + 4\, s_\gamma^2\right)\right) LF_{1,1}\left[m_\Phi\right] + \\
& \frac{1}{2}\, m_H^2\, c_\gamma\, s_\gamma^2\, y_d^{pi2}\,\overline{y_u}^{pr}\, y_u^{i1r}\, LF_{1,2}\left[m_\Phi\right] - \frac{1}{9}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{1,1,0}\left[m_1,\, m_d^{i2}\right] + \\
& \frac{1}{18}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{2,1,-1}\left[m_1,\, m_d^{i2}\right] - \frac{5}{36}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{1,1,0}\left[m_1,\, m_q^{i1}\right] + \\
& \frac{1}{72}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{2,1,-1}\left[m_1,\, m_q^{i1}\right] + m_1\, s_\gamma\, \tilde\mu\, g_1^2\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(c_\gamma^2 - s_\gamma^2\right) LF_{1,1,0}\left[m_1,\, \tilde\mu\right] - \\
& \frac{3}{4}\, c_\gamma\, g_2^2\, y_d^{i1i2}\, LF_{1,1,0}\left[m_2,\, m_q^{i1}\right] + \frac{3}{8}\, c_\gamma\, g_2^2\, y_d^{i1i2}\, LF_{2,1,-1}\left[m_2,\, m_q^{i1}\right] + \\
& 3\, m_2\, s_\gamma\, \tilde\mu\, g_2^2\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(c_\gamma^2 - s_\gamma^2\right) LF_{1,1,0}\left[m_2,\, \tilde\mu\right] - \\
& \frac{4}{3}\, c_\gamma\, g_3^2\, y_d^{i1i2}\, LF_{1,1,0}\left[m_3,\, m_d^{i2}\right] + \frac{2}{3}\, c_\gamma\, g_3^2\, y_d^{i1i2}\, LF_{2,1,-1}\left[m_3,\, m_d^{i2}\right] - \\
& \frac{4}{3}\, c_\gamma\, g_3^2\, y_d^{i1i2}\, LF_{1,1,0}\left[m_3,\, m_q^{i1}\right] + \frac{2}{3}\, c_\gamma\, g_3^2\, y_d^{i1i2}\, LF_{2,1,-1}\left[m_3,\, m_q^{i1}\right] + \\
& 3\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(s_\gamma\,\overline{a_d}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_d}^{pr}\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) LF_{1,1,0}\left[m_d^r,\, m_q^p\right] - \\
& \frac{1}{2}\, c_\gamma\,\overline{y_d}^{pr}\, y_d^{pi2}\, y_d^{i1r}\, LF_{1,1,0}\left[m_d^r,\, \tilde\mu\right] + \\
& s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(s_\gamma\,\overline{a_e}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_e}^{pr}\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) LF_{1,1,0}\left[m_e^r,\, m_l^p\right] + \frac{1}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2} \\
& \left(\overline{a_e}^{pr}\left(m_\Phi^2\, c_\gamma^2 - 2\, m_H^2\, s_\gamma^2\right) - s_\gamma\, \tilde\mu\, c_\gamma\,\overline{y_e}^{pr}\left(2\, m_H^2 + m_\Phi^2\right)\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) LF_{2,1,0}\left[m_l^p,\, m_e^r\right] - \\
& \frac{1}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(\overline{a_e}^{pr}\left(m_\Phi^2\, c_\gamma^2 - 2\, m_H^2\, s_\gamma^2\right) - s_\gamma\, \tilde\mu\, c_\gamma\,\overline{y_e}^{pr}\left(2\, m_H^2 + m_\Phi^2\right)\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) \\
& LF_{3,1,-1}\left[m_l^p,\, m_e^r\right] - m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_e}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) LF_{3,1,0}\left[m_l^p,\, m_e^r\right] + \\
& 3\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_e}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) LF_{4,1,-1}\left[m_l^p,\, m_e^r\right] - \\
& 2\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_e}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma\, a_e^{pr} - s_\gamma\, \tilde\mu\, y_e^{pr}\right) LF_{5,1,-2}\left[m_l^p,\, m_e^r\right] + \frac{3}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2} \\
& \left(\overline{a_d}^{pr}\left(m_\Phi^2\, c_\gamma^2 - 2\, m_H^2\, s_\gamma^2\right) - s_\gamma\, \tilde\mu\, c_\gamma\,\overline{y_d}^{pr}\left(2\, m_H^2 + m_\Phi^2\right)\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) LF_{2,1,0}\left[m_q^p,\, m_d^r\right] - \\
& \frac{3}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(\overline{a_d}^{pr}\left(m_\Phi^2\, c_\gamma^2 - 2\, m_H^2\, s_\gamma^2\right) - s_\gamma\, \tilde\mu\, c_\gamma\,\overline{y_d}^{pr}\left(2\, m_H^2 + m_\Phi^2\right)\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) \\
& LF_{3,1,-1}\left[m_q^p,\, m_d^r\right] - 3\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_d}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) LF_{3,1,0}\left[m_q^p,\, m_d^r\right] + \\
& 9\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_d}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) LF_{4,1,-1}\left[m_q^p,\, m_d^r\right] - \\
& 6\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(c_\gamma\,\overline{a_d}^{pr} - s_\gamma\, \tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma\, a_d^{pr} - s_\gamma\, \tilde\mu\, y_d^{pr}\right) LF_{5,1,-2}\left[m_q^p,\, m_d^r\right] - \\
& 3\, s_\gamma\, \frac{1}{m_\Phi^4}\, y_d^{i1i2}\left(m_H^2 + m_\Phi^2\right)\left(s_\gamma\,\overline{a_u}^{pr} - \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right)\left(c_\gamma\, a_u^{pr} + s_\gamma\, \tilde\mu\, y_u^{pr}\right) LF_{1,1,0}\left[m_q^p,\, m_u^r\right] - \\
& c_\gamma\,\overline{y_d}^{pr}\, y_d^{pi2}\, y_d^{i1r}\, LF_{1,1,0}\left[m_q^p,\, \tilde\mu\right] + \frac{3}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(s_\gamma\,\overline{a_u}^{pr} - \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) \\
& \left(s_\gamma\, c_\gamma\, a_u^{pr}\left(2\, m_H^2 + m_\Phi^2\right) + \tilde\mu\, y_u^{pr}\left(-m_\Phi^2\, c_\gamma^2 + 2\, m_H^2\, s_\gamma^2\right)\right) LF_{2,1,0}\left[m_u^r,\, m_q^p\right] - \frac{3}{2}\, \frac{1}{m_\Phi^2}\, y_d^{i1i2} \\
& \left(s_\gamma\,\overline{a_u}^{pr} - \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right)\left(s_\gamma\, c_\gamma\, a_u^{pr}\left(2\, m_H^2 + m_\Phi^2\right) + \tilde\mu\, y_u^{pr}\left(-m_\Phi^2\, c_\gamma^2 + 2\, m_H^2\, s_\gamma^2\right)\right) LF_{3,1,-1}\left[m_u^r,\, m_q^p\right] - \\
& 3\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right)\left(-s_\gamma\, a_u^{pr} + \tilde\mu\, c_\gamma\, y_u^{pr}\right) LF_{3,1,0}\left[m_u^r,\, m_q^p\right] + \\
& 9\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right)\left(-s_\gamma\, a_u^{pr} + \tilde\mu\, c_\gamma\, y_u^{pr}\right) LF_{4,1,-1}\left[m_u^r,\, m_q^p\right] - \\
& 6\, m_H^2\, c_\gamma\, y_d^{i1i2}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right)\left(-s_\gamma\, a_u^{pr} + \tilde\mu\, c_\gamma\, y_u^{pr}\right) LF_{5,1,-2}\left[m_u^r,\, m_q^p\right] - \\
& \frac{1}{2}\, c_\gamma\, y_d^{pi2}\,\overline{y_u}^{pr}\, y_u^{i1r}\, LF_{1,1,0}\left[m_u^r,\, \tilde\mu\right] - \frac{3}{4}\, c_\gamma\, g_1^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{2,1,-1}\left[\tilde\mu,\, m_1\right] + \\
& m_1\, s_\gamma\, \tilde\mu\, g_1^2\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(-c_\gamma^2\left(m_H^2 + m_\Phi^2\right) + m_H^2\, s_\gamma^2\right) LF_{2,1,0}\left[\tilde\mu,\, m_1\right] + \\
& \frac{1}{2}\, c_\gamma\, g_1^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{3,1,-2}\left[\tilde\mu,\, m_1\right] + \\
& g_1^2\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(2\, m_H^2\, c_\gamma\, m_\Phi^2\left(c_\gamma^2 + s_\gamma^2\right) + m_1\, s_\gamma\, \tilde\mu\left(c_\gamma^2\left(m_H^2 + m_\Phi^2\right) - m_H^2\, s_\gamma^2\right)\right) LF_{3,1,-1}\left[\tilde\mu,\, m_1\right] + \\
& 2\, m_1\, m_H^2\, s_\gamma\, \tilde\mu\, g_1^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{3,1,0}\left[\tilde\mu,\, m_1\right] - 4\, m_H^2\, c_\gamma\, g_1^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{4,1,-2}\left[\tilde\mu,\, m_1\right] - \\
& 6\, m_1\, m_H^2\, s_\gamma\, \tilde\mu\, g_1^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{4,1,-1}\left[\tilde\mu,\, m_1\right] + 2\, m_H^2\, c_\gamma\, g_1^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{5,1,-3}\left[\tilde\mu,\, m_1\right] + \\
& 4\, m_1\, m_H^2\, s_\gamma\, \tilde\mu\, g_1^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{5,1,-2}\left[\tilde\mu,\, m_1\right] - \frac{9}{4}\, c_\gamma\, g_2^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{2,1,-1}\left[\tilde\mu,\, m_2\right] - \\
& 3\, m_2\, s_\gamma\, \tilde\mu\, g_2^2\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(c_\gamma^2\left(m_H^2 + m_\Phi^2\right) - m_H^2\, s_\gamma^2\right) LF_{2,1,0}\left[\tilde\mu,\, m_2\right] + \\
& \frac{3}{2}\, c_\gamma\, g_2^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{3,1,-2}\left[\tilde\mu,\, m_2\right] + \\
& 3\, g_2^2\, \frac{1}{m_\Phi^2}\, y_d^{i1i2}\left(2\, m_H^2\, c_\gamma\, m_\Phi^2\left(c_\gamma^2 + s_\gamma^2\right) + m_2\, s_\gamma\, \tilde\mu\left(c_\gamma^2\left(m_H^2 + m_\Phi^2\right) - m_H^2\, s_\gamma^2\right)\right) LF_{3,1,-1}\left[\tilde\mu,\, m_2\right] + \\
& 6\, m_2\, m_H^2\, s_\gamma\, \tilde\mu\, g_2^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{3,1,0}\left[\tilde\mu,\, m_2\right] - 12\, m_H^2\, c_\gamma\, g_2^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{4,1,-2}\left[\tilde\mu,\, m_2\right] - \\
& 18\, m_2\, m_H^2\, s_\gamma\, \tilde\mu\, g_2^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{4,1,-1}\left[\tilde\mu,\, m_2\right] + 6\, m_H^2\, c_\gamma\, g_2^2\, y_d^{i1i2}\left(c_\gamma^2 + s_\gamma^2\right) LF_{5,1,-3}\left[\tilde\mu,\, m_2\right] + \\
& 12\, m_2\, m_H^2\, s_\gamma\, \tilde\mu\, g_2^2\, c_\gamma^2\, y_d^{i1i2}\, LF_{5,1,-2}\left[\tilde\mu,\, m_2\right] + \frac{1}{4}\, c_\gamma\,\overline{y_d}^{pr}\, y_d^{pi2}\, y_d^{i1r}\, LF_{2,1,-1}\left[\tilde\mu,\, m_d^r\right] + \\
& \frac{1}{2}\, c_\gamma\,\overline{y_d}^{pr}\, y_d^{pi2}\, y_d^{i1r}\, LF_{2,1,-1}\left[\tilde\mu,\, m_q^p\right] + \frac{1}{4}\, c_\gamma\, y_d^{pi2}\,\overline{y_u}^{pr}\, y_u^{i1r}\, LF_{2,1,-1}\left[\tilde\mu,\, m_u^r\right] + \\
& \frac{1}{9}\, m_1\, g_1^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{1,1,1,0}\left[m_1,\, m_d^{i2},\, m_q^{i1}\right] + \\
& \frac{1}{36}\, m_1\, m_H^2\, g_1^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,2,1,-1}\left[m_1,\, m_d^{i2},\, m_q^{i1}\right] + \\
& \frac{1}{3}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{1,1,1,-1}\left[m_1,\, m_d^{i2},\, \tilde\mu\right] + \frac{1}{3}\, m_1\, s_\gamma\, \tilde\mu\, g_1^2\, y_d^{i1i2}\, LF_{1,1,1,0}\left[m_1,\, m_d^{i2},\, \tilde\mu\right] + \\
& \frac{1}{36}\, m_1\, m_H^2\, g_1^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,2,1,-1}\left[m_1,\, m_q^{i1},\, m_d^{i2}\right] + \\
& \frac{1}{6}\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{1,1,1,-1}\left[m_1,\, m_q^{i1},\, \tilde\mu\right] + \frac{1}{6}\, m_1\, s_\gamma\, \tilde\mu\, g_1^2\, y_d^{i1i2}\, LF_{1,1,1,0}\left[m_1,\, m_q^{i1},\, \tilde\mu\right] - \\
& \frac{1}{6}\, m_H^2\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{2,2,1,-2}\left[m_1,\, \tilde\mu,\, m_d^{i2}\right] - \frac{1}{6}\, m_1\, m_H^2\, s_\gamma\, \tilde\mu\, g_1^2\, y_d^{i1i2}\, LF_{2,2,1,-1}\left[m_1,\, \tilde\mu,\, m_d^{i2}\right] - \\
& \frac{1}{12}\, m_H^2\, c_\gamma\, g_1^2\, y_d^{i1i2}\, LF_{2,2,1,-2}\left[m_1,\, \tilde\mu,\, m_q^{i1}\right] - \frac{1}{12}\, m_1\, m_H^2\, s_\gamma\, \tilde\mu\, g_1^2\, y_d^{i1i2}\, LF_{2,2,1,-1}\left[m_1,\, \tilde\mu,\, m_q^{i1}\right] + \\
& \frac{3}{2}\, c_\gamma\, g_2^2\, y_d^{i1i2}\, LF_{1,1,1,-1}\left[m_2,\, m_q^{i1},\, \tilde\mu\right] + \frac{3}{2}\, m_2\, s_\gamma\, \tilde\mu\, g_2^2\, y_d^{i1i2}\, LF_{1,1,1,0}\left[m_2,\, m_q^{i1},\, \tilde\mu\right] - \\
& \frac{3}{4}\, m_H^2\, c_\gamma\, g_2^2\, y_d^{i1i2}\, LF_{2,2,1,-2}\left[m_2,\, \tilde\mu,\, m_q^{i1}\right] - \frac{3}{4}\, m_2\, m_H^2\, s_\gamma\, \tilde\mu\, g_2^2\, y_d^{i1i2}\, LF_{2,2,1,-1}\left[m_2,\, \tilde\mu,\, m_q^{i1}\right] + \\
& \frac{8}{3}\, m_3\, g_3^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{1,1,1,0}\left[m_3,\, m_d^{i2},\, m_q^{i1}\right] + \\
& \frac{2}{3}\, m_3\, m_H^2\, g_3^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,2,1,-1}\left[m_3,\, m_d^{i2},\, m_q^{i1}\right] + \\
& \frac{2}{3}\, m_3\, m_H^2\, g_3^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,2,1,-1}\left[m_3,\, m_q^{i1},\, m_d^{i2}\right] + \\
& \frac{1}{18}\, m_1\, m_H^2\, g_1^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,1,1,0}\left[m_d^{i2},\, m_1,\, m_q^{i1}\right] + \\
& \frac{1}{18}\, m_1\, m_H^2\, g_1^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{3,1,1,-1}\left[m_d^{i2},\, m_1,\, m_q^{i1}\right] + \\
& \frac{4}{3}\, m_3\, m_H^2\, g_3^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,1,1,0}\left[m_d^{i2},\, m_3,\, m_q^{i1}\right] + \\
& \frac{4}{3}\, m_3\, m_H^2\, g_3^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{3,1,1,-1}\left[m_d^{i2},\, m_3,\, m_q^{i1}\right] + \\
& \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{1,1,1,0}\left[m_q^p,\, m_u^r,\, \tilde\mu\right] + \\
& \frac{1}{2}\, m_H^2\, \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(s_\gamma\,\overline{a_u}^{pr} - \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{2,1,1,0}\left[m_q^p,\, m_u^r,\, \tilde\mu\right] + \\
& \frac{1}{2}\, m_H^2\, \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{3,1,1,-1}\left[m_q^p,\, m_u^r,\, \tilde\mu\right] + \\
& \frac{1}{4}\, m_H^2\, \tilde\mu\, y_d^{i1r}\, y_u^{i1r}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{2,2,1,-1}\left[m_q^p,\, \tilde\mu,\, m_u^r\right] + \\
& \frac{1}{18}\, m_1\, m_H^2\, g_1^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,1,1,0}\left[m_q^{i1},\, m_1,\, m_d^{i2}\right] + \\
& \frac{1}{18}\, m_1\, m_H^2\, g_1^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{3,1,1,-1}\left[m_q^{i1},\, m_1,\, m_d^{i2}\right] + \\
& \frac{4}{3}\, m_3\, m_H^2\, g_3^2\left(-c_\gamma\, a_d^{i1i2} + s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{2,1,1,0}\left[m_q^{i1},\, m_3,\, m_d^{i2}\right] + \\
& \frac{4}{3}\, m_3\, m_H^2\, g_3^2\left(c_\gamma\, a_d^{i1i2} - s_\gamma\, \tilde\mu\, y_d^{i1i2}\right) LF_{3,1,1,-1}\left[m_q^{i1},\, m_3,\, m_d^{i2}\right] + \\
& \frac{1}{2}\, m_H^2\, \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(s_\gamma\,\overline{a_u}^{pr} - \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{2,1,1,0}\left[m_u^r,\, m_q^p,\, \tilde\mu\right] + \\
& \frac{1}{2}\, m_H^2\, \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{3,1,1,-1}\left[m_u^r,\, m_q^p,\, \tilde\mu\right] + \\
& \left.\frac{1}{4}\, m_H^2\, \tilde\mu\, y_d^{pi2}\, y_u^{i1r}\left(-s_\gamma\,\overline{a_u}^{pr} + \tilde\mu\, c_\gamma\,\overline{y_u}^{pr}\right) LF_{2,2,1,-1}\left[m_u^r,\, \tilde\mu,\, m_q^p\right]\right)
\end{aligned}
$$