$$C_{He}^{i1\_i2-} \to \frac{1}{16\pi^2}\Bigg(\frac{1}{72}\frac{1}{m_e^2}s_\gamma^2\,\overline{y_e}^{pi1}\left(5g_1^2 y_e^{pi2}+6c_\gamma^2\,\overline{y_e}^{rs}y_e^{ps}y_e^{ri2}\right)-$$

$$\frac{2}{27}\sum_p g_1^4\,LF_{3,0}\!\left[m_d^p\right]\delta_{i1i2}+\frac{5}{36}\sum_p g_1^4\,LF_{4,-1}\!\left[m_d^p\right]\delta_{i1i2}-\frac{8}{135}\sum_p g_1^4\,LF_{5,-2}\!\left[m_d^p\right]\delta_{i1i2}-$$

$$\frac{2}{9}\sum_p g_1^4\,LF_{3,0}\!\left[m_e^p\right]\delta_{i1i2}+\frac{5}{12}\sum_p g_1^4\,LF_{4,-1}\!\left[m_e^p\right]\delta_{i1i2}-\frac{8}{45}\sum_p g_1^4\,LF_{5,-2}\!\left[m_e^p\right]\delta_{i1i2}-$$

$$\frac{1}{9}\sum_p g_1^4\,LF_{3,0}\!\left[m_l^p\right]\delta_{i1i2}+\frac{5}{24}\sum_p g_1^4\,LF_{4,-1}\!\left[m_l^p\right]\delta_{i1i2}-\frac{4}{45}\sum_p g_1^4\,LF_{5,-2}\!\left[m_l^p\right]\delta_{i1i2}-$$

$$\frac{1}{27}\sum_p g_1^4\,LF_{3,0}\!\left[m_q^p\right]\delta_{i1i2}+\frac{5}{72}\sum_p g_1^4\,LF_{4,-1}\!\left[m_q^p\right]\delta_{i1i2}-\frac{4}{135}\sum_p g_1^4\,LF_{5,-2}\!\left[m_q^p\right]\delta_{i1i2}-$$

$$\frac{8}{27}\sum_p g_1^4\,LF_{3,0}\!\left[m_u^p\right]\delta_{i1i2}+\frac{5}{9}\sum_p g_1^4\,LF_{4,-1}\!\left[m_u^p\right]\delta_{i1i2}-\frac{32}{135}\sum_p g_1^4\,LF_{5,-2}\!\left[m_u^p\right]\delta_{i1i2}+$$

$$\frac{1}{6}s_\gamma^2\overline{y_e}^{pi1}\left(g_1^2 y_e^{pi2}+3c_\gamma^2\overline{y_e}^{rs}y_e^{ps}y_e^{ri2}\right)LF_{1,2}[m_\Phi]+\frac{1}{12}g_1^2 s_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1}[m_\Phi]-$$

$$\frac{1}{36}g_1^2\left(3s_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}+4g_1^2\delta_{i1i2}\right)LF_{3,0}[m_\Phi]+\frac{5}{24}g_1^4\,LF_{4,-1}[m_\Phi]\delta_{i1i2}-$$

$$\frac{4}{45}g_1^4\,LF_{5,-2}[m_\Phi]\delta_{i1i2}-\frac{1}{9}g_1^4\,LF_{3,0}[\tilde\mu]\delta_{i1i2}-\frac{1}{6}g_1^4\,LF_{4,-1}[\tilde\mu]\delta_{i1i2}+$$

$$\frac{8}{45}g_1^4\,LF_{5,-2}[\tilde\mu]\delta_{i1i2}-\frac{1}{6}g_1^4\,LF_{2,1,0}\!\left[m_1,m_e^{i2}\right]\delta_{i1i2}-\frac{1}{6}g_1^4\,LF_{2,2,-1}\!\left[m_1,m_e^{i2}\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^4\,LF_{3,1,-1}\!\left[m_1,m_e^{i2}\right]\delta_{i1i2}-\frac{1}{6}g_1^4\,LF_{4,1,-2}\!\left[m_1,m_e^{i2}\right]\delta_{i1i2}-$$

$$\frac{1}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,0}\!\left[m_1,m_l^p\right]+\frac{1}{2}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,-1}\!\left[m_1,m_l^p\right]-$$

$$\frac{1}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{4,1,-2}\!\left[m_1,m_l^p\right]-\frac{3}{4}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,0}\!\left[m_2,m_l^p\right]+$$

$$\frac{3}{2}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,-1}\!\left[m_2,m_l^p\right]-\frac{3}{4}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{4,1,-2}\!\left[m_2,m_l^p\right]-$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{2,2,0}\!\left[m_d^{\ r},m_q^p\right]\delta_{i1i2}+$$

$$\frac{1}{6}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{3,2,-1}\!\left[m_d^{\ r},m_q^p\right]\delta_{i1i2}-$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{2,2,0}\!\left[m_e^r,m_l^p\right]\delta_{i1i2}+$$

$$\frac{1}{6}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{3,2,-1}\!\left[m_e^r,m_l^p\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^4\,LF_{2,1,0}\!\left[m_e^{i2},m_1\right]\delta_{i1i2}-\frac{1}{6}g_1^4\,LF_{3,1,-1}\!\left[m_e^{i2},m_1\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{3,1,0}\!\left[m_l^p,m_e^r\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{3,2,-1}\!\left[m_l^p,m_e^r\right]\delta_{i1i2}-$$

$$\frac{3}{2}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{4,1,-1}\!\left[m_l^p,m_e^r\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde\mu\,\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde\mu\,y_e^{pr}\right)LF_{5,1,-2}\!\left[m_l^p,m_e^r\right]\delta_{i1i2}+$$

$$\frac{1}{6}g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,0}\!\left[m_l^p,\tilde\mu\right]-\frac{1}{12}g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,-1}\!\left[m_l^p,\tilde\mu\right]-\frac{1}{12}g_1^2\overline{y_e}^{pi1}y_e^{pi2}$$

$$LF_{3,1,-1}\!\left[m_l^p,\tilde\mu\right]+\frac{1}{3}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{3,1,0}\!\left[m_q^p,m_d^{\ r}\right]\delta_{i1i2}+$$

$$\frac{1}{3}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{3,2,-1}\!\left[m_q^p,m_d^{\ r}\right]\delta_{i1i2}-$$

$$\frac{5}{4}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{4,1,-1}\!\left[m_q^p,m_d^{\ r}\right]\delta_{i1i2}+$$

$$g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde\mu\,\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde\mu\,y_d^{pr}\right)LF_{5,1,-2}\!\left[m_q^p,m_d^{\ r}\right]\delta_{i1i2}+$$

$$\frac{1}{6}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{2,2,0}\!\left[m_q^p,m_u^{\ r}\right]\delta_{i1i2}-$$

$$\frac{1}{12}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{3,2,-1}\!\left[m_q^p,m_u^{\ r}\right]\delta_{i1i2}-$$

$$\frac{1}{6}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{3,1,0}\!\left[m_u^{\ r},m_q^p\right]\delta_{i1i2}-$$

$$\frac{1}{6}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{3,2,-1}\!\left[m_u^{\ r},m_q^p\right]\delta_{i1i2}-$$

$$\frac{1}{2}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{4,1,-1}\!\left[m_u^{\ r},m_q^p\right]\delta_{i1i2}+$$

$$g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde\mu\,c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde\mu\,c_\gamma y_u^{pr}\right)LF_{5,1,-2}\!\left[m_u^{\ r},m_q^p\right]\delta_{i1i2}+$$

$$\frac{5}{12}g_1^4\,LF_{4,1,-2}\!\left[\tilde\mu,m_1\right]\delta_{i1i2}+\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^4\,LF_{4,1,-1}\!\left[\tilde\mu,m_1\right]\delta_{i1i2}-$$

$$\frac{1}{3}g_1^4\,LF_{5,1,-3}\!\left[\tilde\mu,m_1\right]\delta_{i1i2}-\frac{2}{3}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^4\,LF_{5,1,-2}\!\left[\tilde\mu,m_1\right]\delta_{i1i2}+$$

$$\frac{5}{4}g_1^2 g_2^2\,LF_{4,1,-2}\!\left[\tilde\mu,m_2\right]\delta_{i1i2}+\frac{3}{2}m_2 s_\gamma\tilde\mu\,c_\gamma g_1^2 g_2^2\,LF_{4,1,-1}\!\left[\tilde\mu,m_2\right]\delta_{i1i2}-$$

$$g_1^2 g_2^2\,LF_{5,1,-3}\!\left[\tilde\mu,m_2\right]\delta_{i1i2}-2m_2 s_\gamma\tilde\mu\,c_\gamma g_1^2 g_2^2\,LF_{5,1,-2}\!\left[\tilde\mu,m_2\right]\delta_{i1i2}-$$

$$\frac{1}{2}c_\gamma^2\overline{y_e}^{pi1}\overline{y_e}^{rs}y_e^{ps}y_e^{ri2}LF_{2,1,0}\!\left[\tilde\mu,m_e^s\right]+c_\gamma^2\overline{y_e}^{pi1}\overline{y_e}^{rs}y_e^{ps}y_e^{ri2}LF_{3,1,-1}\!\left[\tilde\mu,m_e^s\right]-$$

$$\frac{1}{2}c_\gamma^2\overline{y_e}^{pi1}\overline{y_e}^{rs}y_e^{ps}y_e^{ri2}LF_{4,1,-2}\!\left[\tilde\mu,m_e^s\right]-\frac{1}{12}g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,0}\!\left[\tilde\mu,m_l^p\right]+$$

$$\frac{5}{12}g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,-1}\!\left[\tilde\mu,m_l^p\right]-\frac{1}{6}g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{4,1,-2}\!\left[\tilde\mu,m_l^p\right]+$$

$$\frac{1}{4}m_1 c_\gamma g_1^2 y_e^{pi2}\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,1,1,0}\!\left[m_1,m_e^{i1},m_l^p\right]+$$

$$\frac{1}{8}m_1 c_\gamma g_1^2 y_e^{pi2}\left(-c_\gamma\overline{a_e}^{pi1}+s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,2,1,-1}\!\left[m_1,m_e^{i1},m_l^p\right]+$$

$$\frac{1}{4}m_1 c_\gamma g_1^2 y_e^{pi2}\left(-c_\gamma\overline{a_e}^{pi1}+s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{3,1,1,-1}\!\left[m_1,m_e^{i1},m_l^p\right]+$$

$$\frac{1}{4}m_1 c_\gamma g_1^2\overline{y_e}^{pi1}\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,0}\!\left[m_1,m_e^{i2},m_l^p\right]+$$

$$\frac{1}{8}m_1 c_\gamma g_1^2\overline{y_e}^{pi1}\left(-c_\gamma a_e^{pi2}+s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,2,1,-1}\!\left[m_1,m_e^{i2},m_l^p\right]+$$

$$\frac{1}{4}m_1 c_\gamma g_1^2\overline{y_e}^{pi1}\left(-c_\gamma a_e^{pi2}+s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{3,1,1,-1}\!\left[m_1,m_e^{i2},m_l^p\right]+$$

$$\frac{1}{4}g_1^4\left(-c_\gamma^2+s_\gamma^2\right)LF_{2,1,1,-1}\!\left[m_1,m_e^{i2},\tilde\mu\right]\delta_{i1i2}+\frac{1}{2}g_1^4 m_1^2\left(-c_\gamma^2+s_\gamma^2\right)LF_{2,1,1,0}\!\left[m_1,m_e^{i2},\tilde\mu\right]$$

$$\delta_{i1i2}+\frac{1}{8}m_1 c_\gamma g_1^2 y_e^{pi2}\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,2,1,-1}\!\left[m_1,m_l^p,m_e^{i1}\right]+$$

$$\frac{1}{8}m_1 c_\gamma g_1^2\overline{y_e}^{pi1}\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,2,1,-1}\!\left[m_1,m_l^p,m_e^{i2}\right]-$$

$$\frac{3}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[m_1,m_l^p,\tilde\mu\right]-\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[m_1,m_l^p,\tilde\mu\right]+$$

$$\frac{1}{2}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-2}\!\left[m_1,m_l^p,\tilde\mu\right]+\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-1}\!\left[m_1,m_l^p,\tilde\mu\right]-$$

$$\frac{1}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,1,-2}\!\left[m_1,\tilde\mu,m_e^{i1}\right]-\frac{1}{4}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,1,-1}\!\left[m_1,\tilde\mu,m_e^{i1}\right]+$$

$$\frac{1}{4}\left(-g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}+g_1^4\left(-c_\gamma^2+s_\gamma^2\right)\delta_{i1i2}\right)LF_{2,2,1,-2}\!\left[m_1,\tilde\mu,m_e^{i2}\right]+$$

$$\frac{1}{4}m_1 g_1^2\left(-s_\gamma\tilde\mu\,c_\gamma\overline{y_e}^{pi1}y_e^{pi2}+m_1 g_1^2\left(c_\gamma^2-s_\gamma^2\right)\delta_{i1i2}\right)LF_{2,2,1,-1}\!\left[m_1,\tilde\mu,m_e^{i2}\right]+$$

$$\frac{1}{8}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,1,-2}\!\left[m_1,\tilde\mu,m_l^p\right]-$$

$$\frac{1}{8}g_1^2 s_\gamma^2\tilde\mu^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,1,-1}\!\left[m_1,\tilde\mu,m_l^p\right]+\frac{9}{4}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[m_2,m_l^p,\tilde\mu\right]+$$

$$\frac{3}{2}m_2 s_\gamma\tilde\mu\,c_\gamma g_2^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[m_2,m_l^p,\tilde\mu\right]-\frac{3}{2}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-2}\!\left[m_2,m_l^p,\tilde\mu\right]-$$

$$\frac{3}{2}m_2 s_\gamma\tilde\mu\,c_\gamma g_2^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-1}\!\left[m_2,m_l^p,\tilde\mu\right]-\frac{9}{8}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,2,1,-2}\!\left[m_2,\tilde\mu,m_l^p\right]-$$

$$\frac{3}{8}s_\gamma\tilde\mu\,g_2^2\overline{y_e}^{pi1}y_e^{pi2}\left(4m_2 c_\gamma+s_\gamma\tilde\mu\right)LF_{2,2,1,-1}\!\left[m_2,\tilde\mu,m_l^p\right]+$$

$$\frac{3}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i1}\right]+\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[\tilde\mu,m_1,m_e^{i1}\right]-$$

$$\frac{1}{2}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-2}\!\left[\tilde\mu,m_1,m_e^{i1}\right]-\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i1}\right]+$$

$$\frac{3}{4}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i2}\right]+\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[\tilde\mu,m_1,m_e^{i2}\right]-$$

$$\frac{1}{2}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-2}\!\left[\tilde\mu,m_1,m_e^{i2}\right]-\frac{1}{2}m_1 s_\gamma\tilde\mu\,c_\gamma g_1^2\overline{y_e}^{pi1}y_e^{pi2}LF_{3,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i2}\right]-$$

$$\frac{1}{8}g_1^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[\tilde\mu,m_1,m_l^p\right]+\frac{1}{4}g_1^2 s_\gamma^2\tilde\mu^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[\tilde\mu,m_1,m_l^p\right]-$$

$$\frac{3}{8}g_2^2 c_\gamma^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,-1}\!\left[\tilde\mu,m_2,m_l^p\right]+\frac{3}{4}g_2^2 s_\gamma^2\tilde\mu^2\overline{y_e}^{pi1}y_e^{pi2}LF_{2,1,1,0}\!\left[\tilde\mu,m_2,m_l^p\right]+$$

$$\frac{1}{4}g_1^2 y_e^{pi2}\left(m_1 c_\gamma-s_\gamma\tilde\mu\right)\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{1,1,1,1,0}\!\left[m_1,m_e^{i1},m_l^p,\tilde\mu\right]+$$

$$\frac{1}{8}g_1^2 y_e^{pi2}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,1,1,1,-1}\!\left[m_1,m_e^{i1},m_l^p,\tilde\mu\right]+$$

$$\frac{1}{4}g_1^2\overline{y_e}^{pi1}\left(m_1 c_\gamma-s_\gamma\tilde\mu\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{1,1,1,1,0}\!\left[m_1,m_e^{i2},m_l^p,\tilde\mu\right]+$$

$$\frac{1}{8}g_1^2\overline{y_e}^{pi1}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,1,-1}\!\left[m_1,m_e^{i2},m_l^p,\tilde\mu\right]+$$

$$\frac{1}{4}c_\gamma\overline{y_e}^{si1}y_e^{pi2}\overline{a_e}^{pr}\left(-c_\gamma a_e^{sr}+s_\gamma\tilde\mu\,y_e^{sr}\right)LF_{2,1,1,1,-1}\!\left[m_e^r,m_l^p,m_l^s,\tilde\mu\right]+$$

$$\frac{1}{4}s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\overline{y_e}^{rs}y_e^{ri2}\left(c_\gamma a_e^{ps}-s_\gamma\tilde\mu\,y_e^{ps}\right)LF_{2,1,1,1,-1}\!\left[m_e^s,m_l^p,m_l^r,\tilde\mu\right]+$$

$$\frac{1}{8}g_1^2 y_e^{pi2}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,1,1,1,-1}\!\left[m_e^{i1},m_1,m_l^p,\tilde\mu\right]+$$

$$\frac{1}{8}g_1^2\overline{y_e}^{pi1}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,1,-1}\!\left[m_e^{i2},m_1,m_l^p,\tilde\mu\right]+$$

$$\frac{1}{8}g_1^2 y_e^{pi2}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,1,1,1,-1}\!\left[m_l^p,m_1,m_e^{i1},\tilde\mu\right]+$$

$$\frac{1}{2}g_1^2\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,1,-1}\!\left[m_l^p,m_1,m_e^{i2},m_e^{i1}\right]-$$

$$\frac{1}{8}g_1^2\overline{y_e}^{pi1}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,1,-1}\!\left[m_l^p,m_1,m_e^{i2},\tilde\mu\right]-$$

$$\frac{1}{8}g_1^2 y_e^{pi2}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma\overline{a_e}^{pi1}-s_\gamma\tilde\mu\,\overline{y_e}^{pi1}\right)LF_{2,1,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i1},m_l^p\right]-$$

$$\frac{1}{8}g_1^2\overline{y_e}^{pi1}\left(m_1 c_\gamma+s_\gamma\tilde\mu\right)\left(c_\gamma a_e^{pi2}-s_\gamma\tilde\mu\,y_e^{pi2}\right)LF_{2,1,1,1,-1}\!\left[\tilde\mu,m_1,m_e^{i2},m_l^p\right]\Bigg)$$