$$C_{Hq}^{(1)\,i1\_i2}\to\frac{1}{16\pi^2}\left(\frac{1}{432}\frac{1}{m_{\Phi}^2}\left(s_\gamma^2\overline{y_d}^{i2p}\left(5g_1^2y_d^{i1p}-36c_\gamma^2\overline{y_d}^{rs}y_d^{rp}y_d^{i1s}\right)+\right.\right.$$

$$c_\gamma^2\overline{y_u}^{i2p}\left(-13g_1^2y_u^{i1p}+36s_\gamma^2\overline{y_u}^{rs}y_u^{rp}y_u^{i1s}\right)\Big)+\frac{1}{81}\sum_p g_1^4LF_{3,0}[m_{\tilde{d}}^{p}]\delta_{i1i2}-$$

$$\frac{5}{216}\sum_p g_1^4LF_{4,-1}[m_{\tilde{d}}^{p}]\delta_{i1i2}+\frac{4}{405}\sum_p g_1^4LF_{5,-2}[m_{\tilde{d}}^{p}]\delta_{i1i2}+\frac{1}{27}\sum_p g_1^4LF_{3,0}[m_{\tilde{e}}^{p}]\delta_{i1i2}-$$

$$\frac{5}{72}\sum_p g_1^4LF_{4,-1}[m_{\tilde{e}}^{p}]\delta_{i1i2}+\frac{4}{135}\sum_p g_1^4LF_{5,-2}[m_{\tilde{e}}^{p}]\delta_{i1i2}+\frac{1}{54}\sum_p g_1^4LF_{3,0}[m_{\tilde{l}}^{p}]\delta_{i1i2}-$$

$$\frac{5}{144}\sum_p g_1^4LF_{4,-1}[m_{\tilde{l}}^{p}]\delta_{i1i2}+\frac{2}{135}\sum_p g_1^4LF_{5,-2}[m_{\tilde{l}}^{p}]\delta_{i1i2}+$$

$$\frac{1}{162}\sum_p g_1^4LF_{3,0}[m_{\tilde{q}}^{p}]\delta_{i1i2}-\frac{5}{432}\sum_p g_1^4LF_{4,-1}[m_{\tilde{q}}^{p}]\delta_{i1i2}+\frac{2}{405}\sum_p g_1^4LF_{5,-2}[m_{\tilde{q}}^{p}]\delta_{i1i2}+$$

$$\frac{4}{81}\sum_p g_1^4LF_{3,0}[m_{\tilde{u}}^{p}]\delta_{i1i2}-\frac{5}{54}\sum_p g_1^4LF_{4,-1}[m_{\tilde{u}}^{p}]\delta_{i1i2}+\frac{16}{405}\sum_p g_1^4LF_{5,-2}[m_{\tilde{u}}^{p}]\delta_{i1i2}+$$

$$\frac{1}{18}\left(s_\gamma^2\overline{y_d}^{i2p}\left(g_1^2y_d^{i1p}-9c_\gamma^2\overline{y_d}^{rs}y_d^{rp}y_d^{i1s}\right)+c_\gamma^2\overline{y_u}^{i2p}\left(-2g_1^2y_u^{i1p}+9s_\gamma^2\overline{y_u}^{rs}y_u^{rp}y_u^{i1s}\right)\right)$$

$$LF_{1,2}[m_{\Phi}]+\frac{1}{24}g_1^2\left(-s_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+c_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1}[m_{\Phi}]+$$

$$\frac{1}{216}g_1^2\left(9s_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-9c_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}+4g_1^2\delta_{i1i2}\right)LF_{3,0}[m_{\Phi}]-$$

$$\frac{5}{144}g_1^4LF_{4,-1}[m_{\Phi}]\delta_{i1i2}+\frac{2}{135}g_1^4LF_{5,-2}[m_{\Phi}]\delta_{i1i2}+\frac{1}{54}g_1^4LF_{3,0}[\tilde{\mu}]\delta_{i1i2}+$$

$$\frac{1}{36}g_1^4LF_{4,-1}[\tilde{\mu}]\delta_{i1i2}-\frac{4}{135}g_1^4LF_{5,-2}[\tilde{\mu}]\delta_{i1i2}+\frac{1}{18}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,0}[m_1,m_{\tilde{d}}^{p}]-$$

$$\frac{1}{9}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,-1}[m_1,m_{\tilde{d}}^{p}]+\frac{1}{18}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{4,1,-2}[m_1,m_{\tilde{d}}^{p}]+$$

$$\frac{1}{1296}g_1^4LF_{2,1,0}[m_1,m_{\tilde{q}}^{i2}]\delta_{i1i2}+\frac{1}{1296}g_1^4LF_{2,2,-1}[m_1,m_{\tilde{q}}^{i2}]\delta_{i1i2}-$$

$$\frac{1}{648}g_1^4LF_{3,1,-1}[m_1,m_{\tilde{q}}^{i2}]\delta_{i1i2}+\frac{1}{1296}g_1^4LF_{4,1,-2}[m_1,m_{\tilde{q}}^{i2}]\delta_{i1i2}-$$

$$\frac{2}{9}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,0}[m_1,m_{\tilde{u}}^{p}]+\frac{4}{9}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{3,1,-1}[m_1,m_{\tilde{u}}^{p}]-$$

$$\frac{2}{9}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{4,1,-2}[m_1,m_{\tilde{u}}^{p}]+\frac{1}{48}g_1^2g_2^2LF_{2,1,0}[m_2,m_{\tilde{q}}^{i2}]\delta_{i1i2}+$$

$$\frac{1}{48}g_1^2g_2^2LF_{2,2,-1}[m_2,m_{\tilde{q}}^{i2}]\delta_{i1i2}-\frac{1}{24}g_1^2g_2^2LF_{3,1,-1}[m_2,m_{\tilde{q}}^{i2}]\delta_{i1i2}+$$

$$\frac{1}{48}g_1^2g_2^2LF_{4,1,-2}[m_2,m_{\tilde{q}}^{i2}]\delta_{i1i2}+\frac{2}{3}g_3^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,0}[m_3,m_{\tilde{d}}^{p}]-$$

$$\frac{4}{3}g_3^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,-1}[m_3,m_{\tilde{d}}^{p}]+\frac{2}{3}g_3^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{4,1,-2}[m_3,m_{\tilde{d}}^{p}]+$$

$$\frac{1}{27}g_1^2g_3^2LF_{2,1,0}[m_3,m_{\tilde{q}}^{i2}]\delta_{i1i2}+\frac{1}{27}g_1^2g_3^2LF_{2,2,-1}[m_3,m_{\tilde{q}}^{i2}]\delta_{i1i2}-$$

$$\frac{2}{27}g_1^2g_3^2LF_{3,1,-1}[m_3,m_{\tilde{q}}^{i2}]\delta_{i1i2}+\frac{1}{27}g_1^2g_3^2LF_{4,1,-2}[m_3,m_{\tilde{q}}^{i2}]\delta_{i1i2}-$$

$$\frac{2}{3}g_3^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,0}[m_3,m_{\tilde{u}}^{p}]+\frac{4}{3}g_3^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{3,1,-1}[m_3,m_{\tilde{u}}^{p}]-$$

$$\frac{2}{3}g_3^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{4,1,-2}[m_3,m_{\tilde{u}}^{p}]+\frac{1}{18}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,0}[m_{\tilde{d}}^{p},\tilde{\mu}]-$$

$$\frac{1}{36}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,2,-1}[m_{\tilde{d}}^{p},\tilde{\mu}]-\frac{1}{36}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,-1}[m_{\tilde{d}}^{p},\tilde{\mu}]+$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{2,2,0}[m_{\tilde{d}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}-$$

$$\frac{1}{36}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{3,2,-1}[m_{\tilde{d}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}+$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{2,2,0}[m_{\tilde{e}}^{r},m_{\tilde{l}}^{p}]\delta_{i1i2}-$$

$$\frac{1}{36}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{3,2,-1}[m_{\tilde{e}}^{r},m_{\tilde{l}}^{p}]\delta_{i1i2}-$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{3,1,0}[m_{\tilde{l}}^{p},m_{\tilde{e}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{3,2,-1}[m_{\tilde{l}}^{p},m_{\tilde{e}}^{r}]\delta_{i1i2}+$$

$$\frac{1}{8}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{4,1,-1}[m_{\tilde{l}}^{p},m_{\tilde{e}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_e}^{pr}-s_\gamma\tilde{\mu}\overline{y_e}^{pr}\right)\left(c_\gamma a_e^{pr}-s_\gamma\tilde{\mu}y_e^{pr}\right)LF_{5,1,-2}[m_{\tilde{l}}^{p},m_{\tilde{e}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{3,1,0}[m_{\tilde{q}}^{p},m_{\tilde{d}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{18}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{3,2,-1}[m_{\tilde{q}}^{p},m_{\tilde{d}}^{r}]\delta_{i1i2}+$$

$$\frac{5}{24}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{4,1,-1}[m_{\tilde{q}}^{p},m_{\tilde{d}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{6}g_1^2\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)\left(c_\gamma a_d^{pr}-s_\gamma\tilde{\mu}y_d^{pr}\right)LF_{5,1,-2}[m_{\tilde{q}}^{p},m_{\tilde{d}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{36}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{2,2,0}[m_{\tilde{q}}^{p},m_{\tilde{u}}^{r}]\delta_{i1i2}+$$

$$\frac{1}{72}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{3,2,-1}[m_{\tilde{q}}^{p},m_{\tilde{u}}^{r}]\delta_{i1i2}-$$

$$\frac{1}{648}g_1^4LF_{2,1,0}[m_{\tilde{q}}^{i2},m_1]\delta_{i1i2}+\frac{1}{1296}g_1^4LF_{3,1,-1}[m_{\tilde{q}}^{i2},m_1]\delta_{i1i2}-$$

$$\frac{1}{24}g_1^2g_2^2LF_{2,1,0}[m_{\tilde{q}}^{i2},m_2]\delta_{i1i2}+\frac{1}{48}g_1^2g_2^2LF_{3,1,-1}[m_{\tilde{q}}^{i2},m_2]\delta_{i1i2}-$$

$$\frac{2}{27}g_1^2g_3^2LF_{2,1,0}[m_{\tilde{q}}^{i2},m_3]\delta_{i1i2}+\frac{1}{27}g_1^2g_3^2LF_{3,1,-1}[m_{\tilde{q}}^{i2},m_3]\delta_{i1i2}-$$

$$\frac{1}{9}g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,0}[m_{\tilde{u}}^{p},\tilde{\mu}]+\frac{1}{18}g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,2,-1}[m_{\tilde{u}}^{p},\tilde{\mu}]+\frac{1}{18}g_1^2\overline{y_u}^{i2p}y_u^{i1p}$$

$$LF_{3,1,-1}[m_{\tilde{u}}^{p},\tilde{\mu}]+\frac{1}{36}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{3,1,0}[m_{\tilde{u}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}+$$

$$\frac{1}{36}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{3,2,-1}[m_{\tilde{u}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}+$$

$$\frac{1}{12}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{4,1,-1}[m_{\tilde{u}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}-$$

$$\frac{1}{6}g_1^2\left(s_\gamma\overline{a_u}^{pr}-\tilde{\mu}c_\gamma\overline{y_u}^{pr}\right)\left(s_\gamma a_u^{pr}-\tilde{\mu}c_\gamma y_u^{pr}\right)LF_{5,1,-2}[m_{\tilde{u}}^{r},m_{\tilde{q}}^{p}]\delta_{i1i2}-$$

$$\frac{5}{72}g_1^4LF_{4,1,-2}[\tilde{\mu},m_1]\delta_{i1i2}-\frac{1}{12}m_1s_\gamma\tilde{\mu}c_\gamma g_1^4LF_{4,1,-1}[\tilde{\mu},m_1]\delta_{i1i2}+\frac{1}{18}g_1^4LF_{5,1,-3}[\tilde{\mu},m_1]$$

$$\delta_{i1i2}+\frac{1}{9}m_1s_\gamma\tilde{\mu}c_\gamma g_1^4LF_{5,1,-2}[\tilde{\mu},m_1]\delta_{i1i2}-\frac{5}{24}g_1^2g_2^2LF_{4,1,-2}[\tilde{\mu},m_2]\delta_{i1i2}-$$

$$\frac{1}{4}m_2s_\gamma\tilde{\mu}c_\gamma g_1^2g_2^2LF_{4,1,-1}[\tilde{\mu},m_2]\delta_{i1i2}+\frac{1}{6}g_1^2g_2^2LF_{5,1,-3}[\tilde{\mu},m_2]\delta_{i1i2}+$$

$$\frac{1}{3}m_2s_\gamma\tilde{\mu}c_\gamma g_1^2g_2^2LF_{5,1,-2}[\tilde{\mu},m_2]\delta_{i1i2}-\frac{1}{36}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,0}[\tilde{\mu},m_{\tilde{d}}^{p}]-$$

$$\frac{5}{72}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,-1}[\tilde{\mu},m_{\tilde{d}}^{p}]+\frac{1}{72}g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{4,1,-2}[\tilde{\mu},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{2}\left(c_\gamma^2\overline{y_d}^{rs}\overline{y_d}^{i2p}y_d^{rp}y_d^{i1s}-s_\gamma^2\overline{y_u}^{rs}\overline{y_u}^{i2p}y_u^{rp}y_u^{i1s}\right)LF_{2,1,0}[\tilde{\mu},m_{\tilde{q}}^{r}]+$$

$$\left(-c_\gamma^2\overline{y_d}^{rs}\overline{y_d}^{i2p}y_d^{rp}y_d^{i1s}+s_\gamma^2\overline{y_u}^{rs}\overline{y_u}^{i2p}y_u^{rp}y_u^{i1s}\right)LF_{3,1,-1}[\tilde{\mu},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{2}\left(c_\gamma^2\overline{y_d}^{rs}\overline{y_d}^{i2p}y_d^{rp}y_d^{i1s}-s_\gamma^2\overline{y_u}^{rs}\overline{y_u}^{i2p}y_u^{rp}y_u^{i1s}\right)LF_{4,1,-2}[\tilde{\mu},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{18}g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,0}[\tilde{\mu},m_{\tilde{u}}^{p}]+\frac{1}{72}g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{3,1,-1}[\tilde{\mu},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{72}g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{4,1,-2}[\tilde{\mu},m_{\tilde{u}}^{p}]+\frac{1}{72}m_1c_\gamma g_1^2\overline{y_d}^{i2p}\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)$$

$$LF_{2,1,1,0}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+\frac{1}{144}m_1c_\gamma g_1^2\overline{y_d}^{i2p}\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{72}m_1c_\gamma g_1^2\overline{y_d}^{i2p}\left(-c_\gamma a_d^{i1p}+s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{3,1,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{72}m_1c_\gamma g_1^2y_d^{i1p}\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,0}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{144}m_1c_\gamma g_1^2y_d^{i1p}\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{72}m_1c_\gamma g_1^2y_d^{i1p}\left(-c_\gamma\overline{a_d}^{i2p}+s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{3,1,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]-$$

$$\frac{1}{4}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,-1}[m_1,m_{\tilde{d}}^{p},\tilde{\mu}]-\frac{1}{6}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,0}[m_1,m_{\tilde{d}}^{p},\tilde{\mu}]+$$

$$\frac{1}{6}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,1,-2}[m_1,m_{\tilde{d}}^{p},\tilde{\mu}]+\frac{1}{6}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\overline{y_d}^{i2p}y_d^{i1p}LF_{3,1,1,-1}[m_1,m_{\tilde{d}}^{p},\tilde{\mu}]+$$

$$\frac{1}{144}m_1c_\gamma g_1^2\overline{y_d}^{i2p}\left(-c_\gamma a_d^{i1p}+s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{36}m_1s_\gamma g_1^2\overline{y_u}^{i2p}\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,0}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{72}m_1s_\gamma g_1^2\overline{y_u}^{i2p}\left(-s_\gamma a_u^{i1p}+\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{36}m_1s_\gamma g_1^2\overline{y_u}^{i2p}\left(-s_\gamma a_u^{i1p}+\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{3,1,1,-1}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{144}m_1c_\gamma g_1^2y_d^{i1p}\left(-c_\gamma\overline{a_d}^{i2p}+s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{36}m_1s_\gamma g_1^2y_u^{i1p}\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,0}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{72}m_1s_\gamma g_1^2y_u^{i1p}\left(-s_\gamma\overline{a_u}^{i2p}+\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{36}m_1s_\gamma g_1^2y_u^{i1p}\left(-s_\gamma\overline{a_u}^{i2p}+\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{3,1,1,-1}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{144}g_1^4\left(c_\gamma^2-s_\gamma^2\right)LF_{2,1,1,-1}[m_1,m_{\tilde{q}}^{i2},\tilde{\mu}]\delta_{i1i2}+$$

$$\frac{1}{72}g_1^4m_1^2\left(c_\gamma^2-s_\gamma^2\right)LF_{2,1,1,0}[m_1,m_{\tilde{q}}^{i2},\tilde{\mu}]\delta_{i1i2}+$$

$$\frac{1}{72}m_1s_\gamma g_1^2\overline{y_u}^{i2p}\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{u}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{72}m_1s_\gamma g_1^2y_u^{i1p}\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,2,1,-1}[m_1,m_{\tilde{u}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{2}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,-1}[m_1,m_{\tilde{u}}^{p},\tilde{\mu}]+\frac{1}{3}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,0}[m_1,m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{1}{3}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{3,1,1,-2}[m_1,m_{\tilde{u}}^{p},\tilde{\mu}]-\frac{1}{3}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\overline{y_u}^{i2p}y_u^{i1p}LF_{3,1,1,-1}[m_1,m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{7}{48}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,2,1,-2}[m_1,\tilde{\mu},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{48}s_\gamma\tilde{\mu}g_1^2\overline{y_d}^{i2p}y_d^{i1p}\left(10m_1c_\gamma+3s_\gamma\tilde{\mu}\right)LF_{2,2,1,-1}[m_1,\tilde{\mu},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{48}g_1^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,2,1,-2}[m_1,\tilde{\mu},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{48}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,2,1,-1}[m_1,\tilde{\mu},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{144}g_1^2\left(3c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+3s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}+g_1^2\left(c_\gamma^2-s_\gamma^2\right)\delta_{i1i2}\right)LF_{2,2,1,-2}[m_1,\tilde{\mu},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{144}m_1g_1^2\left(3s_\gamma\tilde{\mu}c_\gamma\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)+m_1g_1^2\left(-c_\gamma^2+s_\gamma^2\right)\delta_{i1i2}\right)$$

$$LF_{2,2,1,-1}[m_1,\tilde{\mu},m_{\tilde{q}}^{i2}]-\frac{11}{48}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,2,1,-2}[m_1,\tilde{\mu},m_{\tilde{u}}^{p}]-$$

$$\frac{1}{48}\tilde{\mu}c_\gamma g_1^2\overline{y_u}^{i2p}y_u^{i1p}\left(14m_1s_\gamma+3\tilde{\mu}c_\gamma\right)LF_{2,2,1,-1}[m_1,\tilde{\mu},m_{\tilde{u}}^{p}]+$$

$$\frac{3}{16}g_2^4\left(c_\gamma^2-s_\gamma^2\right)LF_{2,1,1,-1}[m_2,m_{\tilde{q}}^{i2},\tilde{\mu}]\delta_{i1i2}+$$

$$\frac{3}{8}g_2^4m_2^2\left(c_\gamma^2-s_\gamma^2\right)LF_{2,1,1,0}[m_2,m_{\tilde{q}}^{i2},\tilde{\mu}]\delta_{i1i2}+\frac{3}{16}g_2^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,2,1,-2}[m_2,\tilde{\mu},m_{\tilde{d}}^{p}]+$$

$$\frac{3}{16}s_\gamma\tilde{\mu}g_2^2\overline{y_d}^{i2p}y_d^{i1p}\left(2m_2c_\gamma+s_\gamma\tilde{\mu}\right)LF_{2,2,1,-1}[m_2,\tilde{\mu},m_{\tilde{d}}^{p}]+$$

$$\frac{3}{16}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,2,1,-2}[m_2,\tilde{\mu},m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{16}m_2s_\gamma\tilde{\mu}c_\gamma g_2^2\left(\overline{y_d}^{i2p}y_d^{i1p}-\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,2,1,-1}[m_2,\tilde{\mu},m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{16}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}+g_2^2\left(c_\gamma^2-s_\gamma^2\right)\delta_{i1i2}\right)LF_{2,2,1,-2}[m_2,\tilde{\mu},m_{\tilde{q}}^{i2}]+$$

$$\frac{3}{16}m_2g_2^2\left(s_\gamma\tilde{\mu}c_\gamma\left(\overline{y_d}^{i2p}y_d^{i1p}-\overline{y_u}^{i2p}y_u^{i1p}\right)+m_2g_2^2\left(-c_\gamma^2+s_\gamma^2\right)\delta_{i1i2}\right)LF_{2,2,1,-1}[m_2,\tilde{\mu},m_{\tilde{q}}^{i2}]-$$

$$\frac{3}{16}g_2^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,2,1,-2}[m_2,\tilde{\mu},m_{\tilde{u}}^{p}]-$$

$$\frac{3}{16}\tilde{\mu}c_\gamma g_2^2\overline{y_u}^{i2p}y_u^{i1p}\left(2m_2s_\gamma+\tilde{\mu}c_\gamma\right)LF_{2,2,1,-1}[m_2,\tilde{\mu},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{3}m_3c_\gamma g_3^2\overline{y_d}^{i2p}\left(-c_\gamma a_d^{i1p}+s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,0}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{6}m_3c_\gamma g_3^2\overline{y_d}^{i2p}\left(-c_\gamma a_d^{i1p}+s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{3}m_3c_\gamma g_3^2\overline{y_d}^{i2p}\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{3,1,1,-1}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{3}m_3c_\gamma g_3^2y_d^{i1p}\left(-c_\gamma\overline{a_d}^{i2p}+s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,0}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{6}m_3c_\gamma g_3^2y_d^{i1p}\left(-c_\gamma\overline{a_d}^{i2p}+s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{3}m_3c_\gamma g_3^2y_d^{i1p}\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{3,1,1,-1}[m_3,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{6}m_3c_\gamma g_3^2\overline{y_d}^{i2p}\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{q}}^{i1},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{3}m_3s_\gamma g_3^2\overline{y_u}^{i2p}\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,0}[m_3,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{6}m_3s_\gamma g_3^2\overline{y_u}^{i2p}\left(-s_\gamma a_u^{i1p}+\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{3}m_3s_\gamma g_3^2\overline{y_u}^{i2p}\left(-s_\gamma a_u^{i1p}+\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{3,1,1,-1}[m_3,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{6}m_3c_\gamma g_3^2y_d^{i1p}\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{q}}^{i2},m_{\tilde{d}}^{p}]+$$

$$\frac{1}{3}m_3s_\gamma g_3^2y_u^{i1p}\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,0}[m_3,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{6}m_3s_\gamma g_3^2y_u^{i1p}\left(-s_\gamma\overline{a_u}^{i2p}+\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{3}m_3s_\gamma g_3^2y_u^{i1p}\left(-s_\gamma\overline{a_u}^{i2p}+\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{3,1,1,-1}[m_3,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{6}m_3s_\gamma g_3^2\overline{y_u}^{i2p}\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{u}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{6}m_3s_\gamma g_3^2y_u^{i1p}\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,2,1,-1}[m_3,m_{\tilde{u}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{16}s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\overline{y_u}^{rs}y_u^{i1s}\left(c_\gamma a_d^{rp}-s_\gamma\tilde{\mu}y_d^{rp}\right)LF_{2,2,1,-1}[m_{\tilde{d}}^{p},\tilde{\mu},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{16}s_\gamma\tilde{\mu}y_d^{i1r}\overline{y_u}^{i2s}y_u^{ps}\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)LF_{2,2,1,-1}[m_{\tilde{d}}^{r},\tilde{\mu},m_{\tilde{q}}^{p}]+$$

$$\frac{1}{16}s_\gamma\tilde{\mu}y_d^{i1r}\overline{y_u}^{i2s}y_u^{ps}\left(-c_\gamma\overline{a_d}^{pr}+s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)LF_{2,2,1,-1}[m_{\tilde{q}}^{p},\tilde{\mu},m_{\tilde{d}}^{r}]+$$

$$\frac{1}{16}s_\gamma\tilde{\mu}c_\gamma\overline{y_d}^{i2s}y_d^{ps}y_u^{i1r}\overline{a_u}^{pr}LF_{2,2,1,-1}[m_{\tilde{q}}^{p},\tilde{\mu},m_{\tilde{u}}^{r}]+$$

$$\frac{1}{16}\tilde{\mu}c_\gamma\overline{y_d}^{pr}y_d^{i1r}\overline{y_u}^{i2s}\left(s_\gamma a_u^{ps}-\tilde{\mu}c_\gamma y_u^{ps}\right)LF_{2,2,1,-1}[m_{\tilde{q}}^{p},\tilde{\mu},m_{\tilde{u}}^{s}]+$$

$$\frac{1}{16}s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\overline{y_u}^{rs}y_u^{i1s}\left(-c_\gamma a_d^{rp}+s_\gamma\tilde{\mu}y_d^{rp}\right)LF_{2,2,1,-1}[m_{\tilde{q}}^{r},\tilde{\mu},m_{\tilde{d}}^{p}]-$$

$$\frac{1}{16}\tilde{\mu}^2c_\gamma^2\overline{y_d}^{i2p}y_d^{rp}\overline{y_u}^{rs}y_u^{i1s}LF_{2,2,1,-1}[m_{\tilde{q}}^{r},\tilde{\mu},m_{\tilde{u}}^{s}]-$$

$$\frac{1}{16}s_\gamma\tilde{\mu}c_\gamma\overline{y_d}^{i2s}y_d^{ps}y_u^{i1r}\overline{a_u}^{pr}LF_{2,2,1,-1}[m_{\tilde{u}}^{r},\tilde{\mu},m_{\tilde{q}}^{p}]+$$

$$\frac{1}{16}\tilde{\mu}c_\gamma\overline{y_d}^{pr}y_d^{i1r}\overline{y_u}^{i2s}\left(-s_\gamma a_u^{ps}+\tilde{\mu}c_\gamma y_u^{ps}\right)LF_{2,2,1,-1}[m_{\tilde{u}}^{s},\tilde{\mu},m_{\tilde{q}}^{p}]+$$

$$\frac{1}{16}\tilde{\mu}^2c_\gamma^2\overline{y_d}^{i2p}y_d^{rp}\overline{y_u}^{rs}y_u^{i1s}LF_{2,2,1,-1}[m_{\tilde{u}}^{s},\tilde{\mu},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{16}g_1^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{d}}^{p}]-\frac{1}{8}g_1^2s_\gamma^2\tilde{\mu}^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,0}[\tilde{\mu},m_1,m_{\tilde{d}}^{p}]-$$

$$\frac{1}{16}g_1^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i1}]-$$

$$\frac{1}{24}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,0}[\tilde{\mu},m_1,m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{24}g_1^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-2}[\tilde{\mu},m_1,m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{24}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i1}]-$$

$$\frac{1}{16}g_1^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i2}]-$$

$$\frac{1}{24}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,0}[\tilde{\mu},m_1,m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{24}g_1^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}+s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-2}[\tilde{\mu},m_1,m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{24}m_1s_\gamma\tilde{\mu}c_\gamma g_1^2\left(\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i2}]-$$

$$\frac{1}{16}g_1^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{u}}^{p}]+\frac{1}{8}g_1^2\tilde{\mu}^2c_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,0}[\tilde{\mu},m_1,m_{\tilde{u}}^{p}]+$$

$$\frac{3}{16}g_2^2c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{d}}^{p}]-\frac{3}{8}g_2^2s_\gamma^2\tilde{\mu}^2\overline{y_d}^{i2p}y_d^{i1p}LF_{2,1,1,0}[\tilde{\mu},m_2,m_{\tilde{d}}^{p}]-$$

$$\frac{9}{16}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{8}m_2s_\gamma\tilde{\mu}c_\gamma g_2^2\left(-\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,0}[\tilde{\mu},m_2,m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{8}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-2}[\tilde{\mu},m_2,m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{8}m_2s_\gamma\tilde{\mu}c_\gamma g_2^2\left(\overline{y_d}^{i2p}y_d^{i1p}-\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i1}]-$$

$$\frac{9}{16}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i2}]+$$

$$\frac{3}{8}m_2s_\gamma\tilde{\mu}c_\gamma g_2^2\left(-\overline{y_d}^{i2p}y_d^{i1p}+\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{2,1,1,0}[\tilde{\mu},m_2,m_{\tilde{q}}^{i2}]+$$

$$\frac{3}{8}g_2^2\left(c_\gamma^2\overline{y_d}^{i2p}y_d^{i1p}-s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-2}[\tilde{\mu},m_2,m_{\tilde{q}}^{i2}]+$$

$$\frac{3}{8}m_2s_\gamma\tilde{\mu}c_\gamma g_2^2\left(\overline{y_d}^{i2p}y_d^{i1p}-\overline{y_u}^{i2p}y_u^{i1p}\right)LF_{3,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i2}]-$$

$$\frac{3}{16}g_2^2s_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{u}}^{p}]+\frac{3}{8}g_2^2\tilde{\mu}^2c_\gamma^2\overline{y_u}^{i2p}y_u^{i1p}LF_{2,1,1,0}[\tilde{\mu},m_2,m_{\tilde{u}}^{p}]+$$

$$\frac{1}{8}s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\overline{y_u}^{rs}y_u^{i1s}\left(-c_\gamma a_d^{rp}+s_\gamma\tilde{\mu}y_d^{rp}\right)LF_{2,1,1,0}[\tilde{\mu},m_{\tilde{d}}^{p},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{8}s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\overline{y_u}^{rs}y_u^{i1s}\left(c_\gamma a_d^{rp}-s_\gamma\tilde{\mu}y_d^{rp}\right)LF_{3,1,1,-1}[\tilde{\mu},m_{\tilde{d}}^{p},m_{\tilde{q}}^{r}]+$$

$$\frac{1}{8}s_\gamma\tilde{\mu}y_d^{i1r}\overline{y_u}^{i2s}y_u^{ps}\left(-c_\gamma\overline{a_d}^{pr}+s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)LF_{2,1,1,0}[\tilde{\mu},m_{\tilde{d}}^{r},m_{\tilde{q}}^{p}]+$$

$$\frac{1}{8}s_\gamma\tilde{\mu}y_d^{i1r}\overline{y_u}^{i2s}y_u^{ps}\left(c_\gamma\overline{a_d}^{pr}-s_\gamma\tilde{\mu}\overline{y_d}^{pr}\right)LF_{3,1,1,-1}[\tilde{\mu},m_{\tilde{d}}^{r},m_{\tilde{q}}^{p}]+$$

$$\frac{1}{8}s_\gamma\tilde{\mu}c_\gamma\overline{y_d}^{i2s}y_d^{ps}y_u^{i1r}\overline{a_u}^{pr}LF_{2,1,1,0}[\tilde{\mu},m_{\tilde{q}}^{p},m_{\tilde{u}}^{r}]-$$

$$\frac{1}{8}s_\gamma\tilde{\mu}c_\gamma\overline{y_d}^{i2s}y_d^{ps}y_u^{i1r}\overline{a_u}^{pr}LF_{3,1,1,-1}[\tilde{\mu},m_{\tilde{q}}^{p},m_{\tilde{u}}^{r}]+$$

$$\frac{1}{8}\tilde{\mu}c_\gamma\overline{y_d}^{pr}y_d^{i1r}\overline{y_u}^{i2s}\left(s_\gamma a_u^{ps}-\tilde{\mu}c_\gamma y_u^{ps}\right)LF_{2,1,1,0}[\tilde{\mu},m_{\tilde{q}}^{p},m_{\tilde{u}}^{s}]+$$

$$\frac{1}{8}\tilde{\mu}c_\gamma\overline{y_d}^{pr}y_d^{i1r}\overline{y_u}^{i2s}\left(-s_\gamma a_u^{ps}+\tilde{\mu}c_\gamma y_u^{ps}\right)LF_{3,1,1,-1}[\tilde{\mu},m_{\tilde{q}}^{p},m_{\tilde{u}}^{s}]-$$

$$\frac{1}{8}\tilde{\mu}^2c_\gamma^2\overline{y_d}^{i2p}y_d^{rp}\overline{y_u}^{rs}y_u^{i1s}LF_{2,1,1,0}[\tilde{\mu},m_{\tilde{q}}^{r},m_{\tilde{u}}^{s}]+$$

$$\frac{1}{8}\tilde{\mu}^2c_\gamma^2\overline{y_d}^{i2p}y_d^{rp}\overline{y_u}^{rs}y_u^{i1s}LF_{3,1,1,-1}[\tilde{\mu},m_{\tilde{q}}^{r},m_{\tilde{u}}^{s}]-$$

$$\frac{1}{48}g_1^2\overline{y_d}^{i2p}\left(m_1c_\gamma-s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{1,1,1,1,0}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2\overline{y_d}^{i2p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{1}{48}g_1^2y_d^{i1p}\left(m_1c_\gamma-s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{1,1,1,1,0}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2y_d^{i1p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2},\tilde{\mu}]-$$

$$\frac{1}{48}g_1^2\overline{y_u}^{i2p}\left(m_1s_\gamma-\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{1,1,1,1,0}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2\overline{y_u}^{i2p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{1}{48}g_1^2y_u^{i1p}\left(m_1s_\gamma-\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{1,1,1,1,0}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2y_u^{i1p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{3}{16}g_2^2\overline{y_d}^{i2p}\left(m_2c_\gamma-s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{1,1,1,1,0}[m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{3}{32}g_2^2\overline{y_d}^{i2p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{3}{16}g_2^2y_d^{i1p}\left(m_2c_\gamma-s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{1,1,1,1,0}[m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2},\tilde{\mu}]-$$

$$\frac{3}{32}g_2^2y_d^{i1p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2},\tilde{\mu}]+$$

$$\frac{3}{16}g_2^2\overline{y_u}^{i2p}\left(m_2s_\gamma-\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{1,1,1,1,0}[m_2,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{3}{32}g_2^2\overline{y_u}^{i2p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_2,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{3}{16}g_2^2y_u^{i1p}\left(m_2s_\gamma-\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{1,1,1,1,0}[m_2,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{3}{32}g_2^2y_u^{i1p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_2,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{1}{96}g_1^2\overline{y_d}^{i2p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_1,m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{1}{144}g_1^2\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_1,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{96}g_1^2y_d^{i1p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_1,m_{\tilde{q}}^{i2},\tilde{\mu}]+$$

$$\frac{3}{32}g_2^2\overline{y_d}^{i2p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_2,m_{\tilde{q}}^{i1},\tilde{\mu}]-$$

$$\frac{3}{16}g_2^2\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_2,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{32}g_2^2y_d^{i1p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_2,m_{\tilde{q}}^{i2},\tilde{\mu}]-$$

$$\frac{1}{3}g_3^2\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{d}}^{p},m_3,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{4}c_\gamma\overline{y_d}^{i2s}y_d^{i1r}\overline{a_d}^{pr}\left(c_\gamma a_d^{ps}-s_\gamma\tilde{\mu}y_d^{ps}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{p},m_{\tilde{d}}^{r},m_{\tilde{d}}^{s},\tilde{\mu}]+$$

$$\frac{1}{4}s_\gamma\overline{y_u}^{i2s}y_u^{i1r}\overline{a_u}^{pr}\left(-s_\gamma a_u^{ps}+\tilde{\mu}c_\gamma y_u^{ps}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{p},m_{\tilde{u}}^{r},m_{\tilde{u}}^{s},\tilde{\mu}]+$$

$$\frac{1}{4}s_\gamma\tilde{\mu}\overline{y_d}^{rs}\overline{y_d}^{i2p}y_d^{i1s}\left(-c_\gamma a_d^{rp}+s_\gamma\tilde{\mu}y_d^{rp}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{r},m_{\tilde{d}}^{p},m_{\tilde{d}}^{s},\tilde{\mu}]+$$

$$\frac{1}{4}\tilde{\mu}c_\gamma\overline{y_u}^{rs}\overline{y_u}^{i2p}y_u^{i1s}\left(s_\gamma a_u^{rp}-\tilde{\mu}c_\gamma y_u^{rp}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{r},m_{\tilde{u}}^{p},m_{\tilde{u}}^{s},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2\overline{y_d}^{i2p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i1},m_1,m_{\tilde{d}}^{p},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2\overline{y_u}^{i2p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i1},m_1,m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{3}{32}g_2^2\overline{y_d}^{i2p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i1},m_2,m_{\tilde{d}}^{p},\tilde{\mu}]+$$

$$\frac{3}{32}g_2^2\overline{y_u}^{i2p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i1},m_2,m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2y_d^{i1p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i2},m_1,m_{\tilde{d}}^{p},\tilde{\mu}]-$$

$$\frac{1}{96}g_1^2y_u^{i1p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i2},m_1,m_{\tilde{u}}^{p},\tilde{\mu}]-$$

$$\frac{3}{32}g_2^2y_d^{i1p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i2},m_2,m_{\tilde{d}}^{p},\tilde{\mu}]+$$

$$\frac{3}{32}g_2^2y_u^{i1p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{q}}^{i2},m_2,m_{\tilde{u}}^{p},\tilde{\mu}]+$$

$$\frac{1}{96}g_1^2\overline{y_u}^{i2p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_1,m_{\tilde{q}}^{i1},\tilde{\mu}]+$$

$$\frac{1}{144}g_1^2\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_1,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{96}g_1^2y_u^{i1p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_1,m_{\tilde{q}}^{i2},\tilde{\mu}]-$$

$$\frac{3}{32}g_2^2\overline{y_u}^{i2p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_2,m_{\tilde{q}}^{i1},\tilde{\mu}]+$$

$$\frac{3}{16}g_2^2\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_2,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]-$$

$$\frac{3}{32}g_2^2y_u^{i1p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_2,m_{\tilde{q}}^{i2},\tilde{\mu}]+$$

$$\frac{1}{3}g_3^2\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[m_{\tilde{u}}^{p},m_3,m_{\tilde{q}}^{i2},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{96}g_1^2\overline{y_d}^{i2p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{1}{96}g_1^2y_d^{i1p}\left(m_1c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]+$$

$$\frac{1}{96}g_1^2\overline{y_u}^{i2p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]+$$

$$\frac{1}{96}g_1^2y_u^{i1p}\left(m_1s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_1,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]+$$

$$\frac{3}{32}g_2^2\overline{y_d}^{i2p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma a_d^{i1p}-s_\gamma\tilde{\mu}y_d^{i1p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i1}]+$$

$$\frac{3}{32}g_2^2y_d^{i1p}\left(m_2c_\gamma+s_\gamma\tilde{\mu}\right)\left(c_\gamma\overline{a_d}^{i2p}-s_\gamma\tilde{\mu}\overline{y_d}^{i2p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{d}}^{p},m_{\tilde{q}}^{i2}]-$$

$$\frac{3}{32}g_2^2\overline{y_u}^{i2p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma a_u^{i1p}-\tilde{\mu}c_\gamma y_u^{i1p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i1},m_{\tilde{u}}^{p}]-$$

$$\frac{3}{32}g_2^2y_u^{i1p}\left(m_2s_\gamma+\tilde{\mu}c_\gamma\right)\left(s_\gamma\overline{a_u}^{i2p}-\tilde{\mu}c_\gamma\overline{y_u}^{i2p}\right)LF_{2,1,1,1,-1}[\tilde{\mu},m_2,m_{\tilde{q}}^{i2},m_{\tilde{u}}^{p}]\Big)$$