

$$\begin{aligned} & \frac{1}{9} g_2^4 \text{LF}_{3,0} [m_2] \delta_{i1i2} + \frac{1}{6} g_2^4 \text{LF}_{4,-1} [m_2] \delta_{i1i2} - \frac{8}{45} g_2^4 \text{LF}_{5,-2} [m_2] \delta_{i1i2} + \frac{1}{18} \sum_{\mathbf{p}} g_2^4 \text{LF}_{3,0} [m_{\mathbf{l}}^{\mathbf{p}}] \delta_{i1i2} - \\ & \frac{5}{48} \sum_{\mathbf{p}} g_2^4 \text{LF}_{4,-1} [m_{\mathbf{l}}^{\mathbf{p}}] \delta_{i1i2} + \frac{2}{45} \sum_{\mathbf{p}} g_2^4 \text{LF}_{5,-2} [m_{\mathbf{l}}^{\mathbf{p}}] \delta_{i1i2} + \frac{1}{6} \sum_{\mathbf{p}} g_2^4 \text{LF}_{3,0} [m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} - \\ & \frac{5}{16} \sum_{\mathbf{p}} g_2^4 \text{LF}_{4,-1} [m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} + \frac{2}{15} \sum_{\mathbf{p}} g_2^4 \text{LF}_{5,-2} [m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} - \frac{1}{24} g_2^2 s_{\gamma}^2 \overline{y_e}^{i2p} y_e^{i1p} \text{LF}_{2,1} [m_{\mathbb{E}}] + \\ & \frac{1}{72} (3 g_2^2 s_{\gamma}^2 \overline{y_e}^{i2p} y_e^{i1p} + 4 g_2^4 \delta_{i1i2}) \text{LF}_{3,0} [m_{\mathbb{E}}] - \frac{5}{48} g_2^4 \text{LF}_{4,-1} [m_{\mathbb{E}}] \delta_{i1i2} + \\ & \frac{2}{45} g_2^4 \text{LF}_{5,-2} [m_{\mathbb{E}}] \delta_{i1i2} + \frac{1}{18} g_2^4 \text{LF}_{3,0} [\tilde{\mu}] \delta_{i1i2} + \frac{1}{12} g_2^4 \text{LF}_{4,-1} [\tilde{\mu}] \delta_{i1i2} - \frac{4}{45} g_2^4 \text{LF}_{5,-2} [\tilde{\mu}] \delta_{i1i2} + \\ & \frac{1}{2} g_1^2 c_{\gamma}^2 \overline{y_e}^{i2p} y_e^{i1p} \text{LF}_{2,1,0} [m_1, m_e^{\mathbf{p}}] - g_1^2 c_{\gamma}^2 \overline{y_e}^{i2p} y_e^{i1p} \text{LF}_{3,1,-1} [m_1, m_e^{\mathbf{p}}] + \\ & \frac{1}{2} g_1^2 c_{\gamma}^2 \overline{y_e}^{i2p} y_e^{i1p} \text{LF}_{4,1,-2} [m_1, m_e^{\mathbf{p}}] + \frac{1}{48} g_1^2 g_2^2 \text{LF}_{2,1,0} [m_1, m_{\mathbf{l}}^{i2}] \delta_{i1i2} + \\ & \frac{1}{48} g_1^2 g_2^2 \text{LF}_{2,2,-1} [m_1, m_{\mathbf{l}}^{i2}] \delta_{i1i2} - \frac{1}{24} g_1^2 g_2^2 \text{LF}_{3,1,-1} [m_1, m_{\mathbf{l}}^{i2}] \delta_{i1i2} + \\ & \frac{1}{48} g_1^2 g_2^2 \text{LF}_{4,1,-2} [m_1, m_{\mathbf{l}}^{i2}] \delta_{i1i2} - \frac{1}{48} g_2^4 \text{LF}_{2,1,0} [m_2, m_{\mathbf{l}}^{i2}] \delta_{i1i2} - \\ & \frac{1}{48} g_2^4 \text{LF}_{2,2,-1} [m_2, m_{\mathbf{l}}^{i2}] \delta_{i1i2} - \frac{5}{24} g_2^4 \text{LF}_{3,1,-1} [m_2, m_{\mathbf{l}}^{i2}] \delta_{i1i2} + \frac{1}{16} g_2^4 \text{LF}_{4,1,-2} [m_2, m_{\mathbf{l}}^{i2}] \delta_{i1i2} - \\ & \frac{1}{3} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{2,1,0} [m_2, \tilde{\mu}] \delta_{i1i2} - \frac{1}{3} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{2,2,-1} [m_2, \tilde{\mu}] \delta_{i1i2} - \\ & \frac{2}{3} m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^4 \text{LF}_{2,2,0} [m_2, \tilde{\mu}] \delta_{i1i2} + \frac{1}{6} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{3,1,-1} [m_2, \tilde{\mu}] \delta_{i1i2} + \\ & \frac{1}{6} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{3,2,-2} [m_2, \tilde{\mu}] \delta_{i1i2} + \frac{1}{3} m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^4 \text{LF}_{3,2,-1} [m_2, \tilde{\mu}] \delta_{i1i2} + \\ & \frac{1}{8} g_2^2 (c_{\gamma} \overline{a_e}^{\text{pr}} - s_{\gamma} \tilde{\mu} \overline{y_e}^{\text{pr}}) (c_{\gamma} a_e^{\text{pr}} - s_{\gamma} \tilde{\mu} y_e^{\text{pr}}) \text{LF}_{4,1,-1} [m_{\mathbf{l}}^{\mathbf{p}}, m_e^{\mathbf{r}}] \delta_{i1i2} - \\ & \frac{1}{6} g_2^2 (c_{\gamma} \overline{a_e}^{\text{pr}} - s_{\gamma} \tilde{\mu} \overline{y_e}^{\text{pr}}) (c_{\gamma} a_e^{\text{pr}} - s_{\gamma} \tilde{\mu} y_e^{\text{pr}}) \text{LF}_{5,1,-2} [m_{\mathbf{l}}^{\mathbf{p}}, m_e^{\mathbf{r}}] \delta_{i1i2} - \\ & \frac{1}{24} g_1^2 g_2^2 \text{LF}_{2,1,0} [m_{\mathbf{l}}^{i2}, m_1] \delta_{i1i2} + \frac{1}{48} g_1^2 g_2^2 \text{LF}_{3,1,-1} [m_{\mathbf{l}}^{i2}, m_1] \delta_{i1i2} + \\ & \frac{1}{24} g_2^4 \text{LF}_{2,1,0} [m_{\mathbf{l}}^{i2}, m_2] \delta_{i1i2} - \frac{1}{48} g_2^4 \text{LF}_{3,1,-1} [m_{\mathbf{l}}^{i2}, m_2] \delta_{i1i2} + \\ & \frac{3}{8} g_2^2 (c_{\gamma} \overline{a_d}^{\text{pr}} - s_{\gamma} \tilde{\mu} \overline{y_d}^{\text{pr}}) (c_{\gamma} a_d^{\text{pr}} - s_{\gamma} \tilde{\mu} y_d^{\text{pr}}) \text{LF}_{4,1,-1} [m_{\mathbf{q}}^{\mathbf{p}}, m_d^{\mathbf{r}}] \delta_{i1i2} - \\ & \frac{1}{2} g_2^2 (c_{\gamma} \overline{a_d}^{\text{pr}} - s_{\gamma} \tilde{\mu} \overline{y_d}^{\text{pr}}) (c_{\gamma} a_d^{\text{pr}} - s_{\gamma} \tilde{\mu} y_d^{\text{pr}}) \text{LF}_{5,1,-2} [m_{\mathbf{q}}^{\mathbf{p}}, m_d^{\mathbf{r}}] \delta_{i1i2} + \\ & \frac{1}{4} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{2,2,0} [m_{\mathbf{q}}^{\mathbf{p}}, m_u^{\mathbf{r}}] \delta_{i1i2} - \\ & \frac{1}{8} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{3,2,-1} [m_{\mathbf{q}}^{\mathbf{p}}, m_u^{\mathbf{r}}] \delta_{i1i2} - \\ & \frac{1}{4} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{3,1,0} [m_u^{\mathbf{r}}, m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} - \\ & \frac{1}{4} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{3,2,-1} [m_u^{\mathbf{r}}, m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} + \\ & \frac{3}{4} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{4,1,-1} [m_u^{\mathbf{r}}, m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} - \\ & \frac{1}{2} g_2^2 (s_{\gamma} \overline{a_u}^{\text{pr}} - \tilde{\mu} c_{\gamma} \overline{y_u}^{\text{pr}}) (s_{\gamma} a_u^{\text{pr}} - \tilde{\mu} c_{\gamma} y_u^{\text{pr}}) \text{LF}_{5,1,-2} [m_u^{\mathbf{r}}, m_{\mathbf{q}}^{\mathbf{p}}] \delta_{i1i2} - \\ & \frac{5}{24} g_1^2 g_2^2 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{4,1,-2} [\tilde{\mu}, m_1] \delta_{i1i2} - \\ & \frac{1}{4} m_1 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^2 g_2^2 \text{LF}_{4,1,-1} [\tilde{\mu}, m_1] \delta_{i1i2} + \frac{1}{6} g_1^2 g_2^2 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{5,1,-3} [\tilde{\mu}, m_1] \delta_{i1i2} + \\ & \frac{1}{3} m_1 s_{\gamma} \tilde{\mu} c_{\gamma} g_1^2 g_2^2 \text{LF}_{5,1,-2} [\tilde{\mu}, m_1] \delta_{i1i2} + \frac{2}{3} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{3,1,-1} [\tilde{\mu}, m_2] \delta_{i1i2} + \\ & \frac{2}{3} m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^4 \text{LF}_{3,1,0} [\tilde{\mu}, m_2] \delta_{i1i2} + \frac{1}{3} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{3,2,-2} [\tilde{\mu}, m_2] \delta_{i1i2} + \\ & \frac{2}{3} m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^4 \text{LF}_{3,2,-1} [\tilde{\mu}, m_2] \delta_{i1i2} - \frac{9}{8} g_2^4 (c_{\gamma}^2 + s_{\gamma}^2) \text{LF}_{4,1,-2} [\tilde{\mu}, m_2] \delta_{i1i2} - \\ & \frac{7}{4} m_2 s_{\gamma} \tilde{\mu} c_{\gamma} g_2^4 \text{LF}_{4,1,-1} [\tilde{\mu}, m_2] \delta_{i1i2} + \frac{1}{2} g_2^4 (c_{\gamma}^2 +$$