$$
\begin{aligned}
&C_{ld}^{i1_i2_i3_i4_} \to \\
&\hbar \Big(\frac{1}{216} \frac{1}{m_\Phi^2} s_\gamma^2 \left(\overline{y_d}^{pi3} y_d^{pi4} \left(-54 c_\gamma^2 \overline{y_e}^{i2r} y_e^{i1r} + g_1^2 \delta_{i1i2} \right) - 7 g_1^2 \overline{y_e}^{i2p} y_e^{i1p} \delta_{i3i4} \right) + \frac{2}{81} \sum_p g_1^4 \\
&\quad LF_{3,0}\left[m_{\tilde{d}}^p\right] \delta_{i1i2} \delta_{i3i4} - \frac{5}{108} \sum_p g_1^4 LF_{4,-1}\left[m_{\tilde{d}}^p\right] \delta_{i1i2} \delta_{i3i4} + \frac{8}{405} \sum_p g_1^4 LF_{5,-2}\left[m_{\tilde{d}}^p\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{2}{27} \sum_p g_1^4 LF_{3,0}\left[m_{\tilde{e}}^p\right] \delta_{i1i2} \delta_{i3i4} - \frac{5}{36} \sum_p g_1^4 LF_{4,-1}\left[m_{\tilde{e}}^p\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{8}{135} \sum_p g_1^4 LF_{5,-2}\left[m_{\tilde{e}}^p\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{27} \sum_p g_1^4 LF_{3,0}\left[m_{\tilde{l}}^p\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{5}{72} \sum_p g_1^4 LF_{4,-1}\left[m_{\tilde{l}}^p\right] \delta_{i1i2} \delta_{i3i4} + \frac{4}{135} \sum_p g_1^4 LF_{5,-2}\left[m_{\tilde{l}}^p\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{81} \sum_p g_1^4 LF_{3,0}\left[m_{\tilde{q}}^p\right] \delta_{i1i2} \delta_{i3i4} - \frac{5}{216} \sum_p g_1^4 LF_{4,-1}\left[m_{\tilde{q}}^p\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{4}{405} \sum_p g_1^4 LF_{5,-2}\left[m_{\tilde{q}}^p\right] \delta_{i1i2} \delta_{i3i4} + \frac{8}{81} \sum_p g_1^4 LF_{3,0}\left[m_{\tilde{u}}^p\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{5}{27} \sum_p g_1^4 LF_{4,-1}\left[m_{\tilde{u}}^p\right] \delta_{i1i2} \delta_{i3i4} + \frac{32}{405} \sum_p g_1^4 LF_{5,-2}\left[m_{\tilde{u}}^p\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{18} s_\gamma^2 \left(\overline{y_d}^{pi3} y_d^{pi4} \left(-9 c_\gamma^2 \overline{y_e}^{i2r} y_e^{i1r} + g_1^2 \delta_{i1i2} \right) - 2 g_1^2 \overline{y_e}^{i2p} y_e^{i1p} \delta_{i3i4} \right) LF_{1,2}[m_\Phi] + \\
&\quad \frac{1}{36} s_\gamma^2 \left(-3 \overline{y_d}^{pi3} y_d^{pi4} \left(3 s_\gamma^2 \overline{y_e}^{i2r} y_e^{i1r} + g_1^2 \delta_{i1i2} \right) + g_1^2 \overline{y_e}^{i2p} y_e^{i1p} \delta_{i3i4} \right) LF_{2,1}[m_\Phi] + \\
&\quad \frac{1}{108} g_1^2 \left(9 s_\gamma^2 \overline{y_d}^{pi3} y_d^{pi4} \delta_{i1i2} + \left(-3 s_\gamma^2 \overline{y_e}^{i2p} y_e^{i1p} + 4 g_1^2 \delta_{i1i2} \right) \delta_{i3i4} \right) LF_{3,0}[m_\Phi] - \\
&\quad \frac{5}{72} g_1^4 LF_{4,-1}[m_\Phi] \delta_{i1i2} \delta_{i3i4} + \frac{4}{135} g_1^4 LF_{5,-2}[m_\Phi] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{27} g_1^4 LF_{3,0}[\tilde{\mu}] \delta_{i1i2} \delta_{i3i4} + \frac{1}{18} g_1^4 LF_{4,-1}[\tilde{\mu}] \delta_{i1i2} \delta_{i3i4} - \frac{8}{135} g_1^4 LF_{5,-2}[\tilde{\mu}] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{162} g_1^4 LF_{2,1,0}\left[m_1, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{162} g_1^4 LF_{2,2,-1}\left[m_1, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{81} g_1^4 LF_{3,1,-1}\left[m_1, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{162} g_1^4 LF_{4,1,-2}\left[m_1, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{72} g_1^4 LF_{2,1,0}\left[m_1, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{72} g_1^4 LF_{2,2,-1}\left[m_1, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{36} g_1^4 LF_{3,1,-1}\left[m_1, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{72} g_1^4 LF_{4,1,-2}\left[m_1, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{24} g_1^2 g_2^2 LF_{2,1,0}\left[m_2, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{24} g_1^2 g_2^2 LF_{2,2,-1}\left[m_2, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{12} g_1^2 g_2^2 LF_{3,1,-1}\left[m_2, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{24} g_1^2 g_2^2 LF_{4,1,-2}\left[m_2, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{2}{27} g_1^2 g_3^2 LF_{2,1,0}\left[m_3, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} + \frac{2}{27} g_1^2 g_3^2 LF_{2,2,-1}\left[m_3, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{4}{27} g_1^2 g_3^2 LF_{3,1,-1}\left[m_3, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} + \frac{2}{27} g_1^2 g_3^2 LF_{4,1,-2}\left[m_3, m_{\tilde{d}}^{i4}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{81} g_1^4 LF_{2,1,0}\left[m_{\tilde{d}}^{i4}, m_1\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{162} g_1^4 LF_{3,1,-1}\left[m_{\tilde{d}}^{i4}, m_1\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{4}{27} g_1^2 g_3^2 LF_{2,1,0}\left[m_{\tilde{d}}^{i4}, m_3\right] \delta_{i1i2} \delta_{i3i4} + \frac{2}{27} g_1^2 g_3^2 LF_{3,1,-1}\left[m_{\tilde{d}}^{i4}, m_3\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{9} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{2,1,0}\left[m_{\tilde{e}}^p, \tilde{\mu}\right] \delta_{i3i4} + \frac{1}{18} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{2,2,-1}\left[m_{\tilde{e}}^p, \tilde{\mu}\right] \delta_{i3i4} + \\
&\quad \frac{1}{18} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{3,1,-1}\left[m_{\tilde{e}}^p, \tilde{\mu}\right] \delta_{i3i4} - \frac{1}{36} g_1^4 LF_{2,1,0}\left[m_{\tilde{l}}^{i2}, m_1\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{72} g_1^4 LF_{3,1,-1}\left[m_{\tilde{l}}^{i2}, m_1\right] \delta_{i1i2} \delta_{i3i4} - \frac{1}{12} g_1^2 g_2^2 LF_{2,1,0}\left[m_{\tilde{l}}^{i2}, m_2\right] \delta_{i1i2} \delta_{i3i4} + \\
&\quad \frac{1}{24} g_1^2 g_2^2 LF_{3,1,-1}\left[m_{\tilde{l}}^{i2}, m_2\right] \delta_{i1i2} \delta_{i3i4} + \frac{1}{18} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{2,1,0}\left[m_{\tilde{q}}^p, \tilde{\mu}\right] \delta_{i1i2} - \\
&\quad \frac{1}{36} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{2,2,-1}\left[m_{\tilde{q}}^p, \tilde{\mu}\right] \delta_{i1i2} - \frac{1}{36} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{3,1,-1}\left[m_{\tilde{q}}^p, \tilde{\mu}\right] \delta_{i1i2} + \\
&\quad \frac{1}{18} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{2,1,0}\left[\tilde{\mu}, m_{\tilde{e}}^p\right] \delta_{i3i4} - \frac{1}{36} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{3,1,-1}\left[\tilde{\mu}, m_{\tilde{e}}^p\right] \delta_{i3i4} + \\
&\quad \frac{1}{36} g_1^2 \overline{y_e}^{i2p} y_e^{i1p} LF_{4,1,-2}\left[\tilde{\mu}, m_{\tilde{e}}^p\right] \delta_{i3i4} - \frac{1}{36} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{2,1,0}\left[\tilde{\mu}, m_{\tilde{q}}^p\right] \delta_{i1i2} - \\
&\quad \frac{7}{36} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{3,1,-1}\left[\tilde{\mu}, m_{\tilde{q}}^p\right] \delta_{i1i2} + \frac{1}{18} g_1^2 \overline{y_d}^{pi3} y_d^{pi4} LF_{4,1,-2}\left[\tilde{\mu}, m_{\tilde{q}}^p\right] \delta_{i1i2} - \\
&\quad \frac{1}{36} g_1^4 LF_{2,1,1,-1}\left[m_1, m_{\tilde{d}}^{i4}, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} - \frac{1}{18} g_1^4 m_1^2 LF_{2,1,1,0}\left[m_1, m_{\tilde{d}}^{i4}, m_{\tilde{l}}^{i2}\right] \delta_{i1i2} \delta_{i3i4} - \\
&\quad \frac{1}{4} \overline{y_d}^{pi3} y_d^{pi4} \overline{y_e}^{i2r} y_e^{i1r} LF_{2,1,1,-1}\left[\tilde{\mu}, m_{\tilde{e}}^r, m_{\tilde{q}}^p\right] \Big)
\end{aligned}
$$