$$C_{ee}^{i1\_i2\_i3\_i4\_} \to$$

$$\frac{1}{16\,\pi^2}\Big(-\frac{1}{72}\,\frac{1}{m_\Phi^2}\,{s_\gamma}^2\,\overline{y_e}^{pi1}\left(9\,{c_\gamma}^2\,\overline{y_e}^{ri3}\left({y_e}^{pi4}\,{y_e}^{ri2}+{y_e}^{pi2}\,{y_e}^{ri4}\right)+5\,{g_1}^2\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\right)+$$
$$\frac{1}{27}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}\left[m_{\tilde d}^{\,p}\right]-\frac{5}{72}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})$$
$$\mathrm{LF}_{4,-1}\left[m_{\tilde d}^{\,p}\right]+\frac{4}{135}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}\left[m_{\tilde d}^{\,p}\right]+$$
$$\frac{1}{9}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}\left[m_{\tilde e}^{\,p}\right]-\frac{5}{24}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})$$
$$\mathrm{LF}_{4,-1}\left[m_{\tilde e}^{\,p}\right]+\frac{4}{45}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}\left[m_{\tilde e}^{\,p}\right]+$$
$$\frac{1}{18}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}\left[m_{\tilde l}^{\,p}\right]-\frac{5}{48}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})$$
$$\mathrm{LF}_{4,-1}\left[m_{\tilde l}^{\,p}\right]+\frac{2}{45}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}\left[m_{\tilde l}^{\,p}\right]+$$
$$\frac{1}{54}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}\left[m_{\tilde q}^{\,p}\right]-\frac{5}{144}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})$$
$$\mathrm{LF}_{4,-1}\left[m_{\tilde q}^{\,p}\right]+\frac{2}{135}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}\left[m_{\tilde q}^{\,p}\right]+$$
$$\frac{4}{27}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}\left[m_{\tilde u}^{\,p}\right]-\frac{5}{18}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})$$
$$\mathrm{LF}_{4,-1}\left[m_{\tilde u}^{\,p}\right]+\frac{16}{135}\sum_p {g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}\left[m_{\tilde u}^{\,p}\right]+$$
$$\frac{1}{12}\,{s_\gamma}^2\,\overline{y_e}^{pi1}\left(3\,{c_\gamma}^2\,\overline{y_e}^{ri3}\left({y_e}^{pi4}\,{y_e}^{ri2}+{y_e}^{pi2}\,{y_e}^{ri4}\right)-2\,{g_1}^2\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\right)\mathrm{LF}_{1,2}[m_\Phi]+$$
$$\frac{1}{24}\,{s_\gamma}^2\,\overline{y_e}^{pi1}\left(3\,{s_\gamma}^2\,\overline{y_e}^{ri3}\left({y_e}^{pi4}\,{y_e}^{ri2}+{y_e}^{pi2}\,{y_e}^{ri4}\right)-2\,{g_1}^2\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\right)\mathrm{LF}_{2,1}[m_\Phi]+$$
$$\frac{1}{36}\left(3\,{g_1}^2\,{s_\gamma}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)+2\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\right)\mathrm{LF}_{3,0}[m_\Phi]-$$
$$\frac{5}{48}\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{4,-1}[m_\Phi]+\frac{2}{45}\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}[m_\Phi]+$$
$$\frac{1}{18}\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{3,0}[\tilde\mu]+\frac{1}{12}\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{4,-1}[\tilde\mu]-$$
$$\frac{4}{45}\,{g_1}^4\,(\delta_{i1i4}\,\delta_{i2i3}+\delta_{i1i2}\,\delta_{i3i4})\,\mathrm{LF}_{5,-2}[\tilde\mu]+\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{2,1,0}\left[m_1,\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{2,2,-1}\left[m_1,\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}-\frac{1}{3}\,{g_1}^4\,\mathrm{LF}_{3,1,-1}\left[m_1,\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{4,1,-2}\left[m_1,\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}+\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{2,1,0}\left[m_1,\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{2,2,-1}\left[m_1,\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}-\frac{1}{3}\,{g_1}^4\,\mathrm{LF}_{3,1,-1}\left[m_1,\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{4,1,-2}\left[m_1,\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}-\frac{1}{3}\,{g_1}^4\,\mathrm{LF}_{2,1,0}\left[m_{\tilde e}^{\,i3},\,m_1\right]\delta_{i1i4}\,\delta_{i2i3}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{3,1,-1}\left[m_{\tilde e}^{\,i3},\,m_1\right]\delta_{i1i4}\,\delta_{i2i3}-\frac{1}{3}\,{g_1}^4\,\mathrm{LF}_{2,1,0}\left[m_{\tilde e}^{\,i4},\,m_1\right]\delta_{i1i2}\,\delta_{i3i4}+$$
$$\frac{1}{6}\,{g_1}^4\,\mathrm{LF}_{3,1,-1}\left[m_{\tilde e}^{\,i4},\,m_1\right]\delta_{i1i2}\,\delta_{i3i4}-\frac{1}{6}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{2,1,0}\left[m_{\tilde l}^{\,p},\,\tilde\mu\right]+$$
$$\frac{1}{12}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{2,2,-1}\left[m_{\tilde l}^{\,p},\,\tilde\mu\right]+$$
$$\frac{1}{12}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{3,1,-1}\left[m_{\tilde l}^{\,p},\,\tilde\mu\right]+$$
$$\frac{1}{12}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{2,1,0}\left[\tilde\mu,\,m_{\tilde l}^{\,p}\right]-$$
$$\frac{5}{12}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{3,1,-1}\left[\tilde\mu,\,m_{\tilde l}^{\,p}\right]+$$
$$\frac{1}{6}\,{g_1}^2\,\overline{y_e}^{pi1}\left({y_e}^{pi4}\,\delta_{i2i3}+{y_e}^{pi2}\,\delta_{i3i4}\right)\mathrm{LF}_{4,1,-2}\left[\tilde\mu,\,m_{\tilde l}^{\,p}\right]+$$
$$\frac{1}{4}\,{g_1}^4\,\mathrm{LF}_{2,1,1,-1}\left[m_1,\,m_{\tilde e}^{\,i2},\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}+\frac{1}{2}\,{g_1}^4\,{m_1}^2\,\mathrm{LF}_{2,1,1,0}\left[m_1,\,m_{\tilde e}^{\,i2},\,m_{\tilde e}^{\,i4}\right]\delta_{i1i2}\,\delta_{i3i4}+$$
$$\frac{1}{4}\,{g_1}^4\,\mathrm{LF}_{2,1,1,-1}\left[m_1,\,m_{\tilde e}^{\,i4},\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}+\frac{1}{2}\,{g_1}^4\,{m_1}^2\,\mathrm{LF}_{2,1,1,0}\left[m_1,\,m_{\tilde e}^{\,i4},\,m_{\tilde e}^{\,i3}\right]\delta_{i1i4}\,\delta_{i2i3}+$$
$$\frac{1}{8}\,\overline{y_e}^{pi1}\,\overline{y_e}^{ri3}\left({y_e}^{pi4}\,{y_e}^{ri2}+{y_e}^{pi2}\,{y_e}^{ri4}\right)\mathrm{LF}_{2,1,1,-1}\left[\tilde\mu,\,m_{\tilde l}^{\,p},\,m_{\tilde l}^{\,r}\right]\Big)$$