$$C_G \to \hbar \left(-\frac{1}{6}\, g_3{}^3\, \mathrm{LF}_{3,0}[m_3] + \frac{2}{5}\, g_3{}^3\, \mathrm{LF}_{5,-2}[m_3] - \frac{1}{18} \sum_p g_3{}^3\, \mathrm{LF}_{3,0}\left[m_{\tilde{d}}{}^p\right] + \right.$$
$$\frac{1}{8} \sum_p g_3{}^3\, \mathrm{LF}_{4,-1}\left[m_{\tilde{d}}{}^p\right] - \frac{1}{15} \sum_p g_3{}^3\, \mathrm{LF}_{5,-2}\left[m_{\tilde{d}}{}^p\right] - \frac{1}{9} \sum_p g_3{}^3\, \mathrm{LF}_{3,0}\left[m_{\tilde{q}}{}^p\right] + \frac{1}{4} \sum_p g_3{}^3\, \mathrm{LF}_{4,-1}\left[m_{\tilde{q}}{}^p\right] -$$
$$\left. \frac{2}{15} \sum_p g_3{}^3\, \mathrm{LF}_{5,-2}\left[m_{\tilde{q}}{}^p\right] - \frac{1}{18} \sum_p g_3{}^3\, \mathrm{LF}_{3,0}\left[m_{\tilde{u}}{}^p\right] + \frac{1}{8} \sum_p g_3{}^3\, \mathrm{LF}_{4,-1}\left[m_{\tilde{u}}{}^p\right] - \frac{1}{15} \sum_p g_3{}^3\, \mathrm{LF}_{5,-2}\left[m_{\tilde{u}}{}^p\right] \right)$$