Results for the ϵ-finite basis

As the analytical results for the master integrals of equation (34) to equation (45), the relations between the original basis and the ϵ-finite one in appendix A and equation (50) are rather lengthy, they are available in `Mathematica` readable form in the file `ep-basis.m`.

Conventions

Apart from standard `Mathematica` conventions we have introduced the following notation:

$$d = 4 - 2\epsilon \qquad \leftrightarrow \qquad \texttt{d = 4 - 2*ep} \tag{1}$$

For the integrals we use the following convention:

$$T_n = \texttt{Tn}, \qquad T_n^f = \texttt{Tnf}, \tag{2}$$

e.g

$$T_{52} = \texttt{T52}, \qquad T_{52}^f = \texttt{T52f}. \tag{3}$$

In equation (50) we translated the notation given in equation (51) to

$$T_n = \sum_{i=n_{\min}}^{\infty} \epsilon^i \, T_{n,i} = \sum_{i=n_{\min}}^{-1} \epsilon^i \, T_{n,i} + \texttt{Tnep0} + \epsilon \, \texttt{Tnep1} + \epsilon^2 \, \texttt{Tnep2} + \ldots, \tag{4}$$

which reads for the master integral T_{62}:

$$T_{62} = \sum_{i=n_{-4}}^{\infty} \epsilon^i \, T_{62,i} = \sum_{i=-4}^{-1} \epsilon^i \, T_{62,i} + \texttt{T62ep0} + \epsilon \, \texttt{T62ep1} + \epsilon^2 \, \texttt{T62ep2} + \ldots. \tag{5}$$