From 1512.02860:

$$\frac{1}{D_1D_2D_3D_4} = \sum_{i=1}^{4} \frac{1}{D_i} \prod_{j\neq i} \frac{1}{D_j - D_i} \tag{0.1}$$

1 i=1

1.1 ++++, massless: ioooopppp

$$D_1 = \ell^2 + i\epsilon \tag{1.1}$$
$$D_2 = 2p_1\ell + i\epsilon \tag{1.2}$$
$$D_3 = 2\left(p_1 + p_2\right)\ell + 2p_1p_2 + i\epsilon \tag{1.3}$$
$$D_4 = 2\left(p_1 + p_2 + p_3\right)\ell + 2\left(p_1p_2 + p_3p_2 + p_1p_3\right) + i\epsilon \tag{1.4}$$

$$p_1^2 \to 0, p_2^2 \to 0, p_3^2 \to 0, p_1p_2 \to \frac{s}{2}, p_2p_3 \to \frac{t}{2}, p_1p_3 \to \frac{1}{2}(-s-t) \tag{1.5}$$
$$x = \frac{t}{s} \tag{1.6}$$

Master Integrals:

$$F[1010] = \int \frac{\mathrm{d}^d\ell}{i\pi^{d/2}} \frac{1}{D_1D_3}; \qquad F[1111] = \int \frac{\mathrm{d}^d\ell}{i\pi^{d/2}} \frac{1}{D_1D_2D_3D_4} \tag{1.7}$$

UT basis:

$$g_1(x) = -\frac{1}{2}(1-2\epsilon)\mathrm{e}^{\gamma_E\epsilon}(-s)^\epsilon F[1010], \qquad g_2(x) = \frac{1}{4}\epsilon\mathrm{e}^{\gamma_E\epsilon}(-s)^\epsilon stF[1111] \tag{1.8}$$

result:

$$g_1(x) = -\frac{1}{4} - \frac{i\pi\epsilon}{4} + \frac{\pi^2\epsilon^2}{48} \tag{1.9}$$
$$g_2(x) = \frac{1}{4} + \epsilon\left(-\frac{1}{4}G(0,x) + \frac{i\pi}{2}\right) + \frac{1}{48}\epsilon^2\left(12i\pi G(-1,x) - 24i\pi G(0,x) - 12G(-1,0,x) + 12G(0,0,x) - 17\pi^2\right)$$

2 temp

$$D_1 = \ell^2 + i\epsilon \tag{2.1}$$
$$D_2 = 2p_1\ell + p_1^2 + i\epsilon \tag{2.2}$$
$$D_3 = 2p_1\ell + 2p_2\ell + p_1^2 + 2p_2p_1 + p_2^2 + i\epsilon \tag{2.3}$$
$$D_4 = 2p_1\ell + 2p_2\ell + 2p_3\ell + p_1^2 + 2p_2p_1 + 2p_3p_1 + p_2^2 + p_3^2 + 2p_2p_3 + i\epsilon \tag{2.4}$$