Pensieve header: Full stitching as a determinant.

<< KnotTheory`

<< "C:/drorbn/AcademicPensieve/Projects/MetaCalculi/MetaCalculi-Program.m"

Loading KnotTheory` version of September 6, 2014, 13:37:37.2841.

Read more at http://katlas.org/wiki/KnotTheory.

K0 = Last@SXForm[K = Knot[8, 18]]

KnotTheory::loading : Loading precomputed data in PD4Knots`.

Xm[3, 8] Xm[7, 12] Xm[11, 16] Xm[15, 4] Xp[1, 6] Xp[5, 10] Xp[9, 14] Xp[13, 2]

Alexander[K][T]

$$13 - \frac{1}{T^3} + \frac{5}{T^2} - \frac{10}{T} - 10\,T + 5\,T^2 - T^3$$

$\bigl($M = Γ[K0][A]$\bigr)$ // MatrixForm

$$\begin{pmatrix}
1 & 0 & 0 & 0 & 0 & 1-T_1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & T_{13} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 1 & 0 & 0 & 0 & 0 & \frac{-1+T_3}{T_3} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \frac{1}{T_{15}} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1-T_5 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & T_1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & \frac{-1+T_7}{T_7} & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & \frac{1}{T_3} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1-T_9 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & T_5 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & \frac{-1+T_{11}}{T_{11}} \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \frac{1}{T_7} & 0 & 0 & 0 & 0 \\
0 & 1-T_{13} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & T_9 & 0 & 0 \\
0 & 0 & 0 & \frac{-1+T_{15}}{T_{15}} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & \frac{1}{T_{11}}
\end{pmatrix}$$

Det[

  Drop[M + Normal[SparseArray[{Band[{1, 2}] → -1}, {16, 16}]], -1, -1] /. T_ → T

 ] // Simplify

$$-\frac{\bigl(1 - 3\,T + T^2\bigr)\,\bigl(1 - T + T^2\bigr)^2}{T^2}$$

Z[K]

dm[1, 16, 1][

 dm[1, 15, 1][dm[1, 14, 1][dm[1, 13, 1][dm[1, 12, 1][dm[1, 11, 1][dm[1, 10, 1][

        dm[1, 9, 1][dm[1, 8, 1][dm[1, 7, 1][dm[1, 6, 1][dm[1, 5, 1][

            dm[1, 4, 1][dm[1, 3, 1][dm[1, 2, 1][Xm[3, 8] Xm[7, 12] Xm[11, 16]

                Xm[15, 4] Xp[1, 6] Xp[5, 10] Xp[9, 14] Xp[13, 2]]]]]]]]]]]]]]]]

```
(dm[1, 11, 1][dm[1, 10, 1][dm[1, 9, 1][dm[1, 8, 1][dm[1, 7, 1][
      dm[1, 6, 1][dm[1, 5, 1][dm[1, 4, 1][dm[1, 3, 1][dm[1, 2, 1][K0 // Γ]]]]]]]]]])
```

$$
\begin{pmatrix}
\frac{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}}{T_{15}} & s_1 & s_{12} & s_{13} & s_{14} & s \\
s_1 & \frac{T_1\,T_{13}}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & \frac{(-1+T_1)\,(-T_{13}+T_1\,T_{13}+T_{15})}{T_1\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})} & 0 & -\frac{(-1+T_1)\,T_1\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & (\\
s_{12} & 0 & \frac{1}{T_1} & 0 & 0 & (\\
s_{13} & -\frac{(-1+T_{13})\,(1-T_1+T_1\,T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & -\frac{(-1+T_1)^3\,(-1+T_{13})\,(-1+T_{15})}{T_1^2\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})} & 1 & \frac{(-1+T_1)^3\,(-1+T_{13})\,T_{15}}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & (\\
s_{14} & 0 & 0 & 0 & T_1 & (\\
s_{15} & \frac{T_1\,T_{13}\,(-1+T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & \frac{(-1+T_1)^2\,(1-T_{13}+T_1\,T_{13})\,(-1+T_{15})}{T_1^2\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})} & 0 & -\frac{(-1+T_1)^3\,(-1+T_{13})\,(-1+T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}} & \\
s_{16} & 0 & 0 & 0 & 0 & (\\
\Gamma & \frac{T_1\,T_{13}}{T_{15}} & \frac{1}{T_1} & 1 & T_1 &
\end{pmatrix}
$$

```
M1 =
  (dm[1, 11, 1][dm[1, 10, 1][dm[1, 9, 1][dm[1, 8, 1][dm[1, 7, 1][dm[1, 6, 1][dm[1, 5, 1][
        dm[1, 4, 1][dm[1, 3, 1][dm[1, 2, 1][K0 // Γ]]]]]]]]]])[A]
```

$$
\left\{\left\{\frac{T_1\,T_{13}}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ \frac{(-1+T_1)\,(-T_{13}+T_1\,T_{13}+T_{15})}{T_1\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})},\ 0,\right.\right.
$$
$$
\left.-\frac{(-1+T_1)\,T_1\,(1-T_1-T_{13}+T_1\,T_{13}+T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ 0,\ \frac{-1+T_1}{T_1}\right\},\ \left\{0,\ \frac{1}{T_1},\ 0,\ 0,\ 0,\ 0\right\},
$$
$$
\left\{-\frac{(-1+T_{13})\,(1-T_1+T_1\,T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ -\frac{(-1+T_1)^3\,(-1+T_{13})\,(-1+T_{15})}{T_1^2\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})},\right.
$$
$$
\left.1,\ \frac{(-1+T_1)^3\,(-1+T_{13})\,T_{15}}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ 0,\ 0\right\},\ \left\{0,\ 0,\ 0,\ T_1,\ 0,\ 0\right\},
$$
$$
\left\{\frac{T_1\,T_{13}\,(-1+T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ \frac{(-1+T_1)^2\,(1-T_{13}+T_1\,T_{13})\,(-1+T_{15})}{T_1^2\,(1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15})},\ 0,\right.
$$
$$
\left.\left.-\frac{(-1+T_1)^3\,(-1+T_{13})\,(-1+T_{15})}{1-T_1-T_{13}+T_1\,T_{13}+T_1\,T_{15}},\ 1,\ 0\right\},\ \left\{0,\ 0,\ 0,\ 0,\ 0,\ \frac{1}{T_1}\right\}\right\}
$$

```
1 - T₁ - T₁₃ + T₁ T₁₃ + T₁ T₁₅
───────────────────────────────  Det[
          T₁₅
    Drop[M1 + Normal[SparseArray[{Band[{1, 2}] → -1}, {6, 6}]], -1, -1]
   ] /. T_ → T // Simplify
```

$$
-\frac{\left(1-3\,T+T^2\right)\,\left(1-T+T^2\right)^2}{T^2}
$$

```
n = 6; γ0 = Γ[1, ∑ₐ₌₀ⁿ hₐ σₐ, ∑ₐ₌₁ⁿ ∑_{b=1}ⁿ tₐ h_b α₁₀ₐ₊ᵦ]
```

$$
\begin{pmatrix}
1 & s_1 & s_2 & s_3 & s_4 & s_5 & s_6 \\
s_1 & \alpha_{11} & \alpha_{12} & \alpha_{13} & \alpha_{14} & \alpha_{15} & \alpha_{16} \\
s_2 & \alpha_{21} & \alpha_{22} & \alpha_{23} & \alpha_{24} & \alpha_{25} & \alpha_{26} \\
s_3 & \alpha_{31} & \alpha_{32} & \alpha_{33} & \alpha_{34} & \alpha_{35} & \alpha_{36} \\
s_4 & \alpha_{41} & \alpha_{42} & \alpha_{43} & \alpha_{44} & \alpha_{45} & \alpha_{46} \\
s_5 & \alpha_{51} & \alpha_{52} & \alpha_{53} & \alpha_{54} & \alpha_{55} & \alpha_{56} \\
s_6 & \alpha_{61} & \alpha_{62} & \alpha_{63} & \alpha_{64} & \alpha_{65} & \alpha_{66} \\
\Gamma & \sigma_1 & \sigma_2 & \sigma_3 & \sigma_4 & \sigma_5 & \sigma_6
\end{pmatrix}
$$

```
t1 = Det[
  Drop[Normal[SparseArray[{Band[{1, 2}] → 1}, {n, n}]] - γ0[A], -1, 1]
 ]
```

$-\left(\alpha_{16} - \alpha_{16}\alpha_{23} + \alpha_{13}\alpha_{26} - \alpha_{16}\alpha_{24}\alpha_{33} + \alpha_{14}\alpha_{26}\alpha_{33} - \alpha_{16}\alpha_{34} + \alpha_{16}\alpha_{23}\alpha_{34} - \alpha_{13}\alpha_{26}\alpha_{34} + \alpha_{14}\alpha_{36} - \right.$
$\quad \alpha_{14}\alpha_{23}\alpha_{36} + \alpha_{13}\alpha_{24}\alpha_{36} - \alpha_{16}\alpha_{25}\alpha_{43} + \alpha_{15}\alpha_{26}\alpha_{43} + \alpha_{16}\alpha_{25}\alpha_{34}\alpha_{43} - \alpha_{15}\alpha_{26}\alpha_{34}\alpha_{43} -$
$\quad \alpha_{16}\alpha_{24}\alpha_{35}\alpha_{43} + \alpha_{14}\alpha_{26}\alpha_{35}\alpha_{43} + \alpha_{15}\alpha_{24}\alpha_{36}\alpha_{43} - \alpha_{14}\alpha_{25}\alpha_{36}\alpha_{43} - \alpha_{16}\alpha_{25}\alpha_{33}\alpha_{44} +$
$\quad \alpha_{15}\alpha_{26}\alpha_{33}\alpha_{44} - \alpha_{16}\alpha_{35}\alpha_{44} + \alpha_{16}\alpha_{23}\alpha_{35}\alpha_{44} - \alpha_{13}\alpha_{26}\alpha_{35}\alpha_{44} + \alpha_{15}\alpha_{36}\alpha_{44} - \alpha_{15}\alpha_{23}\alpha_{36}\alpha_{44} +$
$\quad \alpha_{13}\alpha_{25}\alpha_{36}\alpha_{44} - \alpha_{16}\alpha_{45} + \alpha_{16}\alpha_{23}\alpha_{45} - \alpha_{13}\alpha_{26}\alpha_{45} + \alpha_{16}\alpha_{24}\alpha_{33}\alpha_{45} - \alpha_{14}\alpha_{26}\alpha_{33}\alpha_{45} +$
$\quad \alpha_{16}\alpha_{34}\alpha_{45} - \alpha_{16}\alpha_{23}\alpha_{34}\alpha_{45} + \alpha_{13}\alpha_{26}\alpha_{34}\alpha_{45} - \alpha_{14}\alpha_{36}\alpha_{45} + \alpha_{14}\alpha_{23}\alpha_{36}\alpha_{45} - \alpha_{13}\alpha_{24}\alpha_{36}\alpha_{45} +$
$\quad \alpha_{15}\alpha_{46} - \alpha_{15}\alpha_{23}\alpha_{46} + \alpha_{13}\alpha_{25}\alpha_{46} - \alpha_{15}\alpha_{24}\alpha_{33}\alpha_{46} + \alpha_{14}\alpha_{25}\alpha_{33}\alpha_{46} - \alpha_{15}\alpha_{34}\alpha_{46} +$
$\quad \left. \alpha_{15}\alpha_{23}\alpha_{34}\alpha_{46} - \alpha_{13}\alpha_{25}\alpha_{34}\alpha_{46} + \alpha_{14}\alpha_{35}\alpha_{46} - \alpha_{14}\alpha_{23}\alpha_{35}\alpha_{46} + \alpha_{13}\alpha_{24}\alpha_{35}\alpha_{46}\right) \alpha_{52} +$
$\left(\left(-\alpha_{16}\alpha_{25} + \alpha_{15}\alpha_{26} + \alpha_{16}\alpha_{25}\alpha_{34} - \alpha_{15}\alpha_{26}\alpha_{34} - \alpha_{16}\alpha_{24}\alpha_{35} + \alpha_{14}\alpha_{26}\alpha_{35} + \alpha_{15}\alpha_{24}\alpha_{36} - \alpha_{14}\alpha_{25}\alpha_{36}\right) \alpha_{42} - \right.$
$\quad \left(\alpha_{16}\alpha_{25}\alpha_{32} - \alpha_{15}\alpha_{26}\alpha_{32} - \alpha_{16}\alpha_{22}\alpha_{35} - \alpha_{26}\alpha_{35} + \alpha_{12}\alpha_{26}\alpha_{35} + \alpha_{15}\alpha_{22}\alpha_{36} + \alpha_{25}\alpha_{36} - \alpha_{12}\alpha_{25}\alpha_{36}\right)$
$\quad\quad \alpha_{44} - \left(\alpha_{16}\alpha_{22} + \alpha_{26} - \alpha_{12}\alpha_{26} + \alpha_{16}\alpha_{24}\alpha_{32} - \alpha_{14}\alpha_{26}\alpha_{32} - \alpha_{16}\alpha_{22}\alpha_{34} - \right.$
$\quad\quad\quad \left. \alpha_{26}\alpha_{34} + \alpha_{12}\alpha_{26}\alpha_{34} + \alpha_{14}\alpha_{22}\alpha_{36} + \alpha_{24}\alpha_{36} - \alpha_{12}\alpha_{24}\alpha_{36}\right) \left(1 - \alpha_{45}\right) -$
$\quad \left(\alpha_{15}\alpha_{22} + \alpha_{25} - \alpha_{12}\alpha_{25} + \alpha_{15}\alpha_{24}\alpha_{32} - \alpha_{14}\alpha_{25}\alpha_{32} - \alpha_{15}\alpha_{22}\alpha_{34} - \alpha_{25}\alpha_{34} + \right.$
$\quad\quad \left.\left. \alpha_{12}\alpha_{25}\alpha_{34} + \alpha_{14}\alpha_{22}\alpha_{35} + \alpha_{24}\alpha_{35} - \alpha_{12}\alpha_{24}\alpha_{35}\right) \alpha_{46}\right) \alpha_{53} -$
$\left(\alpha_{16}\alpha_{32} - \alpha_{16}\alpha_{23}\alpha_{32} + \alpha_{13}\alpha_{26}\alpha_{32} + \alpha_{16}\alpha_{22}\alpha_{33} + \alpha_{26}\alpha_{33} - \alpha_{12}\alpha_{26}\alpha_{33} + \alpha_{36} - \alpha_{12}\alpha_{36} - \right.$
$\quad \alpha_{13}\alpha_{22}\alpha_{36} - \alpha_{23}\alpha_{36} + \alpha_{12}\alpha_{23}\alpha_{36} + \alpha_{16}\alpha_{25}\alpha_{33}\alpha_{42} - \alpha_{15}\alpha_{26}\alpha_{33}\alpha_{42} + \alpha_{16}\alpha_{35}\alpha_{42} -$
$\quad \alpha_{16}\alpha_{23}\alpha_{35}\alpha_{42} + \alpha_{13}\alpha_{26}\alpha_{35}\alpha_{42} - \alpha_{15}\alpha_{36}\alpha_{42} + \alpha_{15}\alpha_{23}\alpha_{36}\alpha_{42} - \alpha_{13}\alpha_{25}\alpha_{36}\alpha_{42} - \alpha_{16}\alpha_{25}\alpha_{32}\alpha_{43} +$
$\quad \alpha_{15}\alpha_{26}\alpha_{32}\alpha_{43} + \alpha_{16}\alpha_{22}\alpha_{35}\alpha_{43} + \alpha_{26}\alpha_{35}\alpha_{43} - \alpha_{12}\alpha_{26}\alpha_{35}\alpha_{43} - \alpha_{15}\alpha_{22}\alpha_{36}\alpha_{43} - \alpha_{25}\alpha_{36}\alpha_{43} +$
$\quad \alpha_{12}\alpha_{25}\alpha_{36}\alpha_{43} - \alpha_{16}\alpha_{32}\alpha_{45} + \alpha_{16}\alpha_{23}\alpha_{32}\alpha_{45} - \alpha_{13}\alpha_{26}\alpha_{32}\alpha_{45} - \alpha_{16}\alpha_{22}\alpha_{33}\alpha_{45} -$
$\quad \alpha_{26}\alpha_{33}\alpha_{45} + \alpha_{12}\alpha_{26}\alpha_{33}\alpha_{45} - \alpha_{36}\alpha_{45} + \alpha_{12}\alpha_{36}\alpha_{45} + \alpha_{13}\alpha_{22}\alpha_{36}\alpha_{45} + \alpha_{23}\alpha_{36}\alpha_{45} -$
$\quad \alpha_{12}\alpha_{23}\alpha_{36}\alpha_{45} + \alpha_{15}\alpha_{32}\alpha_{46} - \alpha_{15}\alpha_{23}\alpha_{32}\alpha_{46} + \alpha_{13}\alpha_{25}\alpha_{32}\alpha_{46} + \alpha_{15}\alpha_{22}\alpha_{33}\alpha_{46} + \alpha_{25}\alpha_{33}\alpha_{46} -$
$\quad \left. \alpha_{12}\alpha_{25}\alpha_{33}\alpha_{46} + \alpha_{35}\alpha_{46} - \alpha_{12}\alpha_{35}\alpha_{46} - \alpha_{13}\alpha_{22}\alpha_{35}\alpha_{46} - \alpha_{23}\alpha_{35}\alpha_{46} + \alpha_{12}\alpha_{23}\alpha_{35}\alpha_{46}\right) \alpha_{54} +$
$\left(-\alpha_{16}\alpha_{42} + \alpha_{16}\alpha_{23}\alpha_{42} - \alpha_{13}\alpha_{26}\alpha_{42} + \alpha_{16}\alpha_{24}\alpha_{33}\alpha_{42} - \alpha_{14}\alpha_{26}\alpha_{33}\alpha_{42} + \alpha_{16}\alpha_{34}\alpha_{42} - \right.$
$\quad \alpha_{16}\alpha_{23}\alpha_{34}\alpha_{42} + \alpha_{13}\alpha_{26}\alpha_{34}\alpha_{42} - \alpha_{14}\alpha_{36}\alpha_{42} + \alpha_{14}\alpha_{23}\alpha_{36}\alpha_{42} - \alpha_{13}\alpha_{24}\alpha_{36}\alpha_{42} - \alpha_{16}\alpha_{22}\alpha_{43} -$
$\quad \alpha_{26}\alpha_{43} + \alpha_{12}\alpha_{26}\alpha_{43} - \alpha_{16}\alpha_{24}\alpha_{32}\alpha_{43} + \alpha_{14}\alpha_{26}\alpha_{32}\alpha_{43} + \alpha_{16}\alpha_{22}\alpha_{34}\alpha_{43} + \alpha_{26}\alpha_{34}\alpha_{43} -$
$\quad \alpha_{12}\alpha_{26}\alpha_{34}\alpha_{43} - \alpha_{14}\alpha_{22}\alpha_{36}\alpha_{43} - \alpha_{24}\alpha_{36}\alpha_{43} + \alpha_{12}\alpha_{24}\alpha_{36}\alpha_{43} - \alpha_{16}\alpha_{32}\alpha_{44} + \alpha_{16}\alpha_{23}\alpha_{32}\alpha_{44} -$
$\quad \alpha_{13}\alpha_{26}\alpha_{32}\alpha_{44} - \alpha_{16}\alpha_{22}\alpha_{33}\alpha_{44} - \alpha_{26}\alpha_{33}\alpha_{44} + \alpha_{12}\alpha_{26}\alpha_{33}\alpha_{44} - \alpha_{36}\alpha_{44} + \alpha_{12}\alpha_{36}\alpha_{44} +$
$\quad \alpha_{13}\alpha_{22}\alpha_{36}\alpha_{44} + \alpha_{23}\alpha_{36}\alpha_{44} - \alpha_{12}\alpha_{23}\alpha_{36}\alpha_{44} - \alpha_{46} + \alpha_{12}\alpha_{46} + \alpha_{13}\alpha_{22}\alpha_{46} + \alpha_{23}\alpha_{46} -$
$\quad \alpha_{12}\alpha_{23}\alpha_{46} + \alpha_{14}\alpha_{32}\alpha_{46} - \alpha_{14}\alpha_{23}\alpha_{32}\alpha_{46} + \alpha_{13}\alpha_{24}\alpha_{32}\alpha_{46} + \alpha_{14}\alpha_{22}\alpha_{33}\alpha_{46} + \alpha_{24}\alpha_{33}\alpha_{46} -$
$\quad \left. \alpha_{12}\alpha_{24}\alpha_{33}\alpha_{46} + \alpha_{34}\alpha_{46} - \alpha_{12}\alpha_{34}\alpha_{46} - \alpha_{13}\alpha_{22}\alpha_{34}\alpha_{46} - \alpha_{23}\alpha_{34}\alpha_{46} + \alpha_{12}\alpha_{23}\alpha_{34}\alpha_{46}\right) \alpha_{55} +$
$\left(\left(-\alpha_{15} + \alpha_{15}\alpha_{23} - \alpha_{13}\alpha_{25} + \alpha_{15}\alpha_{24}\alpha_{33} - \alpha_{14}\alpha_{25}\alpha_{33} + \alpha_{15}\alpha_{34} - \alpha_{15}\alpha_{23}\alpha_{34} + \right.\right.$
$\quad\quad \left. \alpha_{13}\alpha_{25}\alpha_{34} - \alpha_{14}\alpha_{35} + \alpha_{14}\alpha_{23}\alpha_{35} - \alpha_{13}\alpha_{24}\alpha_{35}\right) \alpha_{42} -$
$\quad \left(\alpha_{15}\alpha_{22} + \alpha_{25} - \alpha_{12}\alpha_{25} + \alpha_{15}\alpha_{24}\alpha_{32} - \alpha_{14}\alpha_{25}\alpha_{32} - \alpha_{15}\alpha_{22}\alpha_{34} - \alpha_{25}\alpha_{34} + \alpha_{12}\alpha_{25}\alpha_{34} + \right.$
$\quad\quad \left. \alpha_{14}\alpha_{22}\alpha_{35} + \alpha_{24}\alpha_{35} - \alpha_{12}\alpha_{24}\alpha_{35}\right) \alpha_{43} + \left(-\alpha_{15}\alpha_{32} + \alpha_{15}\alpha_{23}\alpha_{32} - \alpha_{13}\alpha_{25}\alpha_{32} - \right.$
$\quad\quad \left. \alpha_{15}\alpha_{22}\alpha_{33} - \alpha_{25}\alpha_{33} + \alpha_{12}\alpha_{25}\alpha_{33} - \alpha_{35} + \alpha_{12}\alpha_{35} + \alpha_{13}\alpha_{22}\alpha_{35} + \alpha_{23}\alpha_{35} - \alpha_{12}\alpha_{23}\alpha_{35}\right) \alpha_{44} +$
$\quad \left(1 - \alpha_{12} - \alpha_{13}\alpha_{22} - \alpha_{23} + \alpha_{12}\alpha_{23} - \alpha_{14}\alpha_{32} + \alpha_{14}\alpha_{23}\alpha_{32} - \alpha_{13}\alpha_{24}\alpha_{32} - \alpha_{14}\alpha_{22}\alpha_{33} - \alpha_{24}\alpha_{33} + \right.$
$\quad\quad \left.\left. \alpha_{12}\alpha_{24}\alpha_{33} - \alpha_{34} + \alpha_{12}\alpha_{34} + \alpha_{13}\alpha_{22}\alpha_{34} + \alpha_{23}\alpha_{34} - \alpha_{12}\alpha_{23}\alpha_{34}\right) \left(1 - \alpha_{45}\right)\right) \left(1 - \alpha_{56}\right)$

```
t2 = γ0;
Do[t2 = t2 // dm[1, k, 1], {k, 2, n}];
t2 = t2@ω
```

$1 - \alpha_{12} - \alpha_{13}\,\alpha_{22} - \alpha_{23} + \alpha_{12}\,\alpha_{23} - \alpha_{14}\,\alpha_{32} + \alpha_{14}\,\alpha_{23}\,\alpha_{32} - \alpha_{13}\,\alpha_{24}\,\alpha_{32} - \alpha_{14}\,\alpha_{22}\,\alpha_{33} - \alpha_{24}\,\alpha_{33} +$

$\alpha_{12}\,\alpha_{24}\,\alpha_{33} - \alpha_{34} + \alpha_{12}\,\alpha_{34} + \alpha_{13}\,\alpha_{22}\,\alpha_{34} + \alpha_{23}\,\alpha_{34} - \alpha_{12}\,\alpha_{23}\,\alpha_{34} - \alpha_{15}\,\alpha_{42} + \alpha_{15}\,\alpha_{23}\,\alpha_{42} - \alpha_{13}\,\alpha_{25}\,\alpha_{42} +$

$\alpha_{15}\,\alpha_{24}\,\alpha_{33}\,\alpha_{42} - \alpha_{14}\,\alpha_{25}\,\alpha_{33}\,\alpha_{42} + \alpha_{15}\,\alpha_{34}\,\alpha_{42} - \alpha_{15}\,\alpha_{23}\,\alpha_{34}\,\alpha_{42} + \alpha_{13}\,\alpha_{25}\,\alpha_{34}\,\alpha_{42} - \alpha_{14}\,\alpha_{35}\,\alpha_{42} +$

$\alpha_{14}\,\alpha_{23}\,\alpha_{35}\,\alpha_{42} - \alpha_{13}\,\alpha_{24}\,\alpha_{35}\,\alpha_{42} - \alpha_{15}\,\alpha_{22}\,\alpha_{43} - \alpha_{25}\,\alpha_{43} + \alpha_{12}\,\alpha_{25}\,\alpha_{43} - \alpha_{15}\,\alpha_{24}\,\alpha_{32}\,\alpha_{43} + \alpha_{14}\,\alpha_{25}\,\alpha_{32}\,\alpha_{43} +$

$\alpha_{15}\,\alpha_{22}\,\alpha_{34}\,\alpha_{43} + \alpha_{25}\,\alpha_{34}\,\alpha_{43} - \alpha_{12}\,\alpha_{25}\,\alpha_{34}\,\alpha_{43} - \alpha_{14}\,\alpha_{22}\,\alpha_{35}\,\alpha_{43} - \alpha_{24}\,\alpha_{35}\,\alpha_{43} + \alpha_{12}\,\alpha_{24}\,\alpha_{35}\,\alpha_{43} -$

$\alpha_{15}\,\alpha_{32}\,\alpha_{44} + \alpha_{15}\,\alpha_{23}\,\alpha_{32}\,\alpha_{44} - \alpha_{13}\,\alpha_{25}\,\alpha_{32}\,\alpha_{44} - \alpha_{15}\,\alpha_{22}\,\alpha_{33}\,\alpha_{44} - \alpha_{25}\,\alpha_{33}\,\alpha_{44} + \alpha_{12}\,\alpha_{25}\,\alpha_{33}\,\alpha_{44} -$

$\alpha_{35}\,\alpha_{44} + \alpha_{12}\,\alpha_{35}\,\alpha_{44} + \alpha_{13}\,\alpha_{22}\,\alpha_{35}\,\alpha_{44} + \alpha_{23}\,\alpha_{35}\,\alpha_{44} - \alpha_{12}\,\alpha_{23}\,\alpha_{35}\,\alpha_{44} - \alpha_{45} + \alpha_{12}\,\alpha_{45} + \alpha_{13}\,\alpha_{22}\,\alpha_{45} +$

$\alpha_{23}\,\alpha_{45} - \alpha_{12}\,\alpha_{23}\,\alpha_{45} + \alpha_{14}\,\alpha_{32}\,\alpha_{45} - \alpha_{14}\,\alpha_{23}\,\alpha_{32}\,\alpha_{45} + \alpha_{13}\,\alpha_{24}\,\alpha_{32}\,\alpha_{45} + \alpha_{14}\,\alpha_{22}\,\alpha_{33}\,\alpha_{45} + \alpha_{24}\,\alpha_{33}\,\alpha_{45} -$

$\alpha_{12}\,\alpha_{24}\,\alpha_{33}\,\alpha_{45} + \alpha_{34}\,\alpha_{45} - \alpha_{12}\,\alpha_{34}\,\alpha_{45} - \alpha_{13}\,\alpha_{22}\,\alpha_{34}\,\alpha_{45} - \alpha_{23}\,\alpha_{34}\,\alpha_{45} + \alpha_{12}\,\alpha_{23}\,\alpha_{34}\,\alpha_{45} - \alpha_{16}\,\alpha_{52} +$

$\alpha_{16}\,\alpha_{23}\,\alpha_{52} - \alpha_{13}\,\alpha_{26}\,\alpha_{52} + \alpha_{16}\,\alpha_{24}\,\alpha_{33}\,\alpha_{52} - \alpha_{14}\,\alpha_{26}\,\alpha_{33}\,\alpha_{52} + \alpha_{16}\,\alpha_{34}\,\alpha_{52} - \alpha_{16}\,\alpha_{23}\,\alpha_{34}\,\alpha_{52} +$

$\alpha_{13}\,\alpha_{26}\,\alpha_{34}\,\alpha_{52} - \alpha_{14}\,\alpha_{36}\,\alpha_{52} + \alpha_{14}\,\alpha_{23}\,\alpha_{36}\,\alpha_{52} - \alpha_{13}\,\alpha_{24}\,\alpha_{36}\,\alpha_{52} + \alpha_{16}\,\alpha_{25}\,\alpha_{43}\,\alpha_{52} - \alpha_{15}\,\alpha_{26}\,\alpha_{43}\,\alpha_{52} -$

$\alpha_{16}\,\alpha_{25}\,\alpha_{34}\,\alpha_{43}\,\alpha_{52} + \alpha_{15}\,\alpha_{26}\,\alpha_{34}\,\alpha_{43}\,\alpha_{52} + \alpha_{16}\,\alpha_{24}\,\alpha_{35}\,\alpha_{43}\,\alpha_{52} - \alpha_{14}\,\alpha_{26}\,\alpha_{35}\,\alpha_{43}\,\alpha_{52} - \alpha_{15}\,\alpha_{24}\,\alpha_{36}\,\alpha_{43}\,\alpha_{52} +$

$\alpha_{14}\,\alpha_{25}\,\alpha_{36}\,\alpha_{43}\,\alpha_{52} + \alpha_{16}\,\alpha_{25}\,\alpha_{33}\,\alpha_{44}\,\alpha_{52} - \alpha_{15}\,\alpha_{26}\,\alpha_{33}\,\alpha_{44}\,\alpha_{52} + \alpha_{16}\,\alpha_{35}\,\alpha_{44}\,\alpha_{52} - \alpha_{16}\,\alpha_{23}\,\alpha_{35}\,\alpha_{44}\,\alpha_{52} +$

$\alpha_{13}\,\alpha_{26}\,\alpha_{35}\,\alpha_{44}\,\alpha_{52} - \alpha_{15}\,\alpha_{36}\,\alpha_{44}\,\alpha_{52} + \alpha_{15}\,\alpha_{23}\,\alpha_{36}\,\alpha_{44}\,\alpha_{52} - \alpha_{13}\,\alpha_{25}\,\alpha_{36}\,\alpha_{44}\,\alpha_{52} + \alpha_{16}\,\alpha_{45}\,\alpha_{52} -$

$\alpha_{16}\,\alpha_{23}\,\alpha_{45}\,\alpha_{52} + \alpha_{13}\,\alpha_{26}\,\alpha_{45}\,\alpha_{52} - \alpha_{16}\,\alpha_{24}\,\alpha_{33}\,\alpha_{45}\,\alpha_{52} + \alpha_{14}\,\alpha_{26}\,\alpha_{33}\,\alpha_{45}\,\alpha_{52} - \alpha_{16}\,\alpha_{34}\,\alpha_{45}\,\alpha_{52} +$

$\alpha_{16}\,\alpha_{23}\,\alpha_{34}\,\alpha_{45}\,\alpha_{52} - \alpha_{13}\,\alpha_{26}\,\alpha_{34}\,\alpha_{45}\,\alpha_{52} + \alpha_{14}\,\alpha_{36}\,\alpha_{45}\,\alpha_{52} - \alpha_{14}\,\alpha_{23}\,\alpha_{36}\,\alpha_{45}\,\alpha_{52} + \alpha_{13}\,\alpha_{24}\,\alpha_{36}\,\alpha_{45}\,\alpha_{52} -$

$\alpha_{15}\,\alpha_{46}\,\alpha_{52} + \alpha_{15}\,\alpha_{23}\,\alpha_{46}\,\alpha_{52} - \alpha_{13}\,\alpha_{25}\,\alpha_{46}\,\alpha_{52} + \alpha_{15}\,\alpha_{24}\,\alpha_{33}\,\alpha_{46}\,\alpha_{52} - \alpha_{14}\,\alpha_{25}\,\alpha_{33}\,\alpha_{46}\,\alpha_{52} + \alpha_{15}\,\alpha_{34}\,\alpha_{46}\,\alpha_{52} -$

$\alpha_{15}\,\alpha_{23}\,\alpha_{34}\,\alpha_{46}\,\alpha_{52} + \alpha_{13}\,\alpha_{25}\,\alpha_{34}\,\alpha_{46}\,\alpha_{52} - \alpha_{14}\,\alpha_{35}\,\alpha_{46}\,\alpha_{52} + \alpha_{14}\,\alpha_{23}\,\alpha_{35}\,\alpha_{46}\,\alpha_{52} - \alpha_{13}\,\alpha_{24}\,\alpha_{35}\,\alpha_{46}\,\alpha_{52} -$

$\alpha_{16}\,\alpha_{22}\,\alpha_{53} - \alpha_{26}\,\alpha_{53} + \alpha_{12}\,\alpha_{26}\,\alpha_{53} - \alpha_{16}\,\alpha_{24}\,\alpha_{32}\,\alpha_{53} + \alpha_{14}\,\alpha_{26}\,\alpha_{32}\,\alpha_{53} + \alpha_{16}\,\alpha_{22}\,\alpha_{34}\,\alpha_{53} + \alpha_{26}\,\alpha_{34}\,\alpha_{53} -$

$\alpha_{12}\,\alpha_{26}\,\alpha_{34}\,\alpha_{53} - \alpha_{14}\,\alpha_{22}\,\alpha_{36}\,\alpha_{53} - \alpha_{24}\,\alpha_{36}\,\alpha_{53} + \alpha_{12}\,\alpha_{24}\,\alpha_{36}\,\alpha_{53} - \alpha_{16}\,\alpha_{25}\,\alpha_{42}\,\alpha_{53} + \alpha_{15}\,\alpha_{26}\,\alpha_{42}\,\alpha_{53} +$

$\alpha_{16}\,\alpha_{25}\,\alpha_{34}\,\alpha_{42}\,\alpha_{53} - \alpha_{15}\,\alpha_{26}\,\alpha_{34}\,\alpha_{42}\,\alpha_{53} - \alpha_{16}\,\alpha_{24}\,\alpha_{35}\,\alpha_{42}\,\alpha_{53} + \alpha_{14}\,\alpha_{26}\,\alpha_{35}\,\alpha_{42}\,\alpha_{53} + \alpha_{15}\,\alpha_{24}\,\alpha_{36}\,\alpha_{42}\,\alpha_{53} -$

$\alpha_{14}\,\alpha_{25}\,\alpha_{36}\,\alpha_{42}\,\alpha_{53} - \alpha_{16}\,\alpha_{25}\,\alpha_{32}\,\alpha_{44}\,\alpha_{53} + \alpha_{15}\,\alpha_{26}\,\alpha_{32}\,\alpha_{44}\,\alpha_{53} + \alpha_{16}\,\alpha_{22}\,\alpha_{35}\,\alpha_{44}\,\alpha_{53} + \alpha_{26}\,\alpha_{35}\,\alpha_{44}\,\alpha_{53} -$

$\alpha_{12}\,\alpha_{26}\,\alpha_{35}\,\alpha_{44}\,\alpha_{53} - \alpha_{15}\,\alpha_{22}\,\alpha_{36}\,\alpha_{44}\,\alpha_{53} - \alpha_{25}\,\alpha_{36}\,\alpha_{44}\,\alpha_{53} + \alpha_{12}\,\alpha_{25}\,\alpha_{36}\,\alpha_{44}\,\alpha_{53} + \alpha_{16}\,\alpha_{22}\,\alpha_{45}\,\alpha_{53} +$

$\alpha_{26}\,\alpha_{45}\,\alpha_{53} - \alpha_{12}\,\alpha_{26}\,\alpha_{45}\,\alpha_{53} + \alpha_{16}\,\alpha_{24}\,\alpha_{32}\,\alpha_{45}\,\alpha_{53} - \alpha_{14}\,\alpha_{26}\,\alpha_{32}\,\alpha_{45}\,\alpha_{53} - \alpha_{16}\,\alpha_{22}\,\alpha_{34}\,\alpha_{45}\,\alpha_{53} -$

$\alpha_{26}\,\alpha_{34}\,\alpha_{45}\,\alpha_{53} + \alpha_{12}\,\alpha_{26}\,\alpha_{34}\,\alpha_{45}\,\alpha_{53} + \alpha_{14}\,\alpha_{22}\,\alpha_{36}\,\alpha_{45}\,\alpha_{53} + \alpha_{24}\,\alpha_{36}\,\alpha_{45}\,\alpha_{53} - \alpha_{12}\,\alpha_{24}\,\alpha_{36}\,\alpha_{45}\,\alpha_{53} -$

$\alpha_{15}\,\alpha_{22}\,\alpha_{46}\,\alpha_{53} - \alpha_{25}\,\alpha_{46}\,\alpha_{53} + \alpha_{12}\,\alpha_{25}\,\alpha_{46}\,\alpha_{53} - \alpha_{15}\,\alpha_{24}\,\alpha_{32}\,\alpha_{46}\,\alpha_{53} + \alpha_{14}\,\alpha_{25}\,\alpha_{32}\,\alpha_{46}\,\alpha_{53} +$

$\alpha_{15}\,\alpha_{22}\,\alpha_{34}\,\alpha_{46}\,\alpha_{53} + \alpha_{25}\,\alpha_{34}\,\alpha_{46}\,\alpha_{53} - \alpha_{12}\,\alpha_{25}\,\alpha_{34}\,\alpha_{46}\,\alpha_{53} - \alpha_{14}\,\alpha_{22}\,\alpha_{35}\,\alpha_{46}\,\alpha_{53} - \alpha_{24}\,\alpha_{35}\,\alpha_{46}\,\alpha_{53} +$

$\alpha_{12}\,\alpha_{24}\,\alpha_{35}\,\alpha_{46}\,\alpha_{53} - \alpha_{16}\,\alpha_{32}\,\alpha_{54} + \alpha_{16}\,\alpha_{23}\,\alpha_{32}\,\alpha_{54} - \alpha_{13}\,\alpha_{26}\,\alpha_{32}\,\alpha_{54} - \alpha_{16}\,\alpha_{22}\,\alpha_{33}\,\alpha_{54} - \alpha_{26}\,\alpha_{33}\,\alpha_{54} +$

$\alpha_{12}\,\alpha_{26}\,\alpha_{33}\,\alpha_{54} - \alpha_{36}\,\alpha_{54} + \alpha_{12}\,\alpha_{36}\,\alpha_{54} + \alpha_{13}\,\alpha_{22}\,\alpha_{36}\,\alpha_{54} + \alpha_{23}\,\alpha_{36}\,\alpha_{54} - \alpha_{12}\,\alpha_{23}\,\alpha_{36}\,\alpha_{54} -$

$\alpha_{16}\,\alpha_{25}\,\alpha_{33}\,\alpha_{42}\,\alpha_{54} + \alpha_{15}\,\alpha_{26}\,\alpha_{33}\,\alpha_{42}\,\alpha_{54} - \alpha_{16}\,\alpha_{35}\,\alpha_{42}\,\alpha_{54} + \alpha_{16}\,\alpha_{23}\,\alpha_{35}\,\alpha_{42}\,\alpha_{54} - \alpha_{13}\,\alpha_{26}\,\alpha_{35}\,\alpha_{42}\,\alpha_{54} +$

$\alpha_{15}\,\alpha_{36}\,\alpha_{42}\,\alpha_{54} - \alpha_{15}\,\alpha_{23}\,\alpha_{36}\,\alpha_{42}\,\alpha_{54} + \alpha_{13}\,\alpha_{25}\,\alpha_{36}\,\alpha_{42}\,\alpha_{54} + \alpha_{16}\,\alpha_{25}\,\alpha_{32}\,\alpha_{43}\,\alpha_{54} - \alpha_{15}\,\alpha_{26}\,\alpha_{32}\,\alpha_{43}\,\alpha_{54} -$

$\alpha_{16}\,\alpha_{22}\,\alpha_{35}\,\alpha_{43}\,\alpha_{54} - \alpha_{26}\,\alpha_{35}\,\alpha_{43}\,\alpha_{54} + \alpha_{12}\,\alpha_{26}\,\alpha_{35}\,\alpha_{43}\,\alpha_{54} + \alpha_{15}\,\alpha_{22}\,\alpha_{36}\,\alpha_{43}\,\alpha_{54} + \alpha_{25}\,\alpha_{36}\,\alpha_{43}\,\alpha_{54} -$

$\alpha_{12}\,\alpha_{25}\,\alpha_{36}\,\alpha_{43}\,\alpha_{54} + \alpha_{16}\,\alpha_{32}\,\alpha_{45}\,\alpha_{54} - \alpha_{16}\,\alpha_{23}\,\alpha_{32}\,\alpha_{45}\,\alpha_{54} + \alpha_{13}\,\alpha_{26}\,\alpha_{32}\,\alpha_{45}\,\alpha_{54} + \alpha_{16}\,\alpha_{22}\,\alpha_{33}\,\alpha_{45}\,\alpha_{54} +$

$\alpha_{26}\,\alpha_{33}\,\alpha_{45}\,\alpha_{54} - \alpha_{12}\,\alpha_{26}\,\alpha_{33}\,\alpha_{45}\,\alpha_{54} + \alpha_{36}\,\alpha_{45}\,\alpha_{54} - \alpha_{12}\,\alpha_{36}\,\alpha_{45}\,\alpha_{54} - \alpha_{13}\,\alpha_{22}\,\alpha_{36}\,\alpha_{45}\,\alpha_{54} -$

$\alpha_{23}\,\alpha_{36}\,\alpha_{45}\,\alpha_{54} + \alpha_{12}\,\alpha_{23}\,\alpha_{36}\,\alpha_{45}\,\alpha_{54} - \alpha_{15}\,\alpha_{32}\,\alpha_{46}\,\alpha_{54} + \alpha_{15}\,\alpha_{23}\,\alpha_{32}\,\alpha_{46}\,\alpha_{54} - \alpha_{13}\,\alpha_{25}\,\alpha_{32}\,\alpha_{46}\,\alpha_{54} -$

$\alpha_{15}\,\alpha_{22}\,\alpha_{33}\,\alpha_{46}\,\alpha_{54} - \alpha_{25}\,\alpha_{33}\,\alpha_{46}\,\alpha_{54} + \alpha_{12}\,\alpha_{25}\,\alpha_{33}\,\alpha_{46}\,\alpha_{54} - \alpha_{35}\,\alpha_{46}\,\alpha_{54} + \alpha_{12}\,\alpha_{35}\,\alpha_{46}\,\alpha_{54} +$

$\alpha_{13}\,\alpha_{22}\,\alpha_{35}\,\alpha_{46}\,\alpha_{54} + \alpha_{23}\,\alpha_{35}\,\alpha_{46}\,\alpha_{54} - \alpha_{12}\,\alpha_{23}\,\alpha_{35}\,\alpha_{46}\,\alpha_{54} - \alpha_{16}\,\alpha_{42}\,\alpha_{55} + \alpha_{16}\,\alpha_{23}\,\alpha_{42}\,\alpha_{55} -$

$\alpha_{13}\,\alpha_{26}\,\alpha_{42}\,\alpha_{55} + \alpha_{16}\,\alpha_{24}\,\alpha_{33}\,\alpha_{42}\,\alpha_{55} - \alpha_{14}\,\alpha_{26}\,\alpha_{33}\,\alpha_{42}\,\alpha_{55} + \alpha_{16}\,\alpha_{34}\,\alpha_{42}\,\alpha_{55} - \alpha_{16}\,\alpha_{23}\,\alpha_{34}\,\alpha_{42}\,\alpha_{55} +$

$\alpha_{13}\,\alpha_{26}\,\alpha_{34}\,\alpha_{42}\,\alpha_{55} - \alpha_{14}\,\alpha_{36}\,\alpha_{42}\,\alpha_{55} + \alpha_{14}\,\alpha_{23}\,\alpha_{36}\,\alpha_{42}\,\alpha_{55} - \alpha_{13}\,\alpha_{24}\,\alpha_{36}\,\alpha_{42}\,\alpha_{55} - \alpha_{16}\,\alpha_{22}\,\alpha_{43}\,\alpha_{55} -$

$\alpha_{26}\,\alpha_{43}\,\alpha_{55} + \alpha_{12}\,\alpha_{26}\,\alpha_{43}\,\alpha_{55} - \alpha_{16}\,\alpha_{24}\,\alpha_{32}\,\alpha_{43}\,\alpha_{55} + \alpha_{14}\,\alpha_{26}\,\alpha_{32}\,\alpha_{43}\,\alpha_{55} + \alpha_{16}\,\alpha_{22}\,\alpha_{34}\,\alpha_{43}\,\alpha_{55} +$
$\alpha_{26}\,\alpha_{34}\,\alpha_{43}\,\alpha_{55} - \alpha_{12}\,\alpha_{26}\,\alpha_{34}\,\alpha_{43}\,\alpha_{55} - \alpha_{14}\,\alpha_{22}\,\alpha_{36}\,\alpha_{43}\,\alpha_{55} - \alpha_{24}\,\alpha_{36}\,\alpha_{43}\,\alpha_{55} + \alpha_{12}\,\alpha_{24}\,\alpha_{36}\,\alpha_{43}\,\alpha_{55} -$
$\alpha_{16}\,\alpha_{32}\,\alpha_{44}\,\alpha_{55} + \alpha_{16}\,\alpha_{23}\,\alpha_{32}\,\alpha_{44}\,\alpha_{55} - \alpha_{13}\,\alpha_{26}\,\alpha_{32}\,\alpha_{44}\,\alpha_{55} - \alpha_{16}\,\alpha_{22}\,\alpha_{33}\,\alpha_{44}\,\alpha_{55} - \alpha_{26}\,\alpha_{33}\,\alpha_{44}\,\alpha_{55} +$
$\alpha_{12}\,\alpha_{26}\,\alpha_{33}\,\alpha_{44}\,\alpha_{55} - \alpha_{36}\,\alpha_{44}\,\alpha_{55} + \alpha_{12}\,\alpha_{36}\,\alpha_{44}\,\alpha_{55} + \alpha_{13}\,\alpha_{22}\,\alpha_{36}\,\alpha_{44}\,\alpha_{55} + \alpha_{23}\,\alpha_{36}\,\alpha_{44}\,\alpha_{55} -$
$\alpha_{12}\,\alpha_{23}\,\alpha_{36}\,\alpha_{44}\,\alpha_{55} - \alpha_{46}\,\alpha_{55} + \alpha_{12}\,\alpha_{46}\,\alpha_{55} + \alpha_{13}\,\alpha_{22}\,\alpha_{46}\,\alpha_{55} + \alpha_{23}\,\alpha_{46}\,\alpha_{55} - \alpha_{12}\,\alpha_{23}\,\alpha_{46}\,\alpha_{55} +$
$\alpha_{14}\,\alpha_{32}\,\alpha_{46}\,\alpha_{55} - \alpha_{14}\,\alpha_{23}\,\alpha_{32}\,\alpha_{46}\,\alpha_{55} + \alpha_{13}\,\alpha_{24}\,\alpha_{32}\,\alpha_{46}\,\alpha_{55} + \alpha_{14}\,\alpha_{22}\,\alpha_{33}\,\alpha_{46}\,\alpha_{55} + \alpha_{24}\,\alpha_{33}\,\alpha_{46}\,\alpha_{55} -$
$\alpha_{12}\,\alpha_{24}\,\alpha_{33}\,\alpha_{46}\,\alpha_{55} + \alpha_{34}\,\alpha_{46}\,\alpha_{55} - \alpha_{12}\,\alpha_{34}\,\alpha_{46}\,\alpha_{55} - \alpha_{13}\,\alpha_{22}\,\alpha_{34}\,\alpha_{46}\,\alpha_{55} - \alpha_{23}\,\alpha_{34}\,\alpha_{46}\,\alpha_{55} +$
$\alpha_{12}\,\alpha_{23}\,\alpha_{34}\,\alpha_{46}\,\alpha_{55} - \alpha_{56} + \alpha_{12}\,\alpha_{56} + \alpha_{13}\,\alpha_{22}\,\alpha_{56} + \alpha_{23}\,\alpha_{56} - \alpha_{12}\,\alpha_{23}\,\alpha_{56} + \alpha_{14}\,\alpha_{32}\,\alpha_{56} - \alpha_{14}\,\alpha_{23}\,\alpha_{32}\,\alpha_{56} +$
$\alpha_{13}\,\alpha_{24}\,\alpha_{32}\,\alpha_{56} + \alpha_{14}\,\alpha_{22}\,\alpha_{33}\,\alpha_{56} + \alpha_{24}\,\alpha_{33}\,\alpha_{56} - \alpha_{12}\,\alpha_{24}\,\alpha_{33}\,\alpha_{56} + \alpha_{34}\,\alpha_{56} - \alpha_{12}\,\alpha_{34}\,\alpha_{56} -$
$\alpha_{13}\,\alpha_{22}\,\alpha_{34}\,\alpha_{56} - \alpha_{23}\,\alpha_{34}\,\alpha_{56} + \alpha_{12}\,\alpha_{23}\,\alpha_{34}\,\alpha_{56} + \alpha_{15}\,\alpha_{42}\,\alpha_{56} - \alpha_{15}\,\alpha_{23}\,\alpha_{42}\,\alpha_{56} + \alpha_{13}\,\alpha_{25}\,\alpha_{42}\,\alpha_{56} -$
$\alpha_{15}\,\alpha_{24}\,\alpha_{33}\,\alpha_{42}\,\alpha_{56} + \alpha_{14}\,\alpha_{25}\,\alpha_{33}\,\alpha_{42}\,\alpha_{56} - \alpha_{15}\,\alpha_{34}\,\alpha_{42}\,\alpha_{56} + \alpha_{15}\,\alpha_{23}\,\alpha_{34}\,\alpha_{42}\,\alpha_{56} - \alpha_{13}\,\alpha_{25}\,\alpha_{34}\,\alpha_{42}\,\alpha_{56} +$
$\alpha_{14}\,\alpha_{35}\,\alpha_{42}\,\alpha_{56} - \alpha_{14}\,\alpha_{23}\,\alpha_{35}\,\alpha_{42}\,\alpha_{56} + \alpha_{13}\,\alpha_{24}\,\alpha_{35}\,\alpha_{42}\,\alpha_{56} + \alpha_{15}\,\alpha_{22}\,\alpha_{43}\,\alpha_{56} + \alpha_{25}\,\alpha_{43}\,\alpha_{56} -$
$\alpha_{12}\,\alpha_{25}\,\alpha_{43}\,\alpha_{56} + \alpha_{15}\,\alpha_{24}\,\alpha_{32}\,\alpha_{43}\,\alpha_{56} - \alpha_{14}\,\alpha_{25}\,\alpha_{32}\,\alpha_{43}\,\alpha_{56} - \alpha_{15}\,\alpha_{22}\,\alpha_{34}\,\alpha_{43}\,\alpha_{56} - \alpha_{25}\,\alpha_{34}\,\alpha_{43}\,\alpha_{56} +$
$\alpha_{12}\,\alpha_{25}\,\alpha_{34}\,\alpha_{43}\,\alpha_{56} + \alpha_{14}\,\alpha_{22}\,\alpha_{35}\,\alpha_{43}\,\alpha_{56} + \alpha_{24}\,\alpha_{35}\,\alpha_{43}\,\alpha_{56} - \alpha_{12}\,\alpha_{24}\,\alpha_{35}\,\alpha_{43}\,\alpha_{56} + \alpha_{15}\,\alpha_{32}\,\alpha_{44}\,\alpha_{56} -$
$\alpha_{15}\,\alpha_{23}\,\alpha_{32}\,\alpha_{44}\,\alpha_{56} + \alpha_{13}\,\alpha_{25}\,\alpha_{32}\,\alpha_{44}\,\alpha_{56} + \alpha_{15}\,\alpha_{22}\,\alpha_{33}\,\alpha_{44}\,\alpha_{56} + \alpha_{25}\,\alpha_{33}\,\alpha_{44}\,\alpha_{56} - \alpha_{12}\,\alpha_{25}\,\alpha_{33}\,\alpha_{44}\,\alpha_{56} +$
$\alpha_{35}\,\alpha_{44}\,\alpha_{56} - \alpha_{12}\,\alpha_{35}\,\alpha_{44}\,\alpha_{56} - \alpha_{13}\,\alpha_{22}\,\alpha_{35}\,\alpha_{44}\,\alpha_{56} - \alpha_{23}\,\alpha_{35}\,\alpha_{44}\,\alpha_{56} + \alpha_{12}\,\alpha_{23}\,\alpha_{35}\,\alpha_{44}\,\alpha_{56} +$
$\alpha_{45}\,\alpha_{56} - \alpha_{12}\,\alpha_{45}\,\alpha_{56} - \alpha_{13}\,\alpha_{22}\,\alpha_{45}\,\alpha_{56} - \alpha_{23}\,\alpha_{45}\,\alpha_{56} + \alpha_{12}\,\alpha_{23}\,\alpha_{45}\,\alpha_{56} - \alpha_{14}\,\alpha_{32}\,\alpha_{45}\,\alpha_{56} +$
$\alpha_{14}\,\alpha_{23}\,\alpha_{32}\,\alpha_{45}\,\alpha_{56} - \alpha_{13}\,\alpha_{24}\,\alpha_{32}\,\alpha_{45}\,\alpha_{56} - \alpha_{14}\,\alpha_{22}\,\alpha_{33}\,\alpha_{45}\,\alpha_{56} - \alpha_{24}\,\alpha_{33}\,\alpha_{45}\,\alpha_{56} + \alpha_{12}\,\alpha_{24}\,\alpha_{33}\,\alpha_{45}\,\alpha_{56} -$
$\alpha_{34}\,\alpha_{45}\,\alpha_{56} + \alpha_{12}\,\alpha_{34}\,\alpha_{45}\,\alpha_{56} + \alpha_{13}\,\alpha_{22}\,\alpha_{34}\,\alpha_{45}\,\alpha_{56} + \alpha_{23}\,\alpha_{34}\,\alpha_{45}\,\alpha_{56} - \alpha_{12}\,\alpha_{23}\,\alpha_{34}\,\alpha_{45}\,\alpha_{56}$

t1 – t2 // Expand

0