Pensieve header: The positivity of ρ_d for positive knots. Continues pensieve://Projects/APAI/A-PAI-Positivity.nb.

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Preliminaries

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```
In[◦]:=  SetDirectory["C:\\drorbn\\AcademicPensieve\\Talks\\Oaxaca-2210"];
         Once[<< KnotTheory`; << Rot.m];
```

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```
Loading KnotTheory` version of February 2, 2020, 10:53:45.2097.
Read more at http://katlas.org/wiki/KnotTheory.
```

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```
Loading Rot.m from http://drorbn.net/la22/ap to compute rotation numbers.
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ρ_d

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```
In[◦]:=  V@γ_{1,φ_}[k_] = φ (1/2 - \overline{p}_k \overline{x}_k); V@γ_{2,φ_}[k_] = -φ^2 \overline{p}_k \overline{x}_k / 2; V@γ_{3,φ_}[k_] := -φ^3 \overline{p}_k \overline{x}_k / 6
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```
In[◦]:=  V@r_{1,s_}[i_, j_] :=
          s (-1 + 2 p_i x_i - 2 p_j x_i + (-1 + T^s) p_i p_j x_i^2 + (1 - T^s) p_j^2 x_i^2 - 2 p_i p_j x_i x_j + 2 p_j^2 x_i x_j) / 2
```

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```
In[◦]:=  V@r_{2,1}[i_, j_] := (-6 p_i x_i + 6 p_j x_i - 3 (-1 + 3 T) p_i p_j x_i^2 + 3 (-1 + 3 T) p_j^2 x_i^2 + 4 (-1 + T) p_i^2 p_j x_i^3 -
            2 (-1 + T) (5 + T) p_i p_j^2 x_i^3 + 2 (-1 + T) (3 + T) p_j^3 x_i^3 + 18 p_i p_j x_i x_j - 18 p_j^2 x_i x_j -
            6 p_i^2 p_j x_i^2 x_j + 6 (2 + T) p_i p_j^2 x_i^2 x_j - 6 (1 + T) p_j^3 x_i^2 x_j - 6 p_i p_j^2 x_i x_j^2 + 6 p_j^3 x_i x_j^2) / 12
```

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```
In[◦]:=  V@r_{2,-1}[i_, j_] :=
          (-6 T^2 p_i x_i + 6 T^2 p_j x_i + 3 (-3 + T) T p_i p_j x_i^2 - 3 (-3 + T) T p_j^2 x_i^2 - 4 (-1 + T) T p_i^2 p_j x_i^3 + 2 (-1 + T)
              (1 + 5 T) p_i p_j^2 x_i^3 - 2 (-1 + T) (1 + 3 T) p_j^3 x_i^3 + 18 T^2 p_i p_j x_i x_j - 18 T^2 p_j^2 x_i x_j - 6 T^2 p_i^2 p_j x_i^2 x_j +
              6 T (1 + 2 T) p_i p_j^2 x_i^2 x_j - 6 T (1 + T) p_j^3 x_i^2 x_j - 6 T^2 p_i p_j^2 x_i x_j^2 + 6 T^2 p_j^3 x_i x_j^2) / (12 T^2)
```

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```
In[◦]:=  V@r_{3,1}[i_, j_] :=
          (4 p_i x_i - 4 p_j x_i + 2 (5 + 7 T) p_i p_j x_i^2 - 2 (5 + 7 T) p_j^2 x_i^2 - 4 (-5 + 6 T) p_i^2 p_j x_i^3 + 4 (-16 + 17 T + 2 T^2)
              p_i p_j^2 x_i^3 - 4 (-11 + 11 T + 2 T^2) p_j^3 x_i^3 + 3 (-1 + T) p_i^3 p_j x_i^4 - 3 (-1 + T) (4 + 3 T) p_i^2 p_j^2 x_i^4 +
              (-1 + T) (13 + 22 T + T^2) p_i p_j^3 x_i^4 - (-1 + T) (4 + 13 T + T^2) p_j^4 x_i^4 - 28 p_i p_j x_i x_j + 28 p_j^2 x_i x_j +
              36 p_i^2 p_j x_i^2 x_j - 12 (9 + 2 T) p_i p_j^2 x_i^2 x_j + 24 (3 + T) p_j^3 x_i^2 x_j - 4 p_i^3 p_j x_i^3 x_j + 28 T p_i^2 p_j^2 x_i^3 x_j -
              4 (-6 + 17 T + T^2) p_i p_j^3 x_i^3 x_j + 4 (-5 + 10 T + T^2) p_j^4 x_i^3 x_j + 24 p_i p_j^2 x_i x_j^2 - 24 p_j^3 x_i x_j^2 -
              24 p_i^2 p_j^2 x_i^2 x_j^2 + 6 (10 + T) p_i p_j^3 x_i^2 x_j^2 - 6 (6 + T) p_j^4 x_i^2 x_j^2 - 4 p_i p_j^3 x_i x_j^3 + 4 p_j^4 x_i x_j^3) / 24
```

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```
In[•]:=  V@r_{3,-1}[i_, j_] :=
```
$$
\left(-4 T^3 p_i x_i + 4 T^3 p_j x_i - 2 T^2 (7+5T) p_i p_j x_i^2 + 2 T^2 (7+5T) p_j^2 x_i^2 - 4 T^2 (-6+5T) p_i^2 p_j x_i^3 + \right.
$$
$$
4 T (-2-17T+16T^2) p_i p_j^2 x_i^3 - 4 T (-2-11T+11T^2) p_j^3 x_i^3 + 3 (-1+T) T^2 p_i^3 p_j x_i^4 -
$$
$$
3 (-1+T) T (3+4T) p_i^2 p_j^2 x_i^4 + (-1+T) (1+22T+13T^2) p_i p_j^3 x_i^4 -
$$
$$
(-1+T) (1+13T+4T^2) p_j^4 x_i^4 + 28 T^3 p_i p_j x_i x_j - 28 T^3 p_j^2 x_i x_j - 36 T^3 p_i^2 p_j x_i^2 x_j +
$$
$$
12 T^2 (2+9T) p_i p_j^2 x_i^2 x_j - 24 T^2 (1+3T) p_j^3 x_i^2 x_j + 4 T^3 p_i^3 p_j x_i^3 x_j -
$$
$$
28 T^2 p_i^2 p_j^2 x_i^3 x_j - 4 T (-1-17T+6T^2) p_i p_j^3 x_i^3 x_j + 4 T (-1-10T+5T^2) p_j^4 x_i^3 x_j -
$$
$$
24 T^3 p_i p_j^2 x_i x_j^2 + 24 T^3 p_j^3 x_i x_j^2 + 24 T^3 p_i^2 p_j^2 x_i^2 x_j^2 - 6 T^2 (1+10T) p_i p_j^3 x_i^2 x_j^2 +
$$
$$
\left. 6 T^2 (1+6T) p_j^4 x_i^2 x_j^2 + 4 T^3 p_i p_j^3 x_i x_j^3 - 4 T^3 p_j^4 x_i x_j^3\right) / (24 T^3)
$$

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```
In[•]:=  {p*, x*, p̄*, x̄*} = {π, ξ, π̄, ξ̄};  (z_{-i__})* := (z*)_i;
         Zip_{}[ℰ_] := ℰ;
         Zip_{z_,zs___}[ℰ_] := (Collect[ℰ // Zip_{zs}, z] /. f_ . z^d_. :> (D[f, {z*, d}])) /. z* → 0
```

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```
In[•]:=  gPair[fs_, w_] := gPair[fs, w] = Collect[Zip_{Join@@Table[{p_α,p̄_α,x_α,x̄_α},{α,w}]}[(Times @@ (V /@ fs))
             Exp[Sum[g_{α,β} (π_α + π̄_α) (ξ_β + ξ̄_β), {α, w}, {β, w}] - Sum[ξ̄_α π_α, {α, w}]]], g__, Factor]
```

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```
In[•]:=  T2z[p_] := Module[{q = Expand[p], n, c},
             If[q === 0, 0, c = Coefficient[q, T, n = Exponent[q, T]];
               c z^{2n} + T2z[q - c (T^{1/2} - T^{-1/2})^{2n}]]];
```

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```
In[•]:=  Z_d_[K_] := Z_d[K] = Module[{Cs, φ, n, A, s, i, j, k, Δ, G, d1, Z1, Z2, Z3},
             {Cs, φ} = Rot[K]; n = Length[Cs]; A = IdentityMatrix[2 n + 1];
             Cases[Cs, {s_, i_, j_} :> (A[[{i, j}, {i+1, j+1}]] += ( -T^s  T^s - 1 ))];
                                                                     (  0    -1   )
             {Δ, G} = Factor@{T^{(-Total[φ]-Total[Cs[[All,1]]])/2} Det@A, Inverse@A};
             Z1 = Exp[Total[Cases[Cs, {s_, i_, j_} :> Sum[ε^{d1} r_{d1,s}[i, j], {d1, d}]]] +
               Sum[ε^{d1} γ_{d1,φ[[k]]}[k], {k, 2 n}, {d1, d}] /. γ_{_,0}[_] → 0];
             Z2 = Expand[F[{}, {}] × Normal@Series[Z1, {ε, 0, d}]] //.
               F[fs_, {es___}] × (f : (r | γ)_{ps__}[is__])^{p_.} :>
                 F[Join[fs, Table[f, p]], DeleteDuplicates@{es, is}];
             Z3 = Expand[Z2 /. F[fs_, es_] :> Expand[gPair[
                     Replace[fs, Thread[es → Range@Length@es], {2}], Length@es
                   ] /. g_{α_,β_} :> G[[es[[α]], es[[β]]]]]];
             Collect[{Δ, Z3 /. ε^{p_.} → p! Δ^{2p} ε^p}, ε, T2z]];
```

In[ ]:= **Z$_3$[Knot[3, 1]] // Timing**

💬 KnotTheory: Loading precomputed data in PD4Knots`.

Out[ ]=

$\left\{30.6094, \left\{1 + z^2,\right.\right.$
$\left.\left.1 + \left(2 z^2 + z^4\right) \in + \left(2 - 4 z^2 + 3 z^4 + 4 z^6 + z^8\right) \in^2 + \left(-12 + 74 z^2 - 27 z^4 - 20 z^6 + 8 z^8 + 6 z^{10} + z^{12}\right) \in^3\right\}\right\}$

In[ ]:= **Z$_3$[PD@Knot[3, 1]] // Timing**

Out[ ]=

$\left\{0.65625, \left\{1 + z^2,\right.\right.$
$\left.\left.1 + \left(2 z^2 + z^4\right) \in + \left(2 - 4 z^2 + 3 z^4 + 4 z^6 + z^8\right) \in^2 + \left(-12 + 74 z^2 - 27 z^4 - 20 z^6 + 8 z^8 + 6 z^{10} + z^{12}\right) \in^3\right\}\right\}$

Positivity

In[ ]:= **(T - 1)^2 / T // T2z**

Out[ ]=

z^2

```
(* Copied from KnotInfo by Roland *)
PosBraidKnots = {Knot[3, 1], Knot[5, 1], Knot[7, 1], Knot[8, 19], Knot[9, 1],
    Knot[10, 124], Knot[10, 139], Knot[10, 152], Knot[11, Alternating, 367],
    Knot[11, NonAlternating, 77], Knot[12, NonAlternating, 242],
    Knot[12, NonAlternating, 472], Knot[12, NonAlternating, 574],
    Knot[12, NonAlternating, 679], Knot[12, NonAlternating, 688],
    Knot[12, NonAlternating, 725], Knot[12, NonAlternating, 888]};
```

In[ ]:= **tab2 = Table[Echo[K → Z$_2$[K]], {K, PosBraidKnots}]**

» Knot[3, 1] → $\left\{1 + z^2, 1 + \left(2 z^2 + z^4\right) \in + \left(2 - 4 z^2 + 3 z^4 + 4 z^6 + z^8\right) \in^2\right\}$

» Knot[5, 1] → $\left\{1 + 3 z^2 + z^4,\right.$
$\left.1 + \left(10 z^2 + 21 z^4 + 12 z^6 + 2 z^8\right) \in + \left(6 - 28 z^2 + 33 z^4 + 364 z^6 + 655 z^8 + 536 z^{10} + 227 z^{12} + 48 z^{14} + 4 z^{16}\right) \in^2\right\}$

» Knot[7, 1] →
$\left\{1 + 6 z^2 + 5 z^4 + z^6, 1 + \left(28 z^2 + 126 z^4 + 180 z^6 + 110 z^8 + 30 z^{10} + 3 z^{12}\right) \in + \left(12 - 104 z^2 + 186 z^4 + 5776 z^6 + \right.\right.$
$\left.\left.24298 z^8 + 49972 z^{10} + 60795 z^{12} + 46904 z^{14} + 23546 z^{16} + 7664 z^{18} + 1559 z^{20} + 180 z^{22} + 9 z^{24}\right) \in^2\right\}$

» Knot[8, 19] →
$\left\{1 + 5 z^2 + 5 z^4 + z^6, 1 + \left(-20 z^2 - 94 z^4 - 154 z^6 - 105 z^8 - 30 z^{10} - 3 z^{12}\right) \in + \left(10 - 40 z^2 - 64 z^4 + 2304 z^6 + \right.\right.$
$\left.\left.12565 z^8 + 30748 z^{10} + 43306 z^{12} + 37684 z^{14} + 20764 z^{16} + 7220 z^{18} + 1530 z^{20} + 180 z^{22} + 9 z^{24}\right) \in^2\right\}$

» Knot[9, 1] →
$\left\{1 + 10 z^2 + 15 z^4 + 7 z^6 + z^8, 1 + \left(60 z^2 + 462 z^4 + 1188 z^6 + 1430 z^8 + 910 z^{10} + 315 z^{12} + 56 z^{14} + 4 z^{16}\right) \in + \right.$
$\left(20 - 280 z^2 + 726 z^4 + 44272 z^6 + 329110 z^8 + 1221612 z^{10} + 2779169 z^{12} + 4216712 z^{14} + 4464198 z^{16} + \right.$
$\left.\left.3383440 z^{18} + 1858897 z^{20} + 741324 z^{22} + 212327 z^{24} + 42536 z^{26} + 5655 z^{28} + 448 z^{30} + 16 z^{32}\right) \in^2\right\}$

» Knot[10, 124] →
$\left\{1 + 8 z^2 + 14 z^4 + 7 z^6 + z^8, 1 + \left(-40 z^2 - 314 z^4 - 908 z^6 - 1224 z^8 - 846 z^{10} - 308 z^{12} - 56 z^{14} - 4 z^{16}\right) \in + \right.$
$\left(16 - 88 z^2 - 340 z^4 + 14160 z^6 + 137240 z^8 + 601324 z^{10} + 1574968 z^{12} + 2704920 z^{14} + 3189100 z^{16} + \right.$
$\left.\left.2648320 z^{18} + 1569108 z^{20} + 664636 z^{22} + 199320 z^{24} + 41260 z^{26} + 5600 z^{28} + 448 z^{30} + 16 z^{32}\right) \in^2\right\}$

» Knot[10, 139] →

$$\{1 + 9 z^2 + 14 z^4 + 7 z^6 + z^8,\ 1 + \left(-50 z^2 - 375 z^4 - 998 z^6 - 1267 z^8 - 852 z^{10} - 308 z^{12} - 56 z^{14} - 4 z^{16}\right) \in +$$
$$\left(18 - 188 z^2 + 235 z^4 + 27\,660 z^6 + 213\,594 z^8 + 821\,660 z^{10} + 1\,954\,273 z^{12} + 3\,121\,080 z^{14} + 3\,488\,879 z^{16} + \right.$$
$$\left. 2\,791\,080 z^{18} + 1\,613\,408 z^{20} + 673\,212 z^{22} + 200\,257 z^{24} + 41\,304 z^{26} + 5600 z^{28} + 448 z^{30} + 16 z^{32}\right) \in^2 \}$$

» Knot[10, 152] →

$$\{1 + 7 z^2 + 13 z^4 + 7 z^6 + z^8,\ 1 + \left(30 z^2 + 243 z^4 + 740 z^6 + 1068 z^8 + 788 z^{10} + 301 z^{12} + 56 z^{14} + 4 z^{16}\right) \in +$$
$$\left(14 + 4 z^2 - 323 z^4 + 5412 z^6 + 70\,461 z^8 + 352\,924 z^{10} + 1\,016\,460 z^{12} + 1\,892\,532 z^{14} + 2\,401\,764 z^{16} + \right.$$
$$\left. 2\,133\,904 z^{18} + 1\,343\,134 z^{20} + 599\,208 z^{22} + 187\,405 z^{24} + 40\,028 z^{26} + 5545 z^{28} + 448 z^{30} + 16 z^{32}\right) \in^2 \}$$

» Knot[11, Alternating, 367] → $\{1 + 15 z^2 + 35 z^4 + 28 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-110 z^2 - 1287 z^4 - 5148 z^6 - 10\,010 z^8 - 10\,920 z^{10} - 7140 z^{12} - 2856 z^{14} - 684 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(30 - 620 z^2 + 2229 z^4 + 223\,228 z^6 + 2\,561\,235 z^8 + 14\,809\,912 z^{10} + 53\,292\,649 z^{12} + 130\,531\,320 z^{14} + \right.$$
$$228\,978\,428 z^{16} + 297\,211\,100 z^{18} + 291\,692\,852 z^{20} + 219\,495\,824 z^{22} + 127\,624\,740 z^{24} + 57\,463\,880 z^{26} +$$
$$\left. 19\,964\,435 z^{28} + 5\,297\,208 z^{30} + 1\,052\,866 z^{32} + 151\,648 z^{34} + 14\,939 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[11, NonAlternating, 77] →

$$\{1 + 7 z^2 + 12 z^4 + 7 z^6 + z^8,\ 1 + \left(-32 z^2 - 234 z^4 - 672 z^6 - 964 z^8 - 736 z^{10} - 294 z^{12} - 56 z^{14} - 4 z^{16}\right) \in +$$
$$\left(14 - 48 z^2 - 232 z^4 + 7776 z^6 + 74\,294 z^8 + 324\,696 z^{10} + 870\,832 z^{12} + 1\,574\,872 z^{14} + 1\,999\,422 z^{16} + \right.$$
$$\left. 1\,812\,728 z^{18} + 1\,177\,986 z^{20} + 545\,120 z^{22} + 176\,610 z^{24} + 38\,840 z^{26} + 5490 z^{28} + 448 z^{30} + 16 z^{32}\right) \in^2 \}$$

» Knot[12, NonAlternating, 242] → $\{1 + 12 z^2 + 31 z^4 + 27 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-74 z^2 - 851 z^4 - 3688 z^6 - 7878 z^8 - 9348 z^{10} - 6531 z^{12} - 2738 z^{14} - 675 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(24 - 220 z^2 - 815 z^4 + 74\,568 z^6 + 1\,026\,850 z^8 + 6\,667\,872 z^{10} + 26\,665\,942 z^{12} + 72\,238\,016 z^{14} + \right.$$
$$139\,357\,178 z^{16} + 197\,506\,000 z^{18} + 209\,919\,497 z^{20} + 169\,557\,880 z^{22} + 104\,863\,611 z^{24} + 49\,764\,680 z^{26} +$$
$$\left. 18\,061\,499 z^{28} + 4\,963\,724 z^{30} + 1\,013\,655 z^{32} + 148\,876 z^{34} + 14\,850 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[12, NonAlternating, 472] → $\{1 + 13 z^2 + 32 z^4 + 27 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-86 z^2 - 979 z^4 - 4084 z^6 - 8388 z^8 - 9652 z^{10} - 6613 z^{12} - 2746 z^{14} - 675 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(26 - 356 z^2 + 31 z^4 + 116\,268 z^6 + 1\,435\,695 z^8 + 8\,747\,064 z^{10} + 33\,214\,301 z^{12} + 86\,014\,008 z^{14} + \right.$$
$$159\,545\,851 z^{16} + 218\,645\,944 z^{18} + 225\,966\,535 z^{20} + 178\,438\,036 z^{22} + 108\,434\,871 z^{24} + 50\,794\,384 z^{26} +$$
$$\left. 18\,268\,398 z^{28} + 4\,991\,176 z^{30} + 1\,015\,813 z^{32} + 148\,952 z^{34} + 14\,850 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[12, NonAlternating, 574] → $\{1 + 14 z^2 + 32 z^4 + 27 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-98 z^2 - 1095 z^4 - 4330 z^6 - 8585 z^8 - 9716 z^{10} - 6620 z^{12} - 2746 z^{14} - 675 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(28 - 500 z^2 + 1707 z^4 + 166\,848 z^6 + 1\,858\,745 z^8 + 10\,577\,508 z^{10} + 38\,018\,136 z^{12} + 94\,305\,864 z^{14} + \right.$$
$$169\,414\,798 z^{16} + 226\,968\,068 z^{18} + 231\,003\,171 z^{20} + 180\,627\,844 z^{22} + 109\,111\,150 z^{24} + 50\,938\,764 z^{26} +$$
$$\left. 18\,288\,604 z^{28} + 4\,992\,840 z^{30} + 1\,015\,874 z^{32} + 148\,952 z^{34} + 14\,850 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[12, NonAlternating, 679] → $\{1 + 10 z^2 + 28 z^4 + 26 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-50 z^2 - 599 z^4 - 2782 z^6 - 6413 z^8 - 8144 z^{10} - 6013 z^{12} - 2628 z^{14} - 666 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(20 + 44 z^2 - 721 z^4 + 20\,616 z^6 + 409\,633 z^8 + 3\,173\,352 z^{10} + 14\,366\,475 z^{12} + 42\,998\,696 z^{14} + \right.$$
$$90\,352\,488 z^{16} + 138\,085\,576 z^{18} + 156\,959\,042 z^{20} + 134\,574\,524 z^{22} + 87\,716\,786 z^{24} + 43\,568\,568 z^{26} +$$
$$\left. 16\,437\,200 z^{28} + 4\,664\,080 z^{30} + 976\,855 z^{32} + 146\,180 z^{34} + 14\,761 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[12, NonAlternating, 688] → $\{1 + 11 z^2 + 29 z^4 + 26 z^6 + 9 z^8 + z^{10},$

$$1 + \left(-62 z^2 - 711 z^4 - 3138 z^6 - 6891 z^8 - 8440 z^{10} - 6095 z^{12} - 2636 z^{14} - 666 z^{16} - 90 z^{18} - 5 z^{20}\right) \in +$$
$$\left(22 - 92 z^2 - 827 z^4 + 44\,756 z^6 + 673\,046 z^8 + 4\,578\,496 z^{10} + 18\,993\,711 z^{12} + 53\,210\,580 z^{14} + \right.$$
$$106\,077\,932 z^{16} + 155\,373\,216 z^{18} + 170\,697\,187 z^{20} + 142\,499\,744 z^{22} + 91\,021\,827 z^{24} + 44\,550\,712 z^{26} +$$
$$\left. 16\,639\,203 z^{28} + 4\,691\,312 z^{30} + 979\,013 z^{32} + 146\,256 z^{34} + 14\,761 z^{36} + 900 z^{38} + 25 z^{40}\right) \in^2 \}$$

» Knot[12, NonAlternating, 725] → $\{1 + 11\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$1 + \left(-62\,z^2 - 751\,z^4 - 3450\,z^6 - 7681\,z^8 - 9284\,z^{10} - 6524\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right) \in +$

$\left(22 - 76\,z^2 - 1571\,z^4 + 38\,748\,z^6 + 711\,884\,z^8 + 5\,248\,884\,z^{10} + 22\,745\,944\,z^{12} + 65\,091\,500\,z^{14} + \right.$

$130\,424\,029\,z^{16} + 189\,675\,848\,z^{18} + 205\,048\,522\,z^{20} + 167\,402\,504\,z^{22} + 104\,191\,344\,z^{24} + 49\,620\,500\,z^{26} +$

$\left. 18\,041\,293\,z^{28} + 4\,962\,060\,z^{30} + 1\,013\,594\,z^{32} + 148\,876\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2 \}$

» Knot[12, NonAlternating, 888] → $\{1 + 13\,z^2 + 30\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$1 + \left(-86\,z^2 - 939\,z^4 - 3740\,z^6 - 7566\,z^8 - 8800\,z^{10} - 6184\,z^{12} - 2644\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right) \in +$

$\left(26 - 372\,z^2 + 767\,z^4 + 118\,644\,z^6 + 1\,347\,535\,z^8 + 7\,763\,056\,z^{10} + 28\,324\,802\,z^{12} + 71\,614\,640\,z^{14} + \right.$

$131\,628\,470\,z^{16} + 180\,988\,376\,z^{18} + 189\,487\,784\,z^{20} + 152\,622\,600\,z^{22} + 95\,005\,016\,z^{24} + 45\,677\,456\,z^{26} +$

$\left. 16\,861\,422\,z^{28} + 4\,720\,208\,z^{30} + 981\,232\,z^{32} + 146\,332\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2 \}$

Out[•]=

$\{$Knot[3, 1] → $\{1 + z^2,\ 1 + \left(2\,z^2 + z^4\right) \in +\ \left(2 - 4\,z^2 + 3\,z^4 + 4\,z^6 + z^8\right) \in^2 \},$

Knot[5, 1] → $\{1 + 3\,z^2 + z^4,\ 1 + \left(10\,z^2 + 21\,z^4 + 12\,z^6 + 2\,z^8\right) \in +$

$\left(6 - 28\,z^2 + 33\,z^4 + 364\,z^6 + 655\,z^8 + 536\,z^{10} + 227\,z^{12} + 48\,z^{14} + 4\,z^{16}\right) \in^2 \},$

Knot[7, 1] → $\{1 + 6\,z^2 + 5\,z^4 + z^6,\ 1 + \left(28\,z^2 + 126\,z^4 + 180\,z^6 + 110\,z^8 + 30\,z^{10} + 3\,z^{12}\right) \in +$

$\left(12 - 104\,z^2 + 186\,z^4 + 5776\,z^6 + 24\,298\,z^8 + 49\,972\,z^{10} + 60\,795\,z^{12} + \right.$

$\left. 46\,904\,z^{14} + 23\,546\,z^{16} + 7664\,z^{18} + 1559\,z^{20} + 180\,z^{22} + 9\,z^{24}\right) \in^2 \},$

Knot[8, 19] → $\{1 + 5\,z^2 + 5\,z^4 + z^6,\ 1 + \left(-20\,z^2 - 94\,z^4 - 154\,z^6 - 105\,z^8 - 30\,z^{10} - 3\,z^{12}\right) \in +$

$\left(10 - 40\,z^2 - 64\,z^4 + 2304\,z^6 + 12\,565\,z^8 + 30\,748\,z^{10} + 43\,306\,z^{12} + 37\,684\,z^{14} + 20\,764\,z^{16} + \right.$

$\left. 7220\,z^{18} + 1530\,z^{20} + 180\,z^{22} + 9\,z^{24}\right) \in^2 \},$ Knot[9, 1] → $\{1 + 10\,z^2 + 15\,z^4 + 7\,z^6 + z^8,$

$1 + \left(60\,z^2 + 462\,z^4 + 1188\,z^6 + 1430\,z^8 + 910\,z^{10} + 315\,z^{12} + 56\,z^{14} + 4\,z^{16}\right) \in +$

$\left(20 - 280\,z^2 + 726\,z^4 + 44\,272\,z^6 + 329\,110\,z^8 + 1\,221\,612\,z^{10} + 2\,779\,169\,z^{12} + 4\,216\,712\,z^{14} + \right.$

$4\,464\,198\,z^{16} + 3\,383\,440\,z^{18} + 1\,858\,897\,z^{20} + 741\,324\,z^{22} + 212\,327\,z^{24} + 42\,536\,z^{26} +$

$\left. 5655\,z^{28} + 448\,z^{30} + 16\,z^{32}\right) \in^2 \},$ Knot[10, 124] → $\{1 + 8\,z^2 + 14\,z^4 + 7\,z^6 + z^8,$

$1 + \left(-40\,z^2 - 314\,z^4 - 908\,z^6 - 1224\,z^8 - 846\,z^{10} - 308\,z^{12} - 56\,z^{14} - 4\,z^{16}\right) \in +$

$\left(16 - 88\,z^2 - 340\,z^4 + 14\,160\,z^6 + 137\,240\,z^8 + 601\,324\,z^{10} + 1\,574\,968\,z^{12} + 2\,704\,920\,z^{14} + \right.$

$3\,189\,100\,z^{16} + 2\,648\,320\,z^{18} + 1\,569\,108\,z^{20} + 664\,636\,z^{22} + 199\,320\,z^{24} + 41\,260\,z^{26} +$

$\left. 5600\,z^{28} + 448\,z^{30} + 16\,z^{32}\right) \in^2 \},$ Knot[10, 139] → $\{1 + 9\,z^2 + 14\,z^4 + 7\,z^6 + z^8,$

$1 + \left(-50\,z^2 - 375\,z^4 - 998\,z^6 - 1267\,z^8 - 852\,z^{10} - 308\,z^{12} - 56\,z^{14} - 4\,z^{16}\right) \in +$

$\left(18 - 188\,z^2 + 235\,z^4 + 27\,660\,z^6 + 213\,594\,z^8 + 821\,660\,z^{10} + 1\,954\,273\,z^{12} + \right.$

$3\,121\,080\,z^{14} + 3\,488\,879\,z^{16} + 2\,791\,080\,z^{18} + 1\,613\,408\,z^{20} + 673\,212\,z^{22} +$

$\left. 200\,257\,z^{24} + 41\,304\,z^{26} + 5600\,z^{28} + 448\,z^{30} + 16\,z^{32}\right) \in^2 \},$ Knot[10, 152] →

$\{1 + 7\,z^2 + 13\,z^4 + 7\,z^6 + z^8,\ 1 + \left(30\,z^2 + 243\,z^4 + 740\,z^6 + 1068\,z^8 + 788\,z^{10} + 301\,z^{12} + 56\,z^{14} + 4\,z^{16}\right) \in +$

$\left(14 + 4\,z^2 - 323\,z^4 + 5412\,z^6 + 70\,461\,z^8 + 352\,924\,z^{10} + 1\,016\,460\,z^{12} + \right.$

$1\,892\,532\,z^{14} + 2\,401\,764\,z^{16} + 2\,133\,904\,z^{18} + 1\,343\,134\,z^{20} +$

$\left. 599\,208\,z^{22} + 187\,405\,z^{24} + 40\,028\,z^{26} + 5545\,z^{28} + 448\,z^{30} + 16\,z^{32}\right) \in^2 \},$

Knot[11, Alternating, 367] → $\{1 + 15\,z^2 + 35\,z^4 + 28\,z^6 + 9\,z^8 + z^{10},$

$1 + \left(-110\,z^2 - 1287\,z^4 - 5148\,z^6 - 10\,010\,z^8 - 10\,920\,z^{10} - 7140\,z^{12} - 2856\,z^{14} - 684\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)$

$\in + \left(30 - 620\,z^2 + 2229\,z^4 + 223\,228\,z^6 + 2\,561\,235\,z^8 + 14\,809\,912\,z^{10} + \right.$

$53\,292\,649\,z^{12} + 130\,531\,320\,z^{14} + 228\,978\,428\,z^{16} + 297\,211\,100\,z^{18} +$

$291\,692\,852\,z^{20} + 219\,495\,824\,z^{22} + 127\,624\,740\,z^{24} + 57\,463\,880\,z^{26} + 19\,964\,435\,z^{28} +$

$\left. 5\,297\,208\,z^{30} + 1\,052\,866\,z^{32} + 151\,648\,z^{34} + 14\,939\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2 \},$

Knot[11, NonAlternating, 77] → $\{1 + 7\,z^2 + 12\,z^4 + 7\,z^6 + z^8,$

$1 + \left(-32\,z^2 - 234\,z^4 - 672\,z^6 - 964\,z^8 - 736\,z^{10} - 294\,z^{12} - 56\,z^{14} - 4\,z^{16}\right)\epsilon\, +$

$\quad \left(14 - 48\,z^2 - 232\,z^4 + 7776\,z^6 + 74\,294\,z^8 + 324\,696\,z^{10} + 870\,832\,z^{12} +\right.$

$\qquad 1\,574\,872\,z^{14} + 1\,999\,422\,z^{16} + 1\,812\,728\,z^{18} + 1\,177\,986\,z^{20} +$

$\qquad \left.545\,120\,z^{22} + 176\,610\,z^{24} + 38\,840\,z^{26} + 5490\,z^{28} + 448\,z^{30} + 16\,z^{32}\right)\epsilon^2\Big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,242]\,\to\,\big\{1 + 12\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-74\,z^2 - 851\,z^4 - 3688\,z^6 - 7878\,z^8 - 9348\,z^{10} - 6531\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(24 - 220\,z^2 - 815\,z^4 + 74\,568\,z^6 + 1\,026\,850\,z^8 + 6\,667\,872\,z^{10} + 26\,665\,942\,z^{12} +\right.$

$\qquad 72\,238\,016\,z^{14} + 139\,357\,178\,z^{16} + 197\,506\,000\,z^{18} + 209\,919\,497\,z^{20} +$

$\qquad 169\,557\,880\,z^{22} + 104\,863\,611\,z^{24} + 49\,764\,680\,z^{26} + 18\,061\,499\,z^{28} +$

$\qquad \left.4\,963\,724\,z^{30} + 1\,013\,655\,z^{32} + 148\,876\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,472]\,\to\,\big\{1 + 13\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-86\,z^2 - 979\,z^4 - 4084\,z^6 - 8388\,z^8 - 9652\,z^{10} - 6613\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(26 - 356\,z^2 + 31\,z^4 + 116\,268\,z^6 + 1\,435\,695\,z^8 + 8\,747\,064\,z^{10} + 33\,214\,301\,z^{12} +\right.$

$\qquad 86\,014\,008\,z^{14} + 159\,545\,851\,z^{16} + 218\,645\,944\,z^{18} + 225\,966\,535\,z^{20} +$

$\qquad 178\,438\,036\,z^{22} + 108\,434\,871\,z^{24} + 50\,794\,384\,z^{26} + 18\,268\,398\,z^{28} +$

$\qquad \left.4\,991\,176\,z^{30} + 1\,015\,813\,z^{32} + 148\,952\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,574]\,\to\,\big\{1 + 14\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-98\,z^2 - 1095\,z^4 - 4330\,z^6 - 8585\,z^8 - 9716\,z^{10} - 6620\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(28 - 500\,z^2 + 1707\,z^4 + 166\,848\,z^6 + 1\,858\,745\,z^8 + 10\,577\,508\,z^{10} + 38\,018\,136\,z^{12} +\right.$

$\qquad 94\,305\,864\,z^{14} + 169\,414\,798\,z^{16} + 226\,968\,068\,z^{18} + 231\,003\,171\,z^{20} +$

$\qquad 180\,627\,844\,z^{22} + 109\,111\,150\,z^{24} + 50\,938\,764\,z^{26} + 18\,288\,604\,z^{28} +$

$\qquad \left.4\,992\,840\,z^{30} + 1\,015\,874\,z^{32} + 148\,952\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,679]\,\to\,\big\{1 + 10\,z^2 + 28\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-50\,z^2 - 599\,z^4 - 2782\,z^6 - 6413\,z^8 - 8144\,z^{10} - 6013\,z^{12} - 2628\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(20 + 44\,z^2 - 721\,z^4 + 20\,616\,z^6 + 409\,633\,z^8 + 3\,173\,352\,z^{10} + 14\,366\,475\,z^{12} +\right.$

$\qquad 42\,998\,696\,z^{14} + 90\,352\,488\,z^{16} + 138\,085\,576\,z^{18} + 156\,959\,042\,z^{20} +$

$\qquad 134\,574\,524\,z^{22} + 87\,716\,786\,z^{24} + 43\,568\,568\,z^{26} + 16\,437\,200\,z^{28} +$

$\qquad \left.4\,664\,080\,z^{30} + 976\,855\,z^{32} + 146\,180\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,688]\,\to\,\big\{1 + 11\,z^2 + 29\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-62\,z^2 - 711\,z^4 - 3138\,z^6 - 6891\,z^8 - 8440\,z^{10} - 6095\,z^{12} - 2636\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(22 - 92\,z^2 - 827\,z^4 + 44\,756\,z^6 + 673\,046\,z^8 + 4\,578\,496\,z^{10} + 18\,993\,711\,z^{12} +\right.$

$\qquad 53\,210\,580\,z^{14} + 106\,077\,932\,z^{16} + 155\,373\,216\,z^{18} + 170\,697\,187\,z^{20} +$

$\qquad 142\,499\,744\,z^{22} + 91\,021\,827\,z^{24} + 44\,550\,712\,z^{26} + 16\,639\,203\,z^{28} +$

$\qquad \left.4\,691\,312\,z^{30} + 979\,013\,z^{32} + 146\,256\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,725]\,\to\,\big\{1 + 11\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-62\,z^2 - 751\,z^4 - 3450\,z^6 - 7681\,z^8 - 9284\,z^{10} - 6524\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(22 - 76\,z^2 - 1571\,z^4 + 38\,748\,z^6 + 711\,884\,z^8 + 5\,248\,884\,z^{10} + 22\,745\,944\,z^{12} +\right.$

$\qquad 65\,091\,500\,z^{14} + 130\,424\,029\,z^{16} + 189\,675\,848\,z^{18} + 205\,048\,522\,z^{20} +$

$\qquad 167\,402\,504\,z^{22} + 104\,191\,344\,z^{24} + 49\,620\,500\,z^{26} + 18\,041\,293\,z^{28} +$

$\qquad \left.4\,962\,060\,z^{30} + 1\,013\,594\,z^{32} + 148\,876\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\epsilon^2\big\}$,

$\text{Knot}\,[12,\,\text{NonAlternating},\,888]\,\to\,\big\{1 + 13\,z^2 + 30\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-86\,z^2 - 939\,z^4 - 3740\,z^6 - 7566\,z^8 - 8800\,z^{10} - 6184\,z^{12} - 2644\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\epsilon\, +$

$\quad \left(26 - 372\,z^2 + 767\,z^4 + 118\,644\,z^6 + 1\,347\,535\,z^8 + 7\,763\,056\,z^{10} + 28\,324\,802\,z^{12} +\right.$

$$71\,614\,640\,z^{14} + 131\,628\,470\,z^{16} + 180\,988\,376\,z^{18} + 189\,487\,784\,z^{20} +$$
$$152\,622\,600\,z^{22} + 95\,005\,016\,z^{24} + 45\,677\,456\,z^{26} + 16\,861\,422\,z^{28} +$$
$$4\,720\,208\,z^{30} + 981\,232\,z^{32} + 146\,332\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\epsilon^2\big\}\big\}$$

$In[\circ]:=$ **tab3 = Table[Echo[K → Z₃[K]], {K, PosBraidKnots}]**

» Knot[3, 1] →
$$\big\{1 + z^2,\ 1 + \big(2\,z^2 + z^4\big)\,\epsilon + \big(2 - 4\,z^2 + 3\,z^4 + 4\,z^6 + z^8\big)\,\epsilon^2 + \big(-12 + 74\,z^2 - 27\,z^4 - 20\,z^6 + 8\,z^8 + 6\,z^{10} + z^{12}\big)\,\epsilon^3\big\}$$

» Knot[5, 1] → $\big\{1 + 3\,z^2 + z^4,$
$$1 + \big(10\,z^2 + 21\,z^4 + 12\,z^6 + 2\,z^8\big)\,\epsilon + \big(6 - 28\,z^2 + 33\,z^4 + 364\,z^6 + 655\,z^8 + 536\,z^{10} + 227\,z^{12} + 48\,z^{14} + 4\,z^{16}\big)\,\epsilon^2 +$$
$$\big(-60 + 970\,z^2 + 645\,z^4 - 3380\,z^6 - 3280\,z^8 + 7470\,z^{10} + 19\,475\,z^{12} +$$
$$20\,536\,z^{14} + 12\,564\,z^{16} + 4774\,z^{18} + 1109\,z^{20} + 144\,z^{22} + 8\,z^{24}\big)\,\epsilon^3\big\}$$

» Knot[7, 1] →
$$\big\{1 + 6\,z^2 + 5\,z^4 + z^6,\ 1 + \big(28\,z^2 + 126\,z^4 + 180\,z^6 + 110\,z^8 + 30\,z^{10} + 3\,z^{12}\big)\,\epsilon + \big(12 - 104\,z^2 + 186\,z^4 + 5776\,z^6 +$$
$$24\,298\,z^8 + 49\,972\,z^{10} + 60\,795\,z^{12} + 46\,904\,z^{14} + 23\,546\,z^{16} + 7664\,z^{18} + 1559\,z^{20} + 180\,z^{22} + 9\,z^{24}\big)\,\epsilon^2 +$$
$$\big(-168 + 5236\,z^2 + 11\,802\,z^4 - 65\,416\,z^6 - 216\,192\,z^8 + 443\,814\,z^{10} + 3\,931\,039\,z^{12} + 11\,179\,336\,z^{14} +$$
$$19\,188\,960\,z^{16} + 22\,628\,116\,z^{18} + 19\,279\,684\,z^{20} + 12\,136\,644\,z^{22} + 5\,688\,088\,z^{24} +$$
$$1\,978\,438\,z^{26} + 503\,433\,z^{28} + 91\,000\,z^{30} + 11\,060\,z^{32} + 810\,z^{34} + 27\,z^{36}\big)\,\epsilon^3\big\}$$

» Knot[8, 19] →
$$\big\{1 + 5\,z^2 + 5\,z^4 + z^6,\ 1 + \big(-20\,z^2 - 94\,z^4 - 154\,z^6 - 105\,z^8 - 30\,z^{10} - 3\,z^{12}\big)\,\epsilon + \big(10 - 40\,z^2 - 64\,z^4 + 2304\,z^6 +$$
$$12\,565\,z^8 + 30\,748\,z^{10} + 43\,306\,z^{12} + 37\,684\,z^{14} + 20\,764\,z^{16} + 7220\,z^{18} + 1530\,z^{20} + 180\,z^{22} + 9\,z^{24}\big)\,\epsilon^2 +$$
$$\big(120 - 2420\,z^2 - 15\,422\,z^4 - 10\,834\,z^6 + 107\,735\,z^8 + 206\,198\,z^{10} - 641\,319\,z^{12} - 3\,722\,686\,z^{14} -$$
$$8\,693\,947\,z^{16} - 12\,621\,766\,z^{18} - 12\,594\,557\,z^{20} - 8\,973\,386\,z^{22} - 4\,634\,133\,z^{24} -$$
$$1\,736\,946\,z^{26} - 467\,259\,z^{28} - 87\,814\,z^{30} - 10\,935\,z^{32} - 810\,z^{34} - 27\,z^{36}\big)\,\epsilon^3\big\}$$

» Knot[9, 1] →
$$\big\{1 + 10\,z^2 + 15\,z^4 + 7\,z^6 + z^8,\ 1 + \big(60\,z^2 + 462\,z^4 + 1188\,z^6 + 1430\,z^8 + 910\,z^{10} + 315\,z^{12} + 56\,z^{14} + 4\,z^{16}\big)\,\epsilon +$$
$$\big(20 - 280\,z^2 + 726\,z^4 + 44\,272\,z^6 + 329\,110\,z^8 + 1\,221\,612\,z^{10} + 2\,779\,169\,z^{12} + 4\,216\,712\,z^{14} + 4\,464\,198\,z^{16} +$$
$$3\,383\,440\,z^{18} + 1\,858\,897\,z^{20} + 741\,324\,z^{22} + 212\,327\,z^{24} + 42\,536\,z^{26} + 5655\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$
$$\big(-360 + 18\,420\,z^2 + 80\,730\,z^4 - 594\,312\,z^6 - 3\,963\,040\,z^8 + 9\,145\,158\,z^{10} + 184\,212\,583\,z^{12} + 979\,010\,952\,z^{14} +$$
$$3\,144\,258\,144\,z^{16} + 7\,086\,004\,212\,z^{18} + 11\,912\,705\,076\,z^{20} + 15\,434\,196\,516\,z^{22} + 15\,715\,474\,008\,z^{24} +$$
$$12\,731\,354\,182\,z^{26} + 8\,266\,367\,523\,z^{28} + 4\,316\,453\,720\,z^{30} + 1\,812\,233\,220\,z^{32} + 609\,294\,834\,z^{34} +$$
$$162\,662\,007\,z^{36} + 33\,993\,744\,z^{38} + 5\,437\,152\,z^{40} + 642\,162\,z^{42} + 52\,739\,z^{44} + 2688\,z^{46} + 64\,z^{48}\big)\,\epsilon^3\big\}$$

» Knot[10, 124] →
$$\big\{1 + 8\,z^2 + 14\,z^4 + 7\,z^6 + z^8,\ 1 + \big(-40\,z^2 - 314\,z^4 - 908\,z^6 - 1224\,z^8 - 846\,z^{10} - 308\,z^{12} - 56\,z^{14} - 4\,z^{16}\big)\,\epsilon +$$
$$\big(16 - 88\,z^2 - 340\,z^4 + 14\,160\,z^6 + 137\,240\,z^8 + 601\,324\,z^{10} + 1\,574\,968\,z^{12} + 2\,704\,920\,z^{14} + 3\,189\,100\,z^{16} +$$
$$2\,648\,320\,z^{18} + 1\,569\,108\,z^{20} + 664\,636\,z^{22} + 199\,320\,z^{24} + 41\,260\,z^{26} + 5600\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$
$$\big(240 - 7360\,z^2 - 86\,008\,z^4 - 185\,552\,z^6 + 1\,188\,160\,z^8 + 5\,832\,312\,z^{10} - 13\,029\,760\,z^{12} - 205\,476\,160\,z^{14} -$$
$$945\,440\,896\,z^{16} - 2\,678\,221\,536\,z^{18} - 5\,360\,425\,616\,z^{20} - 8\,011\,449\,600\,z^{22} - 9\,203\,901\,904\,z^{24} -$$
$$8\,268\,055\,568\,z^{26} - 5\,867\,151\,992\,z^{28} - 3\,306\,178\,256\,z^{30} - 1\,481\,040\,560\,z^{32} - 525\,807\,400\,z^{34} -$$
$$146\,814\,232\,z^{36} - 31\,805\,072\,z^{38} - 5\,229\,792\,z^{40} - 630\,120\,z^{42} - 52\,416\,z^{44} - 2688\,z^{46} - 64\,z^{48}\big)\,\epsilon^3\big\}$$

» Knot[10, 139] →

$\{1 + 9 z^2 + 14 z^4 + 7 z^6 + z^8, \ 1 + (-50 z^2 - 375 z^4 - 998 z^6 - 1267 z^8 - 852 z^{10} - 308 z^{12} - 56 z^{14} - 4 z^{16}) \in +$
$\quad (18 - 188 z^2 + 235 z^4 + 27\,660 z^6 + 213\,594 z^8 + 821\,660 z^{10} + 1\,954\,273 z^{12} + 3\,121\,080 z^{14} + 3\,488\,879 z^{16} +$
$\qquad 2\,791\,080 z^{18} + 1\,613\,408 z^{20} + 673\,212 z^{22} + 200\,257 z^{24} + 41\,304 z^{26} + 5600 z^{28} + 448 z^{30} + 16 z^{32}) \in^2 +$
$\quad (300 - 12\,770 z^2 - 80\,577 z^4 + 194\,538 z^6 + 2\,439\,015 z^8 - 576\,402 z^{10} - 80\,819\,103 z^{12} - 489\,168\,690 z^{14} -$
$\qquad 1\,689\,153\,291 z^{16} - 4\,045\,678\,656 z^{18} - 7\,213\,474\,514 z^{20} - 9\,911\,863\,956 z^{22} - 10\,700\,853\,838 z^{24} -$
$\qquad 9\,180\,122\,886 z^{26} - 6\,297\,372\,867 z^{28} - 3\,462\,503\,238 z^{30} - 1\,524\,288\,299 z^{32} - 534\,731\,718 z^{34} -$
$\qquad 148\,141\,715 z^{36} - 31\,939\,310 z^{38} - 5\,238\,039 z^{40} - 630\,352 z^{42} - 52\,416 z^{44} - 2688 z^{46} - 64 z^{48}) \in^3\}$

» Knot[10, 152] →

$\{1 + 7 z^2 + 13 z^4 + 7 z^6 + z^8, \ 1 + (30 z^2 + 243 z^4 + 740 z^6 + 1068 z^8 + 788 z^{10} + 301 z^{12} + 56 z^{14} + 4 z^{16}) \in +$
$\quad (14 + 4 z^2 - 323 z^4 + 5412 z^6 + 70\,461 z^8 + 352\,924 z^{10} + 1\,016\,460 z^{12} + 1\,892\,532 z^{14} + 2\,401\,764 z^{16} +$
$\qquad 2\,133\,904 z^{18} + 1\,343\,134 z^{20} + 599\,208 z^{22} + 187\,405 z^{24} + 40\,028 z^{26} + 5545 z^{28} + 448 z^{30} + 16 z^{32}) \in^2 +$
$\quad (-180 + 3150 z^2 + 65\,439 z^4 + 379\,484 z^6 + 653\,726 z^8 - 1\,994\,936 z^{10} - 6\,779\,876 z^{12} + 37\,677\,714 z^{14} +$
$\qquad 323\,706\,388 z^{16} + 1\,175\,795\,890 z^{18} + 2\,747\,730\,736 z^{20} + 4\,607\,464\,072 z^{22} + 5\,814\,536\,378 z^{24} +$
$\qquad 5\,662\,571\,692 z^{26} + 4\,314\,545\,842 z^{28} + 2\,589\,638\,552 z^{30} + 1\,226\,461\,168 z^{32} + 457\,015\,282 z^{34} +$
$\qquad 132\,965\,484 z^{36} + 29\,797\,682 z^{38} + 5\,032\,176 z^{40} + 618\,310 z^{42} + 52\,093 z^{44} + 2688 z^{46} + 64 z^{48}) \in^3\}$

» Knot[11, Alternating, 367] → $\{1 + 15 z^2 + 35 z^4 + 28 z^6 + 9 z^8 + z^{10},$
$\quad 1 + (-110 z^2 - 1287 z^4 - 5148 z^6 - 10\,010 z^8 - 10\,920 z^{10} - 7140 z^{12} - 2856 z^{14} - 684 z^{16} - 90 z^{18} - 5 z^{20}) \in +$
$\quad (30 - 620 z^2 + 2229 z^4 + 223\,228 z^6 + 2\,561\,235 z^8 + 14\,809\,912 z^{10} + 53\,292\,649 z^{12} + 130\,531\,320 z^{14} +$
$\qquad 228\,978\,428 z^{16} + 297\,211\,100 z^{18} + 291\,692\,852 z^{20} + 219\,495\,824 z^{22} + 127\,624\,740 z^{24} + 57\,463\,880 z^{26} +$
$\qquad 19\,964\,435 z^{28} + 5\,297\,208 z^{30} + 1\,052\,866 z^{32} + 151\,648 z^{34} + 14\,939 z^{36} + 900 z^{38} + 25 z^{40}) \in^2 +$
$\quad (660 - 50\,270 z^2 - 354\,255 z^4 + 3\,490\,652 z^6 + 38\,413\,760 z^8 - 104\,353\,602 z^{10} - 3\,862\,073\,337 z^{12} -$
$\qquad 32\,594\,855\,712 z^{14} - 165\,887\,618\,016 z^{16} - 597\,216\,757\,852 z^{18} - 1\,623\,879\,017\,178 z^{20} -$
$\qquad 3\,456\,784\,547\,568 z^{22} - 5\,894\,137\,979\,048 z^{24} - 8\,178\,794\,908\,438 z^{26} - 9\,342\,793\,083\,723 z^{28} -$
$\qquad 8\,860\,318\,753\,176 z^{30} - 7\,018\,480\,678\,856 z^{32} - 4\,662\,591\,454\,464 z^{34} - 2\,603\,688\,704\,450 z^{36} -$
$\qquad 1\,222\,813\,927\,084 z^{38} - 482\,388\,760\,656 z^{40} - 159\,332\,745\,506 z^{42} - 43\,822\,684\,939 z^{44} - 9\,953\,321\,400 z^{46} -$
$\qquad 1\,844\,542\,084 z^{48} - 274\,142\,198 z^{50} - 31\,866\,813 z^{52} - 2\,789\,200 z^{54} - 172\,784 z^{56} - 6750 z^{58} - 125 z^{60}) \in^3\}$

» Knot[11, NonAlternating, 77] →

$\{1 + 7 z^2 + 12 z^4 + 7 z^6 + z^8, \ 1 + (-32 z^2 - 234 z^4 - 672 z^6 - 964 z^8 - 736 z^{10} - 294 z^{12} - 56 z^{14} - 4 z^{16}) \in +$
$\quad (14 - 48 z^2 - 232 z^4 + 7776 z^6 + 74\,294 z^8 + 324\,696 z^{10} + 870\,832 z^{12} + 1\,574\,872 z^{14} + 1\,999\,422 z^{16} +$
$\qquad 1\,812\,728 z^{18} + 1\,177\,986 z^{20} + 545\,120 z^{22} + 176\,610 z^{24} + 38\,840 z^{26} + 5490 z^{28} + 448 z^{30} + 16 z^{32}) \in^2 +$
$\quad (192 - 4760 z^2 - 56\,888 z^4 - 165\,768 z^6 + 332\,044 z^8 + 2\,609\,160 z^{10} - 2\,379\,418 z^{12} - 70\,361\,964 z^{14} -$
$\qquad 348\,938\,088 z^{16} - 1\,042\,921\,980 z^{18} - 2\,218\,025\,698 z^{20} - 3\,565\,651\,768 z^{22} - 4\,455\,526\,908 z^{24} -$
$\qquad 4\,387\,310\,392 z^{26} - 3\,425\,171\,832 z^{28} - 2\,122\,737\,056 z^{30} - 1\,041\,754\,032 z^{32} - 402\,415\,152 z^{34} -$
$\qquad 121\,129\,050 z^{36} - 27\,977\,012 z^{38} - 4\,844\,600 z^{40} - 606\,732 z^{42} - 51\,770 z^{44} - 2688 z^{46} - 64 z^{48}) \in^3\}$

» Knot[12, NonAlternating, 242] $\rightarrow$ $\{1 + 12\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10}$,

$1 + \left(-74\,z^2 - 851\,z^4 - 3688\,z^6 - 7878\,z^8 - 9348\,z^{10} - 6531\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\in\,+$

$\left(24 - 220\,z^2 - 815\,z^4 + 74568\,z^6 + 1026850\,z^8 + 6667872\,z^{10} + 26665942\,z^{12} + 72238016\,z^{14} + \right.$
$139357178\,z^{16} + 197506000\,z^{18} + 209919497\,z^{20} + 169557880\,z^{22} + 104863611\,z^{24} + 49764680\,z^{26} +$
$\left.18061499\,z^{28} + 4963724\,z^{30} + 1013655\,z^{32} + 148876\,z^{34} + 14850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\in^2\,+$

$\left(444 - 21302\,z^2 - 333479\,z^4 - 840336\,z^6 + 10976560\,z^8 + 64514738\,z^{10} - 361737737\,z^{12} - \right.$
$6501967218\,z^{14} - 43543713867\,z^{16} - 187611515222\,z^{18} - 588345139180\,z^{20} - 1416147970402\,z^{22} -$
$2694555837534\,z^{24} - 4129916112856\,z^{26} - 5165529807832\,z^{28} - 5321555702920\,z^{30} -$
$4545441186265\,z^{32} - 3233376357608\,z^{34} - 1920403190833\,z^{36} - 953075998298\,z^{38} -$
$394841218795\,z^{40} - 136140327052\,z^{42} - 38863358545\,z^{44} - 9111257338\,z^{46} - 1733741375\,z^{48} -$
$\left.263257706\,z^{50} - 31116036\,z^{52} - 2756782\,z^{54} - 172125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right)\in^3\}$

» Knot[12, NonAlternating, 472] $\rightarrow$ $\{1 + 13\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10}$,

$1 + \left(-86\,z^2 - 979\,z^4 - 4084\,z^6 - 8388\,z^8 - 9652\,z^{10} - 6613\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\in\,+$

$\left(26 - 356\,z^2 + 31\,z^4 + 116268\,z^6 + 1435695\,z^8 + 8747064\,z^{10} + 33214301\,z^{12} + 86014008\,z^{14} + \right.$
$159545851\,z^{16} + 218645944\,z^{18} + 225966535\,z^{20} + 178438036\,z^{22} + 108434871\,z^{24} + 50794384\,z^{26} +$
$\left.18268398\,z^{28} + 4991176\,z^{30} + 1015813\,z^{32} + 148952\,z^{34} + 14850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\in^2\,+$

$\left(516 - 30302\,z^2 - 345351\,z^4 + 447744\,z^6 + 20297746\,z^8 + 38144166\,z^{10} - 1141404400\,z^{12} - \right.$
$12448395600\,z^{14} - 71237436115\,z^{16} - 278975007684\,z^{18} - 815111673518\,z^{20} - 1853457138862\,z^{22} -$
$3362947867923\,z^{24} - 4950360666286\,z^{26} - 5981658491450\,z^{28} - 5983387314422\,z^{30} -$
$4984488861596\,z^{32} - 3471908180376\,z^{34} - 2026410863700\,z^{36} - 991469780034\,z^{38} -$
$406096960785\,z^{40} - 138783014108\,z^{42} - 39352371443\,z^{44} - 9180885094\,z^{46} - 1741092689\,z^{48} -$
$\left.263799162\,z^{50} - 31140846\,z^{52} - 2757314\,z^{54} - 172125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right)\in^3\}$

» Knot[12, NonAlternating, 574] $\rightarrow$ $\{1 + 14\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10}$,

$1 + \left(-98\,z^2 - 1095\,z^4 - 4330\,z^6 - 8585\,z^8 - 9716\,z^{10} - 6620\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\in\,+$

$\left(28 - 500\,z^2 + 1707\,z^4 + 166848\,z^6 + 1858745\,z^8 + 10577508\,z^{10} + 38018136\,z^{12} + 94305864\,z^{14} + \right.$
$169414798\,z^{16} + 226968068\,z^{18} + 231003171\,z^{20} + 180627844\,z^{22} + 109111150\,z^{24} + 50938764\,z^{26} +$
$\left.18288604\,z^{28} + 4992840\,z^{30} + 1015874\,z^{32} + 148952\,z^{34} + 14850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\in^2\,+$

$\left(588 - 40742\,z^2 - 309403\,z^4 + 2035498\,z^6 + 24776017\,z^8 - 59200756\,z^{10} - 2330775910\,z^{12} - \right.$
$19541961054\,z^{14} - 99019349395\,z^{16} - 357353579678\,z^{18} - 981864403689\,z^{20} - 2128637137740\,z^{22} -$
$3722008938994\,z^{24} - 5325867515462\,z^{26} - 6299385143567\,z^{28} - 6202205886494\,z^{30} -$
$5107515142465\,z^{32} - 3528377801494\,z^{34} - 2047508867095\,z^{36} - 997845203944\,z^{38} -$
$407638833938\,z^{40} - 139076704252\,z^{42} - 39395379690\,z^{44} - 9185550376\,z^{46} - 1741445272\,z^{48} -$
$\left.263815714\,z^{50} - 31141209\,z^{52} - 2757314\,z^{54} - 172125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right)\in^3\}$

» Knot[12, NonAlternating, 679] $\rightarrow$ $\{1 + 10\,z^2 + 28\,z^4 + 26\,z^6 + 9\,z^8 + z^{10}$,

$1 + \left(-50\,z^2 - 599\,z^4 - 2782\,z^6 - 6413\,z^8 - 8144\,z^{10} - 6013\,z^{12} - 2628\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right)\in\,+$

$\left(20 + 44\,z^2 - 721\,z^4 + 20616\,z^6 + 409633\,z^8 + 3173352\,z^{10} + 14366475\,z^{12} + 42998696\,z^{14} + \right.$
$90352488\,z^{16} + 138085576\,z^{18} + 156959042\,z^{20} + 134574524\,z^{22} + 87716786\,z^{24} + 43568568\,z^{26} +$
$\left.16437200\,z^{28} + 4664080\,z^{30} + 976855\,z^{32} + 146180\,z^{34} + 14761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right)\in^2\,+$

$\left(300 - 6566\,z^2 - 223315\,z^4 - 2161802\,z^6 - 8554505\,z^8 - 819982\,z^{10} + 66381505\,z^{12} - \right.$
$638552162\,z^{14} - 9464540290\,z^{16} - 56960592600\,z^{18} - 220122718277\,z^{20} - 616353000446\,z^{22} -$
$1320751686784\,z^{24} - 2233705498832\,z^{26} - 3040100907816\,z^{28} - 3373201984616\,z^{30} -$
$3078268434772\,z^{32} - 2323756038202\,z^{34} - 1456023097937\,z^{36} - 758246986110\,z^{38} -$
$327963868551\,z^{40} - 117495641286\,z^{42} - 34688547446\,z^{44} - 8372692968\,z^{46} - 1632991979\,z^{48} -$
$\left.253048174\,z^{50} - 30393150\,z^{52} - 2724896\,z^{54} - 171466\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right)\in^3\}$

» Knot[12, NonAlternating, 688] → $\{1 + 11\,z^2 + 29\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-62\,z^2 - 711\,z^4 - 3138\,z^6 - 6891\,z^8 - 8440\,z^{10} - 6095\,z^{12} - 2636\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right) \in\, +$

$\quad \left(22 - 92\,z^2 - 827\,z^4 + 44\,756\,z^6 + 673\,046\,z^8 + 4\,578\,496\,z^{10} + 18\,993\,711\,z^{12} + 53\,210\,580\,z^{14} + \right.$

$\qquad 106\,077\,932\,z^{16} + 155\,373\,216\,z^{18} + 170\,697\,187\,z^{20} + 142\,499\,744\,z^{22} + 91\,021\,827\,z^{24} + 44\,550\,712\,z^{26} +$

$\qquad \left. 16\,639\,203\,z^{28} + 4\,691\,312\,z^{30} + 979\,013\,z^{32} + 146\,256\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2\, +$

$\quad \left(372 - 13\,742\,z^2 - 281\,419\,z^4 - 1\,577\,734\,z^6 + 760\,387\,z^8 + 34\,906\,488\,z^{10} - 69\,656\,954\,z^{12} - \right.$

$\qquad 2\,841\,254\,894\,z^{14} - 22\,204\,456\,583\,z^{16} - 104\,278\,527\,334\,z^{18} - 347\,826\,956\,687\,z^{20} - 880\,030\,778\,760\,z^{22} -$

$\qquad 1\,748\,807\,495\,913\,z^{24} - 2\,789\,070\,190\,656\,z^{26} - 3\,621\,896\,345\,362\,z^{28} - 3\,868\,481\,727\,696\,z^{30} -$

$\qquad 3\,422\,093\,873\,014\,z^{32} - 2\,518\,596\,886\,014\,z^{34} - 1\,546\,032\,149\,688\,z^{36} - 792\,010\,455\,440\,z^{38} -$

$\qquad 338\,176\,383\,703\,z^{40} - 119\,959\,566\,880\,z^{42} - 35\,155\,096\,396\,z^{44} - 8\,440\,372\,060\,z^{46} - 1\,640\,239\,185\,z^{48} -$

$\qquad \left. 253\,587\,052\,z^{50} - 30\,417\,960\,z^{52} - 2\,725\,428\,z^{54} - 171\,466\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right) \in^3\}$

» Knot[12, NonAlternating, 725] → $\{1 + 11\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-62\,z^2 - 751\,z^4 - 3450\,z^6 - 7681\,z^8 - 9284\,z^{10} - 6524\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\right) \in\, +$

$\quad \left(22 - 76\,z^2 - 1571\,z^4 + 38\,748\,z^6 + 711\,884\,z^8 + 5\,248\,884\,z^{10} + 22\,745\,944\,z^{12} + 65\,091\,500\,z^{14} + \right.$

$\qquad 130\,424\,029\,z^{16} + 189\,675\,848\,z^{18} + 205\,048\,522\,z^{20} + 167\,402\,504\,z^{22} + 104\,191\,344\,z^{24} + 49\,620\,500\,z^{26} +$

$\qquad \left. 18\,041\,293\,z^{28} + 4\,962\,060\,z^{30} + 1\,013\,594\,z^{32} + 148\,876\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2\, +$

$\quad \left(372 - 12\,686\,z^2 - 315\,515\,z^4 - 2\,086\,342\,z^6 + 934\,383\,z^8 + 73\,503\,814\,z^{10} + 206\,530\,147\,z^{12} - \right.$

$\qquad 2\,229\,938\,808\,z^{14} - 24\,943\,220\,074\,z^{16} - 131\,503\,846\,228\,z^{18} - 462\,635\,505\,276\,z^{20} - 1\,199\,129\,173\,996\,z^{22} -$

$\qquad 2\,399\,446\,445\,788\,z^{24} - 3\,809\,344\,687\,424\,z^{26} - 4\,884\,828\,753\,252\,z^{28} - 5\,122\,342\,231\,660\,z^{30} -$

$\qquad 4\,430\,551\,785\,090\,z^{32} - 3\,179\,535\,969\,776\,z^{34} - 1\,899\,958\,286\,598\,z^{36} - 946\,822\,678\,904\,z^{38} -$

$\qquad 393\,315\,944\,494\,z^{40} - 135\,848\,183\,660\,z^{42} - 38\,820\,438\,564\,z^{44} - 9\,106\,594\,380\,z^{46} - 1\,733\,388\,792\,z^{48} -$

$\qquad \left. 263\,241\,154\,z^{50} - 31\,115\,673\,z^{52} - 2\,756\,782\,z^{54} - 172\,125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right) \in^3\}$

» Knot[12, NonAlternating, 888] → $\{1 + 13\,z^2 + 30\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$\quad 1 + \left(-86\,z^2 - 939\,z^4 - 3740\,z^6 - 7566\,z^8 - 8800\,z^{10} - 6184\,z^{12} - 2644\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\right) \in\, +$

$\quad \left(26 - 372\,z^2 + 767\,z^4 + 118\,644\,z^6 + 1\,347\,535\,z^8 + 7\,763\,056\,z^{10} + 28\,324\,802\,z^{12} + 71\,614\,640\,z^{14} + \right.$

$\qquad 131\,628\,470\,z^{16} + 180\,988\,376\,z^{18} + 189\,487\,784\,z^{20} + 152\,622\,600\,z^{22} + 95\,005\,016\,z^{24} + 45\,677\,456\,z^{26} +$

$\qquad \left. 16\,861\,422\,z^{28} + 4\,720\,208\,z^{30} + 981\,232\,z^{32} + 146\,332\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\right) \in^2\, +$

$\quad \left(516 - 31\,358\,z^2 - 301\,559\,z^4 + 725\,728\,z^6 + 16\,777\,258\,z^8 - 4\,551\,282\,z^{10} - 1\,245\,099\,511\,z^{12} - \right.$

$\qquad 11\,432\,650\,808\,z^{14} - 60\,395\,983\,836\,z^{16} - 224\,483\,974\,678\,z^{18} - 632\,967\,969\,071\,z^{20} - 1\,407\,505\,717\,608\,z^{22} -$

$\qquad 2\,526\,125\,734\,030\,z^{24} - 3\,714\,494\,839\,290\,z^{26} - 4\,520\,227\,351\,439\,z^{28} - 4\,583\,564\,133\,616\,z^{30} -$

$\qquad 3\,890\,181\,741\,508\,z^{32} - 2\,770\,641\,749\,082\,z^{34} - 1\,657\,428\,427\,037\,z^{36} - 832\,230\,076\,336\,z^{38} -$

$\qquad 349\,946\,893\,330\,z^{40} - 122\,719\,439\,926\,z^{42} - 35\,664\,864\,061\,z^{44} - 8\,512\,728\,152\,z^{46} - 1\,647\,839\,268\,z^{48} -$

$\qquad \left. 254\,142\,482\,z^{50} - 30\,443\,133\,z^{52} - 2\,725\,960\,z^{54} - 171\,466\,z^{56} - 6750\,z^{58} - 125\,z^{60}\right) \in^3\}$

Out[•]=

$\{$Knot[3, 1] → $\{1 + z^2,$

$\quad 1 + \left(2\,z^2 + z^4\right) \in\, + \left(2 - 4\,z^2 + 3\,z^4 + 4\,z^6 + z^8\right) \in^2\, + \left(-12 + 74\,z^2 - 27\,z^4 - 20\,z^6 + 8\,z^8 + 6\,z^{10} + z^{12}\right) \in^3\},$

Knot[5, 1] → $\{1 + 3\,z^2 + z^4,\ 1 + \left(10\,z^2 + 21\,z^4 + 12\,z^6 + 2\,z^8\right) \in\, +$

$\quad \left(6 - 28\,z^2 + 33\,z^4 + 364\,z^6 + 655\,z^8 + 536\,z^{10} + 227\,z^{12} + 48\,z^{14} + 4\,z^{16}\right) \in^2\, +$

$\quad \left(-60 + 970\,z^2 + 645\,z^4 - 3380\,z^6 - 3280\,z^8 + 7470\,z^{10} + 19\,475\,z^{12} + \right.$

$\qquad \left. 20\,536\,z^{14} + 12\,564\,z^{16} + 4774\,z^{18} + 1109\,z^{20} + 144\,z^{22} + 8\,z^{24}\right) \in^3\},$

Knot[7, 1] → $\{1 + 6\,z^2 + 5\,z^4 + z^6,\ 1 + \left(28\,z^2 + 126\,z^4 + 180\,z^6 + 110\,z^8 + 30\,z^{10} + 3\,z^{12}\right) \in\, +$

$\quad \left(12 - 104\,z^2 + 186\,z^4 + 5776\,z^6 + 24\,298\,z^8 + 49\,972\,z^{10} + 60\,795\,z^{12} + \right.$

$\qquad \left. 46\,904\,z^{14} + 23\,546\,z^{16} + 7664\,z^{18} + 1559\,z^{20} + 180\,z^{22} + 9\,z^{24}\right) \in^2\, +$

$\quad \left(-168 + 5236\,z^2 + 11\,802\,z^4 - 65\,416\,z^6 - 216\,192\,z^8 + 443\,814\,z^{10} + 3\,931\,039\,z^{12} + \right.$

$\qquad 11\,179\,336\,z^{14} + 19\,188\,960\,z^{16} + 22\,628\,116\,z^{18} + 19\,279\,684\,z^{20} + 12\,136\,644\,z^{22} +$

$$5\,688\,088\,z^{24} + 1\,978\,438\,z^{26} + 503\,433\,z^{28} + 91\,000\,z^{30} + 11\,060\,z^{32} + 810\,z^{34} + 27\,z^{36}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[8,\,19] \to \Big\{1 + 5\,z^2 + 5\,z^4 + z^6,\ 1 + \big(-20\,z^2 - 94\,z^4 - 154\,z^6 - 105\,z^8 - 30\,z^{10} - 3\,z^{12}\big)\,\epsilon +$$

$$\big(10 - 40\,z^2 - 64\,z^4 + 2304\,z^6 + 12\,565\,z^8 + 30\,748\,z^{10} + 43\,306\,z^{12} +$$
$$37\,684\,z^{14} + 20\,764\,z^{16} + 7220\,z^{18} + 1530\,z^{20} + 180\,z^{22} + 9\,z^{24}\big)\,\epsilon^2 +$$

$$\big(120 - 2420\,z^2 - 15\,422\,z^4 - 10\,834\,z^6 + 107\,735\,z^8 + 206\,198\,z^{10} - 641\,319\,z^{12} - 3\,722\,686\,z^{14} -$$
$$8\,693\,947\,z^{16} - 12\,621\,766\,z^{18} - 12\,594\,557\,z^{20} - 8\,973\,386\,z^{22} - 4\,634\,133\,z^{24} -$$
$$1\,736\,946\,z^{26} - 467\,259\,z^{28} - 87\,814\,z^{30} - 10\,935\,z^{32} - 810\,z^{34} - 27\,z^{36}\big)\,\epsilon^3\Big\},\ \text{Knot}[9,\,1] \to$$

$$\Big\{1 + 10\,z^2 + 15\,z^4 + 7\,z^6 + z^8,\ 1 + \big(60\,z^2 + 462\,z^4 + 1188\,z^6 + 1430\,z^8 + 910\,z^{10} + 315\,z^{12} + 56\,z^{14} + 4\,z^{16}\big)$$
$$\epsilon + \big(20 - 280\,z^2 + 726\,z^4 + 44\,272\,z^6 + 329\,110\,z^8 + 1\,221\,612\,z^{10} +$$
$$2\,779\,169\,z^{12} + 4\,216\,712\,z^{14} + 4\,464\,198\,z^{16} + 3\,383\,440\,z^{18} + 1\,858\,897\,z^{20} +$$
$$741\,324\,z^{22} + 212\,327\,z^{24} + 42\,536\,z^{26} + 5655\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$

$$\big(-360 + 18\,420\,z^2 + 80\,730\,z^4 - 594\,312\,z^6 - 3\,963\,040\,z^8 + 9\,145\,158\,z^{10} + 184\,212\,583\,z^{12} +$$
$$979\,010\,952\,z^{14} + 3\,144\,258\,144\,z^{16} + 7\,086\,004\,212\,z^{18} + 11\,912\,705\,076\,z^{20} +$$
$$15\,434\,196\,516\,z^{22} + 15\,715\,474\,008\,z^{24} + 12\,731\,354\,182\,z^{26} + 8\,266\,367\,523\,z^{28} +$$
$$4\,316\,453\,720\,z^{30} + 1\,812\,233\,220\,z^{32} + 609\,294\,834\,z^{34} + 162\,662\,007\,z^{36} +$$
$$33\,993\,744\,z^{38} + 5\,437\,152\,z^{40} + 642\,162\,z^{42} + 52\,739\,z^{44} + 2688\,z^{46} + 64\,z^{48}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[10,\,124] \to \Big\{1 + 8\,z^2 + 14\,z^4 + 7\,z^6 + z^8,$$
$$1 + \big(-40\,z^2 - 314\,z^4 - 908\,z^6 - 1224\,z^8 - 846\,z^{10} - 308\,z^{12} - 56\,z^{14} - 4\,z^{16}\big)\,\epsilon +$$
$$\big(16 - 88\,z^2 - 340\,z^4 + 14\,160\,z^6 + 137\,240\,z^8 + 601\,324\,z^{10} +$$
$$1\,574\,968\,z^{12} + 2\,704\,920\,z^{14} + 3\,189\,100\,z^{16} + 2\,648\,320\,z^{18} + 1\,569\,108\,z^{20} +$$
$$664\,636\,z^{22} + 199\,320\,z^{24} + 41\,260\,z^{26} + 5600\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$

$$\big(240 - 7360\,z^2 - 86\,008\,z^4 - 185\,552\,z^6 + 1\,188\,160\,z^8 + 5\,832\,312\,z^{10} - 13\,029\,760\,z^{12} -$$
$$205\,476\,160\,z^{14} - 945\,440\,896\,z^{16} - 2\,678\,221\,536\,z^{18} - 5\,360\,425\,616\,z^{20} -$$
$$8\,011\,449\,600\,z^{22} - 9\,203\,901\,904\,z^{24} - 8\,268\,055\,568\,z^{26} - 5\,867\,151\,992\,z^{28} -$$
$$3\,306\,178\,256\,z^{30} - 1\,481\,040\,560\,z^{32} - 525\,807\,400\,z^{34} - 146\,814\,232\,z^{36} -$$
$$31\,805\,072\,z^{38} - 5\,229\,792\,z^{40} - 630\,120\,z^{42} - 52\,416\,z^{44} - 2688\,z^{46} - 64\,z^{48}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[10,\,139] \to \Big\{1 + 9\,z^2 + 14\,z^4 + 7\,z^6 + z^8,$$
$$1 + \big(-50\,z^2 - 375\,z^4 - 998\,z^6 - 1267\,z^8 - 852\,z^{10} - 308\,z^{12} - 56\,z^{14} - 4\,z^{16}\big)\,\epsilon +$$
$$\big(18 - 188\,z^2 + 235\,z^4 + 27\,660\,z^6 + 213\,594\,z^8 + 821\,660\,z^{10} +$$
$$1\,954\,273\,z^{12} + 3\,121\,080\,z^{14} + 3\,488\,879\,z^{16} + 2\,791\,080\,z^{18} + 1\,613\,408\,z^{20} +$$
$$673\,212\,z^{22} + 200\,257\,z^{24} + 41\,304\,z^{26} + 5600\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$

$$\big(300 - 12\,770\,z^2 - 80\,577\,z^4 + 194\,538\,z^6 + 2\,439\,015\,z^8 - 576\,402\,z^{10} - 80\,819\,103\,z^{12} -$$
$$489\,168\,690\,z^{14} - 1\,689\,153\,291\,z^{16} - 4\,045\,678\,656\,z^{18} - 7\,213\,474\,514\,z^{20} -$$
$$9\,911\,863\,956\,z^{22} - 10\,700\,853\,838\,z^{24} - 9\,180\,122\,886\,z^{26} - 6\,297\,372\,867\,z^{28} -$$
$$3\,462\,503\,238\,z^{30} - 1\,524\,288\,299\,z^{32} - 534\,731\,718\,z^{34} - 148\,141\,715\,z^{36} - 31\,939\,310\,z^{38} -$$
$$5\,238\,039\,z^{40} - 630\,352\,z^{42} - 52\,416\,z^{44} - 2688\,z^{46} - 64\,z^{48}\big)\,\epsilon^3\Big\},\ \text{Knot}[10,\,152] \to$$

$$\Big\{1 + 7\,z^2 + 13\,z^4 + 7\,z^6 + z^8,\ 1 + \big(30\,z^2 + 243\,z^4 + 740\,z^6 + 1068\,z^8 + 788\,z^{10} + 301\,z^{12} + 56\,z^{14} + 4\,z^{16}\big)\,\epsilon +$$
$$\big(14 + 4\,z^2 - 323\,z^4 + 5412\,z^6 + 70\,461\,z^8 + 352\,924\,z^{10} + 1\,016\,460\,z^{12} +$$
$$1\,892\,532\,z^{14} + 2\,401\,764\,z^{16} + 2\,133\,904\,z^{18} + 1\,343\,134\,z^{20} +$$
$$599\,208\,z^{22} + 187\,405\,z^{24} + 40\,028\,z^{26} + 5545\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$

$$\big(-180 + 3150\,z^2 + 65\,439\,z^4 + 379\,484\,z^6 + 653\,726\,z^8 - 1\,994\,936\,z^{10} - 6\,779\,876\,z^{12} + 37\,677\,714\,z^{14} +$$
$$323\,706\,388\,z^{16} + 1\,175\,795\,890\,z^{18} + 2\,747\,730\,736\,z^{20} + 4\,607\,464\,072\,z^{22} + 5\,814\,536\,378\,z^{24} +$$
$$5\,662\,571\,692\,z^{26} + 4\,314\,545\,842\,z^{28} + 2\,589\,638\,552\,z^{30} + 1\,226\,461\,168\,z^{32} + 457\,015\,282\,z^{34} +$$

$$132\,965\,484\,z^{36} + 29\,797\,682\,z^{38} + 5\,032\,176\,z^{40} + 618\,310\,z^{42} + 52\,093\,z^{44} + 2688\,z^{46} + 64\,z^{48}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[11, \text{Alternating}, 367] \to \Big\{1 + 15\,z^2 + 35\,z^4 + 28\,z^6 + 9\,z^8 + z^{10},$$

$$1 + \big(-110\,z^2 - 1287\,z^4 - 5148\,z^6 - 10\,010\,z^8 - 10\,920\,z^{10} - 7140\,z^{12} - 2856\,z^{14} - 684\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)$$
$$\epsilon + \big(30 - 620\,z^2 + 2229\,z^4 + 223\,228\,z^6 + 2\,561\,235\,z^8 + 14\,809\,912\,z^{10} +$$
$$53\,292\,649\,z^{12} + 130\,531\,320\,z^{14} + 228\,978\,428\,z^{16} + 297\,211\,100\,z^{18} +$$
$$291\,692\,852\,z^{20} + 219\,495\,824\,z^{22} + 127\,624\,740\,z^{24} + 57\,463\,880\,z^{26} + 19\,964\,435\,z^{28} +$$
$$5\,297\,208\,z^{30} + 1\,052\,866\,z^{32} + 151\,648\,z^{34} + 14\,939\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\epsilon^2 +$$
$$\big(660 - 50\,270\,z^2 - 354\,255\,z^4 + 3\,490\,652\,z^6 + 38\,413\,760\,z^8 - 104\,353\,602\,z^{10} -$$
$$3\,862\,073\,337\,z^{12} - 32\,594\,855\,712\,z^{14} - 165\,887\,618\,016\,z^{16} - 597\,216\,757\,852\,z^{18} -$$
$$1\,623\,879\,017\,178\,z^{20} - 3\,456\,784\,547\,568\,z^{22} - 5\,894\,137\,979\,048\,z^{24} -$$
$$8\,178\,794\,908\,438\,z^{26} - 9\,342\,793\,083\,723\,z^{28} - 8\,860\,318\,753\,176\,z^{30} - 7\,018\,480\,678\,856\,z^{32} -$$
$$4\,662\,591\,454\,464\,z^{34} - 2\,603\,688\,704\,450\,z^{36} - 1\,222\,813\,927\,084\,z^{38} - 482\,388\,760\,656\,z^{40} -$$
$$159\,332\,745\,506\,z^{42} - 43\,822\,684\,939\,z^{44} - 9\,953\,321\,400\,z^{46} - 1\,844\,542\,084\,z^{48} -$$
$$274\,142\,198\,z^{50} - 31\,866\,813\,z^{52} - 2\,789\,200\,z^{54} - 172\,784\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[11, \text{NonAlternating}, 77] \to \Big\{1 + 7\,z^2 + 12\,z^4 + 7\,z^6 + z^8,$$

$$1 + \big(-32\,z^2 - 234\,z^4 - 672\,z^6 - 964\,z^8 - 736\,z^{10} - 294\,z^{12} - 56\,z^{14} - 4\,z^{16}\big)\,\epsilon +$$
$$\big(14 - 48\,z^2 - 232\,z^4 + 7776\,z^6 + 74\,294\,z^8 + 324\,696\,z^{10} + 870\,832\,z^{12} +$$
$$1\,574\,872\,z^{14} + 1\,999\,422\,z^{16} + 1\,812\,728\,z^{18} + 1\,177\,986\,z^{20} +$$
$$545\,120\,z^{22} + 176\,610\,z^{24} + 38\,840\,z^{26} + 5490\,z^{28} + 448\,z^{30} + 16\,z^{32}\big)\,\epsilon^2 +$$
$$\big(192 - 4760\,z^2 - 56\,888\,z^4 - 165\,768\,z^6 + 332\,044\,z^8 + 2\,609\,160\,z^{10} - 2\,379\,418\,z^{12} - 70\,361\,964\,z^{14} -$$
$$348\,938\,088\,z^{16} - 1\,042\,921\,980\,z^{18} - 2\,218\,025\,698\,z^{20} - 3\,565\,651\,768\,z^{22} - 4\,455\,526\,908\,z^{24} -$$
$$4\,387\,310\,392\,z^{26} - 3\,425\,171\,832\,z^{28} - 2\,122\,737\,056\,z^{30} - 1\,041\,754\,032\,z^{32} - 402\,415\,152\,z^{34} -$$
$$121\,129\,050\,z^{36} - 27\,977\,012\,z^{38} - 4\,844\,600\,z^{40} - 606\,732\,z^{42} - 51\,770\,z^{44} - 2688\,z^{46} - 64\,z^{48}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[12, \text{NonAlternating}, 242] \to \Big\{1 + 12\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$$

$$1 + \big(-74\,z^2 - 851\,z^4 - 3688\,z^6 - 7878\,z^8 - 9348\,z^{10} - 6531\,z^{12} - 2738\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)\,\epsilon +$$
$$\big(24 - 220\,z^2 - 815\,z^4 + 74\,568\,z^6 + 1\,026\,850\,z^8 + 6\,667\,872\,z^{10} + 26\,665\,942\,z^{12} +$$
$$72\,238\,016\,z^{14} + 139\,357\,178\,z^{16} + 197\,506\,000\,z^{18} + 209\,919\,497\,z^{20} +$$
$$169\,557\,880\,z^{22} + 104\,863\,611\,z^{24} + 49\,764\,680\,z^{26} + 18\,061\,499\,z^{28} +$$
$$4\,963\,724\,z^{30} + 1\,013\,655\,z^{32} + 148\,876\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\epsilon^2 +$$
$$\big(444 - 21\,302\,z^2 - 333\,479\,z^4 - 840\,336\,z^6 + 10\,976\,560\,z^8 + 64\,514\,738\,z^{10} - 361\,737\,737\,z^{12} -$$
$$6\,501\,967\,218\,z^{14} - 43\,543\,713\,867\,z^{16} - 187\,611\,515\,222\,z^{18} - 588\,345\,139\,180\,z^{20} -$$
$$1\,416\,147\,970\,402\,z^{22} - 2\,694\,555\,837\,534\,z^{24} - 4\,129\,916\,112\,856\,z^{26} -$$
$$5\,165\,529\,807\,832\,z^{28} - 5\,321\,555\,702\,920\,z^{30} - 4\,545\,441\,186\,265\,z^{32} -$$
$$3\,233\,376\,357\,608\,z^{34} - 1\,920\,403\,190\,833\,z^{36} - 953\,075\,998\,298\,z^{38} - 394\,841\,218\,795\,z^{40} -$$
$$136\,140\,327\,052\,z^{42} - 38\,863\,358\,545\,z^{44} - 9\,111\,257\,338\,z^{46} - 1\,733\,741\,375\,z^{48} -$$
$$263\,257\,706\,z^{50} - 31\,116\,036\,z^{52} - 2\,756\,782\,z^{54} - 172\,125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\epsilon^3\Big\},$$

$$\text{Knot}[12, \text{NonAlternating}, 472] \to \Big\{1 + 13\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$$

$$1 + \big(-86\,z^2 - 979\,z^4 - 4084\,z^6 - 8388\,z^8 - 9652\,z^{10} - 6613\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)\,\epsilon +$$
$$\big(26 - 356\,z^2 + 31\,z^4 + 116\,268\,z^6 + 1\,435\,695\,z^8 + 8\,747\,064\,z^{10} + 33\,214\,301\,z^{12} +$$
$$86\,014\,008\,z^{14} + 159\,545\,851\,z^{16} + 218\,645\,944\,z^{18} + 225\,966\,535\,z^{20} +$$
$$178\,438\,036\,z^{22} + 108\,434\,871\,z^{24} + 50\,794\,384\,z^{26} + 18\,268\,398\,z^{28} +$$
$$4\,991\,176\,z^{30} + 1\,015\,813\,z^{32} + 148\,952\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\epsilon^2 +$$
$$\big(516 - 30\,302\,z^2 - 345\,351\,z^4 + 447\,744\,z^6 + 20\,297\,746\,z^8 + 38\,144\,166\,z^{10} - 1\,141\,404\,400\,z^{12} -$$

$12\,448\,395\,600\,z^{14} - 71\,237\,436\,115\,z^{16} - 278\,975\,007\,684\,z^{18} - 815\,111\,673\,518\,z^{20} -$
$1\,853\,457\,138\,862\,z^{22} - 3\,362\,947\,867\,923\,z^{24} - 4\,950\,360\,666\,286\,z^{26} -$
$5\,981\,658\,491\,450\,z^{28} - 5\,983\,387\,314\,422\,z^{30} - 4\,984\,488\,861\,596\,z^{32} -$
$3\,471\,908\,180\,376\,z^{34} - 2\,026\,410\,863\,700\,z^{36} - 991\,469\,780\,034\,z^{38} - 406\,096\,960\,785\,z^{40} -$
$138\,783\,014\,108\,z^{42} - 39\,352\,371\,443\,z^{44} - 9\,180\,885\,094\,z^{46} - 1\,741\,092\,689\,z^{48} -$
$263\,799\,162\,z^{50} - 31\,140\,846\,z^{52} - 2\,757\,314\,z^{54} - 172\,125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\in^3\big\}$,

$\text{Knot}[12, \text{NonAlternating}, 574] \to \big\{1 + 14\,z^2 + 32\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$1 + \big(-98\,z^2 - 1095\,z^4 - 4330\,z^6 - 8585\,z^8 - 9716\,z^{10} - 6620\,z^{12} - 2746\,z^{14} - 675\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)\,\in\, +$

$\big(28 - 500\,z^2 + 1707\,z^4 + 166\,848\,z^6 + 1\,858\,745\,z^8 + 10\,577\,508\,z^{10} + 38\,018\,136\,z^{12} +$
$94\,305\,864\,z^{14} + 169\,414\,798\,z^{16} + 226\,968\,068\,z^{18} + 231\,003\,171\,z^{20} +$
$180\,627\,844\,z^{22} + 109\,111\,150\,z^{24} + 50\,938\,764\,z^{26} + 18\,288\,604\,z^{28} +$
$4\,992\,840\,z^{30} + 1\,015\,874\,z^{32} + 148\,952\,z^{34} + 14\,850\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\in^2\, +$

$\big(588 - 40\,742\,z^2 - 309\,403\,z^4 + 2\,035\,498\,z^6 + 24\,776\,017\,z^8 - 59\,200\,756\,z^{10} -$
$2\,330\,775\,910\,z^{12} - 19\,541\,961\,054\,z^{14} - 99\,019\,349\,395\,z^{16} - 357\,353\,579\,678\,z^{18} -$
$981\,864\,403\,689\,z^{20} - 2\,128\,637\,137\,740\,z^{22} - 3\,722\,008\,938\,994\,z^{24} - 5\,325\,867\,515\,462\,z^{26} -$
$6\,299\,385\,143\,567\,z^{28} - 6\,202\,205\,886\,494\,z^{30} - 5\,107\,515\,142\,465\,z^{32} -$
$3\,528\,377\,801\,494\,z^{34} - 2\,047\,508\,867\,095\,z^{36} - 997\,845\,203\,944\,z^{38} - 407\,638\,833\,938\,z^{40} -$
$139\,076\,704\,252\,z^{42} - 39\,395\,379\,690\,z^{44} - 9\,185\,550\,376\,z^{46} - 1\,741\,445\,272\,z^{48} -$
$263\,815\,714\,z^{50} - 31\,141\,209\,z^{52} - 2\,757\,314\,z^{54} - 172\,125\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\in^3\big\}$,

$\text{Knot}[12, \text{NonAlternating}, 679] \to \big\{1 + 10\,z^2 + 28\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$1 + \big(-50\,z^2 - 599\,z^4 - 2782\,z^6 - 6413\,z^8 - 8144\,z^{10} - 6013\,z^{12} - 2628\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)\,\in\, +$

$\big(20 + 44\,z^2 - 721\,z^4 + 20\,616\,z^6 + 409\,633\,z^8 + 3\,173\,352\,z^{10} + 14\,366\,475\,z^{12} + 42\,998\,696\,z^{14} +$
$90\,352\,488\,z^{16} + 138\,085\,576\,z^{18} + 156\,959\,042\,z^{20} + 134\,574\,524\,z^{22} + 87\,716\,786\,z^{24} + 43\,568\,568$
$z^{26} + 16\,437\,200\,z^{28} + 4\,664\,080\,z^{30} + 976\,855\,z^{32} + 146\,180\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\in^2\, +$

$\big(300 - 6566\,z^2 - 223\,315\,z^4 - 2\,161\,802\,z^6 - 8\,554\,505\,z^8 - 819\,982\,z^{10} + 66\,381\,505\,z^{12} -$
$638\,552\,162\,z^{14} - 9\,464\,540\,290\,z^{16} - 56\,960\,592\,600\,z^{18} - 220\,122\,718\,277\,z^{20} -$
$616\,353\,000\,446\,z^{22} - 1\,320\,751\,686\,784\,z^{24} - 2\,233\,705\,498\,832\,z^{26} -$
$3\,040\,100\,907\,816\,z^{28} - 3\,373\,201\,984\,616\,z^{30} - 3\,078\,268\,434\,772\,z^{32} -$
$2\,323\,756\,038\,202\,z^{34} - 1\,456\,023\,097\,937\,z^{36} - 758\,246\,986\,110\,z^{38} - 327\,963\,868\,551\,z^{40} -$
$117\,495\,641\,286\,z^{42} - 34\,688\,547\,446\,z^{44} - 8\,372\,692\,968\,z^{46} - 1\,632\,991\,979\,z^{48} -$
$253\,048\,174\,z^{50} - 30\,393\,150\,z^{52} - 2\,724\,896\,z^{54} - 171\,466\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\in^3\big\}$,

$\text{Knot}[12, \text{NonAlternating}, 688] \to \big\{1 + 11\,z^2 + 29\,z^4 + 26\,z^6 + 9\,z^8 + z^{10},$

$1 + \big(-62\,z^2 - 711\,z^4 - 3138\,z^6 - 6891\,z^8 - 8440\,z^{10} - 6095\,z^{12} - 2636\,z^{14} - 666\,z^{16} - 90\,z^{18} - 5\,z^{20}\big)\,\in\, +$

$\big(22 - 92\,z^2 - 827\,z^4 + 44\,756\,z^6 + 673\,046\,z^8 + 4\,578\,496\,z^{10} + 18\,993\,711\,z^{12} + 53\,210\,580\,z^{14} +$
$106\,077\,932\,z^{16} + 155\,373\,216\,z^{18} + 170\,697\,187\,z^{20} + 142\,499\,744\,z^{22} + 91\,021\,827\,z^{24} + 44\,550\,712$
$z^{26} + 16\,639\,203\,z^{28} + 4\,691\,312\,z^{30} + 979\,013\,z^{32} + 146\,256\,z^{34} + 14\,761\,z^{36} + 900\,z^{38} + 25\,z^{40}\big)\,\in^2\, +$

$\big(372 - 13\,742\,z^2 - 281\,419\,z^4 - 1\,577\,734\,z^6 + 760\,387\,z^8 + 34\,906\,488\,z^{10} - 69\,656\,954\,z^{12} -$
$2\,841\,254\,894\,z^{14} - 22\,204\,456\,583\,z^{16} - 104\,278\,527\,334\,z^{18} - 347\,826\,956\,687\,z^{20} -$
$880\,030\,778\,760\,z^{22} - 1\,748\,807\,495\,913\,z^{24} - 2\,789\,070\,190\,656\,z^{26} -$
$3\,621\,896\,345\,362\,z^{28} - 3\,868\,481\,727\,696\,z^{30} - 3\,422\,093\,873\,014\,z^{32} -$
$2\,518\,596\,886\,014\,z^{34} - 1\,546\,032\,149\,688\,z^{36} - 792\,010\,455\,440\,z^{38} - 338\,176\,383\,703\,z^{40} -$
$119\,959\,566\,880\,z^{42} - 35\,155\,096\,396\,z^{44} - 8\,440\,372\,060\,z^{46} - 1\,640\,239\,185\,z^{48} -$
$253\,587\,052\,z^{50} - 30\,417\,960\,z^{52} - 2\,725\,428\,z^{54} - 171\,466\,z^{56} - 6750\,z^{58} - 125\,z^{60}\big)\,\in^3\big\}$,

$\text{Knot}[12, \text{NonAlternating}, 725] \to \big\{1 + 11\,z^2 + 31\,z^4 + 27\,z^6 + 9\,z^8 + z^{10},$

$1 + \left(-62\, z^2 - 751\, z^4 - 3450\, z^6 - 7681\, z^8 - 9284\, z^{10} - 6524\, z^{12} - 2738\, z^{14} - 675\, z^{16} - 90\, z^{18} - 5\, z^{20}\right) \in \, +$

$\left(22 - 76\, z^2 - 1571\, z^4 + 38\,748\, z^6 + 711\,884\, z^8 + 5\,248\,884\, z^{10} + 22\,745\,944\, z^{12} + \right.$

$65\,091\,500\, z^{14} + 130\,424\,029\, z^{16} + 189\,675\,848\, z^{18} + 205\,048\,522\, z^{20} +$

$167\,402\,504\, z^{22} + 104\,191\,344\, z^{24} + 49\,620\,500\, z^{26} + 18\,041\,293\, z^{28} +$

$\left. 4\,962\,060\, z^{30} + 1\,013\,594\, z^{32} + 148\,876\, z^{34} + 14\,850\, z^{36} + 900\, z^{38} + 25\, z^{40}\right) \in^2 \, +$

$\left(372 - 12\,686\, z^2 - 315\,515\, z^4 - 2\,086\,342\, z^6 + 934\,383\, z^8 + 73\,503\,814\, z^{10} + 206\,530\,147\, z^{12} - \right.$

$2\,229\,938\,808\, z^{14} - 24\,943\,220\,074\, z^{16} - 131\,503\,846\,228\, z^{18} - 462\,635\,505\,276\, z^{20} -$

$1\,199\,129\,173\,996\, z^{22} - 2\,399\,446\,445\,788\, z^{24} - 3\,809\,344\,687\,424\, z^{26} -$

$4\,884\,828\,753\,252\, z^{28} - 5\,122\,342\,231\,660\, z^{30} - 4\,430\,551\,785\,090\, z^{32} -$

$3\,179\,535\,969\,776\, z^{34} - 1\,899\,958\,286\,598\, z^{36} - 946\,822\,678\,904\, z^{38} - 393\,315\,944\,494\, z^{40} -$

$135\,848\,183\,660\, z^{42} - 38\,820\,438\,564\, z^{44} - 9\,106\,594\,380\, z^{46} - 1\,733\,388\,792\, z^{48} -$

$\left. 263\,241\,154\, z^{50} - 31\,115\,673\, z^{52} - 2\,756\,782\, z^{54} - 172\,125\, z^{56} - 6750\, z^{58} - 125\, z^{60}\right) \in^3 \Big\},$

$\text{Knot}[12, \text{NonAlternating}, 888] \rightarrow \Big\{ 1 + 13\, z^2 + 30\, z^4 + 26\, z^6 + 9\, z^8 + z^{10},$

$1 + \left(-86\, z^2 - 939\, z^4 - 3740\, z^6 - 7566\, z^8 - 8800\, z^{10} - 6184\, z^{12} - 2644\, z^{14} - 666\, z^{16} - 90\, z^{18} - 5\, z^{20}\right) \in \, +$

$\left(26 - 372\, z^2 + 767\, z^4 + 118\,644\, z^6 + 1\,347\,535\, z^8 + 7\,763\,056\, z^{10} + 28\,324\,802\, z^{12} + 71\,614\,640\, z^{14} + \right.$

$131\,628\,470\, z^{16} + 180\,988\,376\, z^{18} + 189\,487\,784\, z^{20} + 152\,622\,600\, z^{22} + 95\,005\,016\, z^{24} + 45\,677\,456$

$\left. z^{26} + 16\,861\,422\, z^{28} + 4\,720\,208\, z^{30} + 981\,232\, z^{32} + 146\,332\, z^{34} + 14\,761\, z^{36} + 900\, z^{38} + 25\, z^{40}\right) \in^2 \, +$

$\left(516 - 31\,358\, z^2 - 301\,559\, z^4 + 725\,728\, z^6 + 16\,777\,258\, z^8 - 4\,551\,282\, z^{10} - 1\,245\,099\,511\, z^{12} - \right.$

$11\,432\,650\,808\, z^{14} - 60\,395\,983\,836\, z^{16} - 224\,483\,974\,678\, z^{18} - 632\,967\,969\,071\, z^{20} -$

$1\,407\,505\,717\,608\, z^{22} - 2\,526\,125\,734\,030\, z^{24} - 3\,714\,494\,839\,290\, z^{26} -$

$4\,520\,227\,351\,439\, z^{28} - 4\,583\,564\,133\,616\, z^{30} - 3\,890\,181\,741\,508\, z^{32} -$

$2\,770\,641\,749\,082\, z^{34} - 1\,657\,428\,427\,037\, z^{36} - 832\,230\,076\,336\, z^{38} - 349\,946\,893\,330\, z^{40} -$

$122\,719\,439\,926\, z^{42} - 35\,664\,864\,061\, z^{44} - 8\,512\,728\,152\, z^{46} - 1\,647\,839\,268\, z^{48} -$

$\left. 254\,142\,482\, z^{50} - 30\,443\,133\, z^{52} - 2\,725\,960\, z^{54} - 171\,466\, z^{56} - 6750\, z^{58} - 125\, z^{60}\right) \in^3 \Big\} \Big\}$