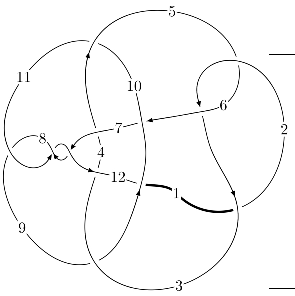
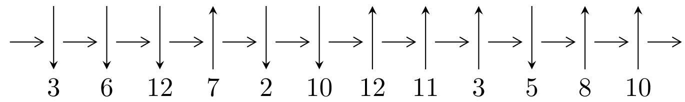
$12n_{0444}$ ($K12n_{0444}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$6,10 \underset{c_6}{\to} 3,7 \underset{c_2}{\to} 2 \underset{c_1}{\to} 1 \underset{c_5}{\to} 5 \underset{c_{10}}{\to} 11 \underset{c_4}{\to} 4 \underset{c_9}{\to} 9 \underset{c_8}{\to} 8 \underset{c_{12}}{\to} 12 \twoheadrightarrow c_3, c_7, c_{11}$$

Ideals for irreducible components[2] of $X_{\textbf{par}}$

$$\begin{aligned}
I_1^u = \langle & 5.32469 \times 10^{28} u^{19} - 1.94113 \times 10^{29} u^{18} + \cdots + 2.78354 \times 10^{30} b - 8.37086 \times 10^{31}, \\
& - 3.59288 \times 10^{32} u^{19} + 1.29989 \times 10^{33} u^{18} + \cdots + 6.03193 \times 10^{33} a + 5.69917 \times 10^{35}, \\
& u^{20} - 5u^{19} + \cdots - 5504u + 2167 \rangle \\
I_2^u = \langle & -39167u^9 + 24055u^8 + \cdots + 90803b + 150893,\ 39167u^9 - 24055u^8 + \cdots + 90803a - 241696, \\
& u^{10} - 6u^8 + 27u^6 + 30u^5 + 30u^4 + 14u^3 + 10u^2 + 2u + 1 \rangle \\
I_3^u = \langle & b + 1,\ a - u + 1,\ u^3 - 2u^2 + u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 33 representations.

[1] The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2] All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I^u_1 = \langle 5.32 \times 10^{28} u^{19} - 1.94 \times 10^{29} u^{18} + \cdots + 2.78 \times 10^{30} b - 8.37 \times 10^{31},\ -3.59 \times 10^{32} u^{19} + 1.30 \times 10^{33} u^{18} + \cdots + 6.03 \times 10^{33} a + 5.70 \times 10^{35},\ u^{20} - 5u^{19} + \cdots - 5504u + 2167\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0595644u^{19} - 0.215502u^{18} + \cdots + 169.749u - 94.4834 \\ -0.0191292u^{19} + 0.0697361u^{18} + \cdots - 55.2312u + 30.0727 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0404352u^{19} - 0.145766u^{18} + \cdots + 114.518u - 64.4106 \\ -0.0191292u^{19} + 0.0697361u^{18} + \cdots - 55.2312u + 30.0727 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0614601u^{19} + 0.224116u^{18} + \cdots - 176.369u + 97.1863 \\ 0.0732431u^{19} - 0.266224u^{18} + \cdots + 209.407u - 116.188 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0367341u^{19} + 0.133131u^{18} + \cdots - 104.597u + 56.9934 \\ 0.0484428u^{19} - 0.177657u^{18} + \cdots + 141.186u - 79.6977 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.109966u^{19} + 0.400168u^{18} + \cdots - 316.982u + 175.815 \\ -0.00769082u^{19} + 0.0267093u^{18} + \cdots - 20.2609u + 10.6953 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.153606u^{19} + 0.560090u^{18} + \cdots - 444.350u + 246.211 \\ -0.164874u^{19} + 0.598489u^{18} + \cdots - 471.899u + 261.395 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0266987u^{19} - 0.0960595u^{18} + \cdots + 75.9779u - 40.6092 \\ -0.115096u^{19} + 0.419259u^{18} + \cdots - 332.122u + 184.578 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0291891u^{19} - 0.106960u^{18} + \cdots + 85.6547u - 46.9664 \\ 0.0785887u^{19} - 0.287166u^{18} + \cdots + 225.983u - 125.342 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0614601u^{19} + 0.224116u^{18} + \cdots - 176.369u + 97.1863 \\ -0.0400440u^{19} + 0.146686u^{18} + \cdots - 115.256u + 64.0732 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0313654u^{19} + 0.114631u^{18} + \cdots - 89.3865u + 39.1345$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} + 12u^{19} + \cdots - 19u + 4$
c_2, c_5	$u^{20} - 2u^{19} + \cdots - 5u + 2$
c_3	$u^{20} - 5u^{19} + \cdots - 4312u + 581$
c_4	$u^{20} - u^{19} + \cdots - 622u + 97$
c_6	$u^{20} + 5u^{19} + \cdots + 5504u + 2167$
c_7, c_8, c_{11}	$u^{20} + 3u^{19} + \cdots - 71u + 62$
c_9	$u^{20} - u^{19} + \cdots - 78u + 17$
c_{10}	$u^{20} - u^{19} + \cdots - 52u + 17$
c_{12}	$u^{20} + u^{19} + \cdots - 294u + 151$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} - 8y^{19} + \cdots - 417y + 16$
c_2, c_5	$y^{20} - 12y^{19} + \cdots + 19y + 4$
c_3	$y^{20} - 75y^{19} + \cdots + 153632486y + 337561$
c_4	$y^{20} + 63y^{19} + \cdots - 66784y + 9409$
c_6	$y^{20} - 35y^{19} + \cdots - 16056826y + 4695889$
c_7, c_8, c_{11}	$y^{20} + 37y^{19} + \cdots + 27075y + 3844$
c_9	$y^{20} + 39y^{19} + \cdots + 6088y + 289$
c_{10}	$y^{20} - 5y^{19} + \cdots - 120y + 289$
c_{12}	$y^{20} + 47y^{19} + \cdots + 412468y + 22801$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.703317 + 0.600603I$ $a = -0.437463 - 0.884492I$ $b = -0.924571 + 0.362873I$	$-2.03672 + 1.24145I$	$-6.74073 - 2.13278I$
$u = 0.703317 - 0.600603I$ $a = -0.437463 + 0.884492I$ $b = -0.924571 - 0.362873I$	$-2.03672 - 1.24145I$	$-6.74073 + 2.13278I$
$u = 0.459645 + 0.743049I$ $a = 0.260880 + 0.613052I$ $b = 0.118127 - 0.454177I$	$0.254769 - 1.344490I$	$2.10960 + 5.34511I$
$u = 0.459645 - 0.743049I$ $a = 0.260880 - 0.613052I$ $b = 0.118127 + 0.454177I$	$0.254769 + 1.344490I$	$2.10960 - 5.34511I$
$u = -0.971034 + 0.814910I$ $a = 0.177512 - 0.054619I$ $b = 0.759811 + 0.367137I$	$1.28418 - 1.69463I$	$6.51624 + 5.12886I$
$u = -0.971034 - 0.814910I$ $a = 0.177512 + 0.054619I$ $b = 0.759811 - 0.367137I$	$1.28418 + 1.69463I$	$6.51624 - 5.12886I$
$u = 1.358840 + 0.009534I$ $a = -0.18107 + 1.59414I$ $b = 1.34261 - 0.46139I$	$16.5713 + 0.1764I$	$-5.92523 - 0.80143I$
$u = 1.358840 - 0.009534I$ $a = -0.18107 - 1.59414I$ $b = 1.34261 + 0.46139I$	$16.5713 - 0.1764I$	$-5.92523 + 0.80143I$
$u = -1.39927 + 0.25928I$ $a = -0.153915 - 1.075640I$ $b = -0.150857 + 0.864815I$	$-5.96211 - 0.50208I$	$-3.53348 + 0.08568I$
$u = -1.39927 - 0.25928I$ $a = -0.153915 + 1.075640I$ $b = -0.150857 - 0.864815I$	$-5.96211 + 0.50208I$	$-3.53348 - 0.08568I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.35298 + 0.59131I$ $a = 0.282108 - 0.480951I$ $b = 1.105280 + 0.366189I$	$-2.42744 - 4.72916I$	$-3.24036 + 7.15543I$
$u = 1.35298 - 0.59131I$ $a = 0.282108 + 0.480951I$ $b = 1.105280 - 0.366189I$	$-2.42744 + 4.72916I$	$-3.24036 - 7.15543I$
$u = -1.33962 + 0.86373I$ $a = -0.145047 + 1.067730I$ $b = 1.296470 - 0.378610I$	$-10.43980 + 3.82524I$	$-6.93583 - 2.76644I$
$u = -1.33962 - 0.86373I$ $a = -0.145047 - 1.067730I$ $b = 1.296470 + 0.378610I$	$-10.43980 - 3.82524I$	$-6.93583 + 2.76644I$
$u = 1.73280 + 0.79935I$ $a = -0.300874 - 1.047990I$ $b = -0.057341 + 0.997519I$	$-18.5073 - 4.9976I$	$-2.68482 + 1.85210I$
$u = 1.73280 - 0.79935I$ $a = -0.300874 + 1.047990I$ $b = -0.057341 - 0.997519I$	$-18.5073 + 4.9976I$	$-2.68482 - 1.85210I$
$u = -1.90586 + 0.34611I$ $a = 0.024972 + 0.827392I$ $b = -1.189400 - 0.543552I$	$-9.03300 - 5.58421I$	$-6.18314 + 4.04952I$
$u = -1.90586 - 0.34611I$ $a = 0.024972 - 0.827392I$ $b = -1.189400 + 0.543552I$	$-9.03300 + 5.58421I$	$-6.18314 - 4.04952I$
$u = 2.50819 + 1.00282I$ $a = 0.136951 + 0.755014I$ $b = -1.300140 - 0.529897I$	$17.1367 - 10.4420I$	$-5.38225 + 4.71177I$
$u = 2.50819 - 1.00282I$ $a = 0.136951 - 0.755014I$ $b = -1.300140 + 0.529897I$	$17.1367 + 10.4420I$	$-5.38225 - 4.71177I$

II. $\boldsymbol{I^u_2 = \langle -39167u^9 + 24055u^8 + \cdots + 90803b + 150893,\ 39167u^9 - 24055u^8 + \cdots + 90803a - 241696,\ u^{10} - 6u^8 + \cdots + 2u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.431340u^9 + 0.264914u^8 + \cdots - 1.16678u + 2.66176 \\ 0.431340u^9 - 0.264914u^8 + \cdots + 1.16678u - 1.66176 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ 0.431340u^9 - 0.264914u^8 + \cdots + 1.16678u - 1.66176 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2.92164u^9 - 0.926676u^8 + \cdots + 10.7123u - 1.76757 \\ -1.35298u^9 + 0.191591u^8 + \cdots - 5.87905u - 0.570664 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.431340u^9 + 0.264914u^8 + \cdots - 1.16678u + 2.66176 \\ 1.13732u^9 - 0.470172u^8 + \cdots + 3.66644u - 1.67648 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^9 + 6u^7 - 27u^5 - 30u^4 - 30u^3 - 14u^2 - 10u - 2 \\ 0.926676u^9 + 0.384426u^8 + \cdots + 9.61086u + 2.92164 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.61557u^9 + 0.780393u^8 + \cdots - 4.93171u + 4.07332 \\ 1.20899u^9 - 0.543143u^8 + \cdots + 3.81972u - 2.19195 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^9 + 6u^7 - 27u^5 - 30u^4 - 30u^3 - 14u^2 - 10u - 2 \\ 0.735086u^9 + 0.0469147u^8 + \cdots + 7.47556u + 1.56866 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.429336u^9 - 1.35298u^8 + \cdots - 12.2006u - 6.73772 \\ -0.234717u^9 + 0.913527u^8 + \cdots + 4.86712u + 4.70396 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.92164u^9 - 0.926676u^8 + \cdots + 10.7123u - 1.76757 \\ -1.73741u^9 + 0.411198u^8 + \cdots - 6.94734u + 0.356012 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{418432}{90803}u^9 - \frac{85648}{90803}u^8 + \frac{2619224}{90803}u^7 + \frac{532096}{90803}u^6 - \frac{11982728}{90803}u^5 - \frac{14963376}{90803}u^4 - \frac{12033384}{90803}u^3 - \frac{4718044}{90803}u^2 - \frac{2327168}{90803}u - \frac{672892}{90803}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)^2$
c_2, c_5	$u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1$
c_3	$u^{10} + 4u^9 + \cdots + 10u + 1$
c_4	$u^{10} - 2u^9 + u^8 - 4u^7 + 7u^6 + 10u^5 - 8u^4 + 14u^3 + 53u^2 + 25$
c_6	$u^{10} - 6u^8 + 27u^6 + 30u^5 + 30u^4 + 14u^3 + 10u^2 + 2u + 1$
c_7, c_8, c_{11}	$u^{10} + 5u^8 + 8u^6 + 3u^4 - u^2 + 1$
c_9, c_{10}	$(u^2 + 1)^5$
c_{12}	$u^{10} + u^8 - 10u^7 - u^6 + 10u^5 + 40u^4 + 4u^3 - 3u^2 - 50u + 25$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2$
c_2, c_5	$(y^5 - 3y^4 + 4y^3 - y^2 - y + 1)^2$
c_3	$y^{10} + 12y^9 + \cdots - 16y + 1$
c_4	$y^{10} - 2y^9 + \cdots + 2650y + 625$
c_6	$y^{10} - 12y^9 + \cdots + 16y + 1$
c_7, c_8, c_{11}	$(y^5 + 5y^4 + 8y^3 + 3y^2 - y + 1)^2$
c_9, c_{10}	$(y+1)^{10}$
c_{12}	$y^{10} + 2y^9 + \cdots - 2650y + 625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.482881 + 0.629714I$ $a = 1.000000 - 0.766826I$ $b = 0.766826I$	-2.40108	$-1.48114 + 0.I$
$u = -0.482881 - 0.629714I$ $a = 1.000000 + 0.766826I$ $b = - 0.766826I$	-2.40108	$-1.48114 + 0.I$
$u = 0.098692 + 0.530370I$ $a = 1.82238 + 0.33911I$ $b = -0.822375 - 0.339110I$	$-0.32910 - 1.53058I$	$-0.51511 + 4.43065I$
$u = 0.098692 - 0.530370I$ $a = 1.82238 - 0.33911I$ $b = -0.822375 + 0.339110I$	$-0.32910 + 1.53058I$	$-0.51511 - 4.43065I$
$u = -0.090267 + 0.435818I$ $a = 2.20015 - 0.45570I$ $b = -1.200150 + 0.455697I$	$-5.87256 + 4.40083I$	$-4.74431 - 3.49859I$
$u = -0.090267 - 0.435818I$ $a = 2.20015 + 0.45570I$ $b = -1.200150 - 0.455697I$	$-5.87256 - 4.40083I$	$-4.74431 + 3.49859I$
$u = -1.83956 + 0.80797I$ $a = -0.200152 + 0.455697I$ $b = 1.200150 - 0.455697I$	$-5.87256 + 4.40083I$	$-4.74431 - 3.49859I$
$u = -1.83956 - 0.80797I$ $a = -0.200152 - 0.455697I$ $b = 1.200150 + 0.455697I$	$-5.87256 - 4.40083I$	$-4.74431 + 3.49859I$
$u = 2.31402 + 1.21207I$ $a = 0.177625 + 0.339110I$ $b = 0.822375 - 0.339110I$	$-0.32910 + 1.53058I$	$-0.51511 - 4.43065I$
$u = 2.31402 - 1.21207I$ $a = 0.177625 - 0.339110I$ $b = 0.822375 + 0.339110I$	$-0.32910 - 1.53058I$	$-0.51511 + 4.43065I$

III. $I_3^u = \langle b+1,\ a-u+1,\ u^3-2u^2+u+1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u-1 \\ -1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u-2 \\ -1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u-1 \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2-1 \\ u^2-2u-2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$(u+1)^3$
c_3, c_4, c_9 c_{10}	u^3+u+1
c_6	u^3+2u^2+u-1
c_7, c_8, c_{11}	u^3
c_{12}	u^3-2u^2+u+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y-1)^3$
c_3, c_4, c_9 c_{10}	$y^3 + 2y^2 + y - 1$
c_6, c_{12}	$y^3 - 2y^2 + 5y - 1$
c_7, c_8, c_{11}	y^3

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.23279 + 0.79255I$ $a = 0.232786 + 0.792552I$ $b = -1.00000$	-1.64493	-6.00000
$u = 1.23279 - 0.79255I$ $a = 0.232786 - 0.792552I$ $b = -1.00000$	-1.64493	-6.00000
$u = -0.465571$ $a = -1.46557$ $b = -1.00000$	-1.64493	-6.00000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u+1)^3)(u^5-3u^4+\cdots-u+1)^2(u^{20}+12u^{19}+\cdots-19u+4)$
c_2, c_5	$((u+1)^3)(u^{10}-3u^8+\cdots-u^2+1)(u^{20}-2u^{19}+\cdots-5u+2)$
c_3	$(u^3+u+1)(u^{10}+4u^9+\cdots+10u+1)(u^{20}-5u^{19}+\cdots-4312u+581)$
c_4	$(u^3+u+1)(u^{10}-2u^9+\cdots+53u^2+25)$ $\cdot(u^{20}-u^{19}+\cdots-622u+97)$
c_6	(u^3+2u^2+u-1) $\cdot(u^{10}-6u^8+27u^6+30u^5+30u^4+14u^3+10u^2+2u+1)$ $\cdot(u^{20}+5u^{19}+\cdots+5504u+2167)$
c_7, c_8, c_{11}	$u^3(u^{10}+5u^8+\cdots-u^2+1)(u^{20}+3u^{19}+\cdots-71u+62)$
c_9	$((u^2+1)^5)(u^3+u+1)(u^{20}-u^{19}+\cdots-78u+17)$
c_{10}	$((u^2+1)^5)(u^3+u+1)(u^{20}-u^{19}+\cdots-52u+17)$
c_{12}	(u^3-2u^2+u+1) $\cdot(u^{10}+u^8-10u^7-u^6+10u^5+40u^4+4u^3-3u^2-50u+25)$ $\cdot(u^{20}+u^{19}+\cdots-294u+151)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^3(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2$ $\cdot (y^{20} - 8y^{19} + \cdots - 417y + 16)$
c_2, c_5	$((y-1)^3)(y^5 - 3y^4 + \cdots - y + 1)^2(y^{20} - 12y^{19} + \cdots + 19y + 4)$
c_3	$(y^3 + 2y^2 + y - 1)(y^{10} + 12y^9 + \cdots - 16y + 1)$ $\cdot (y^{20} - 75y^{19} + \cdots + 153632486y + 337561)$
c_4	$(y^3 + 2y^2 + y - 1)(y^{10} - 2y^9 + \cdots + 2650y + 625)$ $\cdot (y^{20} + 63y^{19} + \cdots - 66784y + 9409)$
c_6	$(y^3 - 2y^2 + 5y - 1)(y^{10} - 12y^9 + \cdots + 16y + 1)$ $\cdot (y^{20} - 35y^{19} + \cdots - 16056826y + 4695889)$
c_7, c_8, c_{11}	$y^3(y^5 + 5y^4 + 8y^3 + 3y^2 - y + 1)^2$ $\cdot (y^{20} + 37y^{19} + \cdots + 27075y + 3844)$
c_9	$((y+1)^{10})(y^3 + 2y^2 + y - 1)(y^{20} + 39y^{19} + \cdots + 6088y + 289)$
c_{10}	$((y+1)^{10})(y^3 + 2y^2 + y - 1)(y^{20} - 5y^{19} + \cdots - 120y + 289)$
c_{12}	$(y^3 - 2y^2 + 5y - 1)(y^{10} + 2y^9 + \cdots - 2650y + 625)$ $\cdot (y^{20} + 47y^{19} + \cdots + 412468y + 22801)$