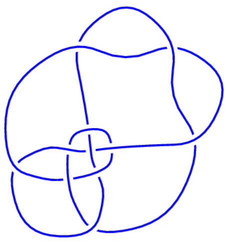
$11n_{185}$ $(K11n_{185})$



[1]

Arc Sequences

$$\longrightarrow \underset{6}{\uparrow} \longrightarrow \underset{5}{\downarrow} \longrightarrow \underset{1}{\downarrow} \longrightarrow \underset{10}{\downarrow} \longrightarrow \underset{8}{\downarrow} \longrightarrow \underset{4}{\downarrow} \longrightarrow \underset{3}{\uparrow} \longrightarrow \underset{2}{\downarrow} \longrightarrow \underset{4}{\downarrow} \longrightarrow \underset{5}{\downarrow} \longrightarrow \underset{7}{\downarrow} \longrightarrow$$

Solving Sequence

$$7{,}11 \xrightarrow[c_{11}]{} 1{,}5 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_4]{} 4 \xrightarrow[c_3]{} 3 \xrightarrow[c_7]{} 8 \xrightarrow[c_2]{} 2 \xrightarrow[c_8]{} 9 \xrightarrow[c_6]{} 6 \gg c_1, c_5, c_9$$

Representation Ideals

$$I = \bigcap_{i=1}^{8} I_i^u$$

[1]The knot diagram image is adapter from “C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo”

$$
\begin{aligned}
I^u_1 &= \langle u-1,\ b,\ a+1\rangle\\
I^u_2 &= \langle u^3+3u^2+2u-1,\ u^2+b+2u,\ -u^2+a-2u-1\rangle\\
I^u_3 &= \langle u^{12}-u^{11}-11u^{10}+6u^9+47u^8-39u^7-74u^6+97u^5+11u^4-71u^3+43u^2-11u+1,\\
&\quad -93623u^{11}+126962u^{10}+\cdots+89629a+597602,\\
&\quad 93623u^{11}-126962u^{10}+\cdots+89629b-687231\rangle\\
I^u_4 &= \langle u^{18}+4u^{16}+\cdots-15u-1,\\
&\quad -2.60504\times10^{20}u^{17}+9.06917\times10^{19}u^{16}+\cdots+9.91756\times10^{20}a+3.25041\times10^{21},\\
&\quad 2.60504\times10^{20}u^{17}-9.06917\times10^{19}u^{16}+\cdots+9.91756\times10^{20}b-2.25865\times10^{21}\rangle\\
I^u_5 &= \langle u^{14}-3u^{13}-3u^{12}+18u^{11}-2u^{10}-40u^9+23u^8+35u^7-37u^6-8u^5+19u^4-u^3+6u^2-u+1,\\
&\quad 2203u^{13}-6034u^{12}+\cdots+7060b+3763,\ -2203u^{13}+6034u^{12}+\cdots+7060a-10823\rangle\\
I^u_6 &= \langle u^6-3u^5+4u^3+6u^2-14u+5,\ -2u^4+3u^3+7u^2+5a-17,\ u^5-4u^4-u^3+5u^2+5b+11u-10\rangle\\
I^u_7 &= \langle u^{12}+3u^{11}-11u^9-6u^8+11u^7-9u^6-45u^5-32u^4-2u^3+100u^2+236u+181,\\
&\quad 17792946u^{11}+31842478u^{10}+\cdots+982951127b+2623434138,\\
&\quad 421252086382u^{11}+708780481750u^{10}+\cdots+53552160350087a+40214772065234\rangle\\
I^u_8 &= \langle u^{24}-3u^{23}+\cdots+242u+157,\\
&\quad 1.66486\times10^{37}u^{23}-3.25684\times10^{37}u^{22}+\cdots+2.12753\times10^{40}b-8.92663\times10^{39},\\
&\quad 5.20875\times10^{49}u^{23}-1.64336\times10^{50}u^{22}+\cdots+2.88903\times10^{51}a+1.93738\times10^{52}\rangle
\end{aligned}
$$

There are 8 irreducible components with 90 representations.

I. $I_1^u = \langle u - 1,\ b,\ a + 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = 0$	-3.28987	-12.0000

II. $\boldsymbol{I_2^u = \langle u^3 + 3u^2 + 2u - 1,\ u^2 + b + 2u,\ -u^2 + a - 2u - 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^2 + 2u + 1 \\ -u^2 - 2u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 2u + 1 \\ u^2 + u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 - 2u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^2 + 2u + 1 \\ u^2 + u - 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 2u + 1 \\ u^2 + u - 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2u^2 + 3u \\ u^2 + u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.66236 - 0.56228I$ $a = 0.122561 + 0.744862I$ $b = 0.877439 - 0.744862I$	$3.02413 + 2.82812I$	$-2.49024 - 2.97945I$
$u = -1.66236 + 0.56228I$ $a = 0.122561 - 0.744862I$ $b = 0.877439 + 0.744862I$	$3.02413 - 2.82812I$	$-2.49024 + 2.97945I$
$u = 0.324718$ $a = 1.75488$ $b = -0.754878$	-1.11345	-9.01951

III. $\boldsymbol{I^u_3 = \langle u^{12} - u^{11} + \cdots - 11u + 1,\ -9.36 \times 10^4 u^{11} + 1.27 \times 10^5 u^{10} + \cdots + 8.96 \times 10^4 a + 5.98 \times 10^5,\ 93623u^{11} - 126962u^{10} + \cdots + 89629b - 687231\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.04456u^{11} - 1.41653u^{10} + \cdots + 47.5315u - 6.66751 \\ -1.04456u^{11} + 1.41653u^{10} + \cdots - 47.5315u + 7.66751 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.04456u^{11} - 1.41653u^{10} + \cdots + 47.5315u - 6.66751 \\ -1.56184u^{11} + 1.43818u^{10} + \cdots - 52.6677u + 8.03947 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -1.04456u^{11} + 1.41653u^{10} + \cdots - 47.5315u + 7.66751 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.04456u^{11} - 1.41653u^{10} + \cdots + 47.5315u - 6.66751 \\ 1.73549u^{11} - 1.37881u^{10} + \cdots + 45.7146u - 8.18496 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2.84607u^{11} - 2.69759u^{10} + \cdots + 93.8446u - 13.7207 \\ -2.04456u^{11} + 1.41653u^{10} + \cdots - 56.5315u + 8.66751 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1.19083u^{11} - 0.409689u^{10} + \cdots + 16.8563u - 0.319740 \\ -0.172690u^{11} + 0.114427u^{10} + \cdots + 0.319004u - 1.09022 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.801504u^{11} - 1.28106u^{10} + \cdots + 37.3132u - 5.05317 \\ -2.04456u^{11} + 1.41653u^{10} + \cdots - 56.5315u + 8.66751 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.690926u^{11} - 0.0377222u^{10} + \cdots + 1.81683u - 0.482545 \\ -3.14466u^{11} + 1.74930u^{10} + \cdots - 72.3167u + 11.4204 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.10061u^{11} + 0.146783u^{10} + \cdots - 2.26006u - 0.353636 \\ -0.666715u^{11} + 0.301320u^{10} + \cdots - 15.0882u + 2.45374 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.10061u^{11} + 0.146783u^{10} + \cdots - 2.26006u - 0.353636 \\ -0.666715u^{11} + 0.301320u^{10} + \cdots - 15.0882u + 2.45374 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-2.07892-0.92030I$ $a=-0.232748+0.719272I$ $b=\ \ 1.23275-0.71927I$	$2.32551+9.01899I$	$-7.13133-8.44417I$
$u=-2.07892+0.92030I$ $a=-0.232748-0.719272I$ $b=\ \ 1.23275+0.71927I$	$2.32551-9.01899I$	$-7.13133+8.44417I$
$u=-1.334919-0.124164I$ $a=\ \ 0.570187-1.015166I$ $b=\ \ 0.429813+1.015166I$	$4.79788+2.68180I$	$-2.86354-2.82727I$
$u=-1.334919+0.124164I$ $a=\ \ 0.570187+1.015166I$ $b=\ \ 0.429813-1.015166I$	$4.79788-2.68180I$	$-2.86354+2.82727I$
$u=\ \ 0.196749$ $a=-0.652598$ $b=\ \ 1.65260$	-9.97120	78.6441
$u=\ \ 0.324687-0.222678I$ $a=\ \ 1.97772$ $b=-0.977719$	-0.985708	-7.65434
$u=\ \ 0.324687+0.222678I$ $a=\ \ 1.97772$ $b=-0.977719$	-0.985708	-7.65434
$u=\ \ 0.803370-0.310252I$ $a=\ \ 0.570187-1.015166I$ $b=\ \ 0.429813+1.015166I$	$4.79788+2.68180I$	$-2.86354-2.82727I$
$u=\ \ 0.803370+0.310252I$ $a=\ \ 0.570187+1.015166I$ $b=\ \ 0.429813-1.015166I$	$4.79788-2.68180I$	$-2.86354+2.82727I$
$u=\ \ 1.233576-0.338935I$ $a=-0.232748-0.719272I$ $b=\ \ 1.23275+0.71927I$	$2.32551-9.01899I$	$-7.13133+8.44417I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.233576 + 0.338935I$ $a = -0.232748 + 0.719272I$ $b = 1.23275 - 0.71927I$	$2.32551 + 9.01899I$	$-7.13133 - 8.44417I$
$u = 2.90767$ $a = -0.652598$ $b = 1.65260$	-9.97120	78.6441

IV. $\boldsymbol{I^u_4 =}$
$\boldsymbol{\langle u^{18}+4u^{16}+\cdots-15u-1,\ -2.61\times10^{20}u^{17}+9.07\times10^{19}u^{16}+\cdots+9.92\times10^{20}a+3.25\times10^{21},\ 2.61\times10^{20}u^{17}-9.07\times10^{19}u^{16}+\cdots+9.92\times10^{20}b-2.26\times10^{21}\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.262670u^{17} - 0.0914456u^{16} + \cdots - 8.05646u - 3.27743 \\ -0.262670u^{17} + 0.0914456u^{16} + \cdots + 8.05646u + 2.27743 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.262670u^{17} - 0.0914456u^{16} + \cdots - 8.05646u - 3.27743 \\ -0.239587u^{17} + 0.0923716u^{16} + \cdots + 6.94744u + 2.18598 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ -0.262670u^{17} + 0.0914456u^{16} + \cdots + 8.05646u + 2.27743 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.262670u^{17} + 0.0914456u^{16} + \cdots + 8.05646u + 3.27743 \\ 0.693527u^{17} - 0.260766u^{16} + \cdots - 20.4770u - 4.31293 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2.67715u^{17} - 0.974407u^{16} + \cdots - 82.4929u - 11.3606 \\ -0.675587u^{17} + 0.251013u^{16} + \cdots + 21.6959u + 3.65404 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.545598u^{17} + 0.696027u^{16} + \cdots - 11.8582u - 3.57928 \\ 0.268756u^{17} - 0.345773u^{16} + \cdots + 3.22571u + 1.18264 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2.00156u^{17} - 0.723394u^{16} + \cdots - 60.7969u - 7.70660 \\ -0.675587u^{17} + 0.251013u^{16} + \cdots + 21.6959u + 3.65404 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.956196u^{17} + 0.352211u^{16} + \cdots + 28.5334u + 5.59036 \\ 1.04080u^{17} - 0.420834u^{16} + \cdots - 29.8925u - 5.16159 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.443657u^{17} - 0.129941u^{16} + \cdots - 8.41520u - 1.21887 \\ -0.773045u^{17} + 0.287263u^{16} + \cdots + 19.2029u + 1.99699 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.443657u^{17} - 0.129941u^{16} + \cdots - 8.41520u - 1.21887 \\ -0.773045u^{17} + 0.287263u^{16} + \cdots + 19.2029u + 1.99699 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.29556 - 1.27695I$ $a = -0.123038 - 0.699049I$ $b = -0.876962 + 0.699049I$	$0.75125 + 6.53634I$	$-5.69189 - 6.84556I$
$u = -1.29556 + 1.27695I$ $a = -0.123038 + 0.699049I$ $b = -0.876962 - 0.699049I$	$0.75125 - 6.53634I$	$-5.69189 + 6.84556I$
$u = -1.143564 - 0.202303I$ $a = -0.044662 + 0.726047I$ $b = -0.955338 - 0.726047I$	$0.516726 + 1.138044I$	$-1.96620 - 2.22050I$
$u = -1.143564 + 0.202303I$ $a = -0.044662 - 0.726047I$ $b = -0.955338 + 0.726047I$	$0.516726 - 1.138044I$	$-1.96620 + 2.22050I$
$u = -0.579612 - 0.240984I$ $a = -1.87696 + 0.69905I$ $b = 0.876962 - 0.699049I$	$0.75125 + 6.53634I$	$-5.69189 - 6.84556I$
$u = -0.579612 + 0.240984I$ $a = -1.87696 - 0.69905I$ $b = 0.876962 + 0.699049I$	$0.75125 - 6.53634I$	$-5.69189 + 6.84556I$
$u = -0.398439 - 0.183010I$ $a = -2.25661 - 0.08655I$ $b = 1.256612 + 0.086547I$	$-6.35463 - 4.54485I$	$-17.3071 + 6.6446I$
$u = -0.398439 + 0.183010I$ $a = -2.25661 + 0.08655I$ $b = 1.256612 - 0.086547I$	$-6.35463 + 4.54485I$	$-17.3071 - 6.6446I$
$u = -0.0943725$ $a = -2.63875$ $b = 1.63875$	-10.0162	-99.1176
$u = 0.07481 - 2.66812I$ $a = -0.350181 + 0.050171I$ $b = -0.649819 - 0.050171I$	$-3.88718 + 3.93091I$	$-2.97598 - 2.31585I$

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.07481 + 2.66812I$ $a = -0.350181 - 0.050171I$ $b = -0.649819 + 0.050171I$	$-3.88718 - 3.93091I$	$-2.97598 + 2.31585I$
$u = 0.56141 - 1.97978I$ $a = 0.256612 - 0.086547I$ $b = -1.256612 + 0.086547I$	$-6.35463 + 4.54485I$	$-17.3071 - 6.6446I$
$u = 0.56141 + 1.97978I$ $a = 0.256612 + 0.086547I$ $b = -1.256612 - 0.086547I$	$-6.35463 - 4.54485I$	$-17.3071 + 6.6446I$
$u = 0.593473 - 0.425914I$ $a = -1.95534 - 0.72605I$ $b = 0.955338 + 0.726047I$	$0.516726 + 1.138044I$	$-1.96620 - 2.22050I$
$u = 0.593473 + 0.425914I$ $a = -1.95534 + 0.72605I$ $b = 0.955338 - 0.726047I$	$0.516726 - 1.138044I$	$-1.96620 + 2.22050I$
$u = 0.766045 - 0.275742I$ $a = -1.64982 - 0.05017I$ $b = 0.649819 + 0.050171I$	$-3.88718 + 3.93091I$	$-2.97598 - 2.31585I$
$u = 0.766045 + 0.275742I$ $a = -1.64982 + 0.05017I$ $b = 0.649819 - 0.050171I$	$-3.88718 - 3.93091I$	$-2.97598 + 2.31585I$
$u = 2.93725$ $a = 0.638750$ $b = -1.63875$	-10.0162	-99.1176

V. $\boldsymbol{I^u_5 = \langle u^{14} - 3u^{13} + \cdots - u + 1,\ 2203u^{13} - 6034u^{12} + \cdots + 7060b + 3763,\ -2203u^{13} + 6034u^{12} + \cdots + 7060a - 10823\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.312040u^{13} - 0.854674u^{12} + \cdots + 0.975354u + 1.53300 \\ -0.312040u^{13} + 0.854674u^{12} + \cdots - 0.975354u - 0.533003 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.312040u^{13} - 0.854674u^{12} + \cdots + 0.975354u + 1.53300 \\ -0.402266u^{13} + 1.13853u^{12} + \cdots - 1.20595u - 0.614448 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -0.312040u^{13} + 0.854674u^{12} + \cdots - 0.975354u - 0.533003 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.312040u^{13} - 0.854674u^{12} + \cdots + 0.975354u + 1.53300 \\ -0.484164u^{13} + 1.49079u^{12} + \cdots - 0.822181u - 0.475297 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.0999433u^{13} + 0.379037u^{12} + \cdots + 3.52765u + 0.652861 \\ -0.0814448u^{13} + 0.334561u^{12} + \cdots - 1.84504u + 0.312040 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.875411u^{13} - 2.45198u^{12} + \cdots + 2.35045u + 0.108244 \\ -0.230595u^{13} + 0.770113u^{12} + \cdots + 1.11969u - 0.0950425 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.181388u^{13} + 0.713598u^{12} + \cdots + 1.68261u + 0.964901 \\ -0.0814448u^{13} + 0.334561u^{12} + \cdots - 1.84504u + 0.312040 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.796204u^{13} - 2.34547u^{12} + \cdots + 1.79754u + 0.00830028 \\ -0.404844u^{13} + 1.39235u^{12} + \cdots + 0.136034u - 0.219632 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.124589u^{13} - 0.548017u^{12} + \cdots + 3.64955u - 1.10824 \\ 0.134674u^{13} - 0.279462u^{12} + \cdots - 1.42898u + 1.20105 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.124589u^{13} - 0.548017u^{12} + \cdots + 3.64955u - 1.10824 \\ 0.134674u^{13} - 0.279462u^{12} + \cdots - 1.42898u + 1.20105 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =**unknown**

(iv) Complex Volumes and Cusp Shapes

Solution to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.43743 - 0.34034I$ $a = -0.069763 + 0.720252I$ $b = 1.069763 - 0.720252I$	$3.01100 + 3.56965I$	$-5.19675 - 2.89817I$
$u = -1.43743 + 0.34034I$ $a = -0.069763 - 0.720252I$ $b = 1.069763 + 0.720252I$	$3.01100 - 3.56965I$	$-5.19675 + 2.89817I$
$u = -1.107175 - 0.304570I$ $a = 0.332065 + 1.025085I$ $b = 0.667935 - 1.025085I$	$4.32333 + 2.75562I$	$-3.35979 - 3.59185I$
$u = -1.107175 + 0.304570I$ $a = 0.332065 - 1.025085I$ $b = 0.667935 + 1.025085I$	$4.32333 - 2.75562I$	$-3.35979 + 3.59185I$
$u = -0.184413 - 0.422135I$ $a = 2.56380 - 0.03954I$ $b = -1.56380 + 0.03954I$	$-4.62975 - 6.18029I$	$-7.37442 + 7.53018I$
$u = -0.184413 + 0.422135I$ $a = 2.56380 + 0.03954I$ $b = -1.56380 - 0.03954I$	$-4.62975 + 6.18029I$	$-7.37442 - 7.53018I$
$u = 0.173478 - 0.356466I$ $a = 1.252591 - 0.403462I$ $b = -0.252591 + 0.403462I$	$-0.81174 + 1.19027I$	$-7.67312 - 5.52205I$
$u = 0.173478 + 0.356466I$ $a = 1.252591 + 0.403462I$ $b = -0.252591 - 0.403462I$	$-0.81174 - 1.19027I$	$-7.67312 + 5.52205I$
$u = 0.729978 - 0.784026I$ $a = -0.344906 + 0.179800I$ $b = 1.344906 - 0.179800I$	$-5.73092 + 3.41357I$	$-11.64336 + 0.09610I$
$u = 0.729978 + 0.784026I$ $a = -0.344906 - 0.179800I$ $b = 1.344906 + 0.179800I$	$-5.73092 - 3.41357I$	$-11.64336 - 0.09610I$

Solution to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.355979 - 0.224415I$ $a = 0.463318 + 1.118284I$ $b = 0.536682 - 1.118284I$	$3.36641 - 10.30200I$	$-6.23771 + 5.94221I$
$u = 1.355979 + 0.224415I$ $a = 0.463318 - 1.118284I$ $b = 0.536682 + 1.118284I$	$3.36641 + 10.30200I$	$-6.23771 - 5.94221I$
$u = 1.96958 - 0.96334I$ $a = -0.197102 - 0.782851I$ $b = 1.19710 + 0.78285I$	$1.2941 - 17.1000I$	$-8.51485 + 9.31216I$
$u = 1.96958 + 0.96334I$ $a = -0.197102 + 0.782851I$ $b = 1.19710 - 0.78285I$	$1.2941 + 17.1000I$	$-8.51485 - 9.31216I$

VI. $I^u_6 = \langle u^6 - 3u^5 + 4u^3 + 6u^2 - 14u + 5,\ -2u^4 + 3u^3 + 7u^2 + 5a - 17,\ u^5 - 4u^4 - u^3 + 5u^2 + 5b + 11u - 10\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{2}{5}u^4 - \frac{3}{5}u^3 - \frac{7}{5}u^2 + \frac{17}{5} \\ -\frac{1}{5}u^5 + \frac{4}{5}u^4 + \cdots - \frac{11}{5}u + 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{2}{5}u^4 - \frac{3}{5}u^3 - \frac{7}{5}u^2 + \frac{17}{5} \\ \frac{2}{5}u^5 - \frac{3}{5}u^4 - \frac{7}{5}u^3 + \frac{17}{5}u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{5}u^5 + \frac{6}{5}u^4 + \cdots - \frac{11}{5}u + \frac{27}{5} \\ -\frac{1}{5}u^5 + \frac{4}{5}u^4 + \cdots - \frac{11}{5}u + 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{2}{5}u^5 - \frac{4}{5}u^4 + \cdots + \frac{12}{5}u - \frac{16}{5} \\ -\frac{4}{5}u^5 + \frac{6}{5}u^4 + \cdots - \frac{29}{5}u + 2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{2}{5}u^5 - \frac{2}{5}u^4 + \cdots + \frac{12}{5}u + \frac{1}{5} \\ -\frac{2}{5}u^5 + \frac{3}{5}u^4 + \cdots - \frac{12}{5}u + 2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{5}u^5 - \frac{2}{5}u^3 + \cdots + \frac{1}{5}u + \frac{4}{5} \\ 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{5}u^4 - \frac{4}{5}u^3 - \frac{1}{5}u^2 + \frac{11}{5} \\ -\frac{2}{5}u^5 + \frac{3}{5}u^4 + \cdots - \frac{12}{5}u + 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{2}{5}u^5 - \frac{1}{5}u^4 + \cdots - \frac{12}{5}u - \frac{9}{5} \\ -\frac{3}{5}u^5 + \frac{2}{5}u^4 + \cdots - \frac{18}{5}u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{5}u^5 - \frac{2}{5}u^3 + \cdots + \frac{1}{5}u + \frac{9}{5} \\ 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{5}u^5 - \frac{2}{5}u^3 + \cdots + \frac{1}{5}u + \frac{9}{5} \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_6^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.18303 - 0.93746I$ $a = -0.066523 - 0.313980I$ $b = -0.877439 + 0.744862I$	$-0.26574 + 2.82812I$	$-14.4902 - 2.9794I$
$u = -1.18303 + 0.93746I$ $a = -0.066523 + 0.313980I$ $b = -0.877439 - 0.744862I$	$-0.26574 - 2.82812I$	$-14.4902 + 2.9794I$
$u = 0.486696$ $a = 3.02165$ $b = 0.754878$	-4.40332	-21.0195
$u = 1.52067 - 0.37518I$ $a = 0.000741 + 1.145041I$ $b = -0.877439 - 0.744862I$	$-0.26574 - 2.82812I$	$-14.4902 + 2.9794I$
$u = 1.52067 + 0.37518I$ $a = 0.000741 - 1.145041I$ $b = -0.877439 + 0.744862I$	$-0.26574 + 2.82812I$	$-14.4902 - 2.9794I$
$u = 1.83802$ $a = -0.490084$ $b = 0.754878$	-4.40332	-21.0195

VII.

$\boldsymbol{I^u_7 = \langle u^{12}+3u^{11}+\cdots+236u+181,\ 1.78\times10^{7}u^{11}+3.18\times10^{7}u^{10}+\cdots+9.83\times10^{8}b+2.62\times10^{9},\ 4.21\times10^{11}u^{11}+7.09\times10^{11}u^{10}+\cdots+5.36\times10^{13}a+4.02\times10^{13}\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00786620u^{11} - 0.0132353u^{10} + \cdots - 0.400574u - 0.750946 \\ -0.0181016u^{11} - 0.0323948u^{10} + \cdots - 2.20105u - 2.66894 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00786620u^{11} - 0.0132353u^{10} + \cdots - 0.400574u - 0.750946 \\ -0.0353902u^{11} - 0.0644032u^{10} + \cdots - 3.22300u - 4.54469 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0259678u^{11} - 0.0456301u^{10} + \cdots - 2.60162u - 3.41988 \\ -0.0181016u^{11} - 0.0323948u^{10} + \cdots - 2.20105u - 2.66894 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00707759u^{11} - 0.00694195u^{10} + \cdots - 1.05775u - 0.617904 \\ 0.0118388u^{11} + 0.0182359u^{10} + \cdots + 0.639585u - 0.187690 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00477880u^{11} - 0.000418434u^{10} + \cdots - 0.894625u - 0.0350246 \\ -0.0103633u^{11} - 0.0138012u^{10} + \cdots - 1.10548u - 1.42378 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0266066u^{11} + 0.0565865u^{10} + \cdots + 1.60930u + 1.96240 \\ 0.00932485u^{11} + 0.0231696u^{10} + \cdots + 0.766556u + 1.62998 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0151421u^{11} - 0.0142196u^{10} + \cdots - 2.00010u - 1.45881 \\ -0.0103633u^{11} - 0.0138012u^{10} + \cdots - 1.10548u - 1.42378 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0334209u^{11} + 0.0517475u^{10} + \cdots + 3.55086u + 3.53610 \\ 0.0299403u^{11} + 0.0506306u^{10} + \cdots + 2.84063u + 3.48125 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0105474u^{11} + 0.0155466u^{10} + \cdots - 0.166598u - 0.389016 \\ 0.00932485u^{11} + 0.0231696u^{10} + \cdots + 0.766556u + 0.629983 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0105474u^{11} + 0.0155466u^{10} + \cdots - 0.166598u - 0.389016 \\ 0.00932485u^{11} + 0.0231696u^{10} + \cdots + 0.766556u + 0.629983 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_7^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.70063 - 1.21638I$ $a = 0.135671 - 0.922940I$ $b = -0.877439 + 0.744862I$	$3.02413 + 6.88789I$	$-2.49024 - 9.90765I$
$u = -1.70063 + 1.21638I$ $a = 0.135671 + 0.922940I$ $b = -0.877439 - 0.744862I$	$3.02413 - 6.88789I$	$-2.49024 + 9.90765I$
$u = -1.33894 - 0.49201I$ $a = -0.193212 + 1.199183I$ $b = -0.877439 - 0.744862I$	$3.02413 + 1.23164I$	$-2.49024 - 3.94876I$
$u = -1.33894 + 0.49201I$ $a = -0.193212 - 1.199183I$ $b = -0.877439 + 0.744862I$	$3.02413 - 1.23164I$	$-2.49024 + 3.94876I$
$u = -1.136778 - 0.774104I$ $a = -0.232373 + 0.734257I$ $b = 0.754878$	$-1.11345 + 4.05977I$	$-9.01951 - 6.92820I$
$u = -1.136778 + 0.774104I$ $a = -0.232373 - 0.734257I$ $b = 0.754878$	$-1.11345 - 4.05977I$	$-9.01951 + 6.92820I$
$u = -0.025581 - 1.239161I$ $a = -0.111514 - 0.904096I$ $b = 0.754878$	$-1.11345 + 4.05977I$	$-9.01951 - 6.92820I$
$u = -0.025581 + 1.239161I$ $a = -0.111514 + 0.904096I$ $b = 0.754878$	$-1.11345 - 4.05977I$	$-9.01951 + 6.92820I$
$u = 1.04486 - 1.20512I$ $a = -0.397227 + 0.438849I$ $b = -0.877439 - 0.744862I$	$3.02413 - 6.88789I$	$-2.49024 + 9.90765I$
$u = 1.04486 + 1.20512I$ $a = -0.397227 - 0.438849I$ $b = -0.877439 + 0.744862I$	$3.02413 + 6.88789I$	$-2.49024 - 9.90765I$

Solution to I_7^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.65706 - 0.08153I$ $a = 0.085948 + 0.409000I$ $b = -0.877439 - 0.744862I$	$3.02413 + 1.23164I$	$-2.49024 - 3.94876I$
$u = 1.65706 + 0.08153I$ $a = 0.085948 - 0.409000I$ $b = -0.877439 + 0.744862I$	$3.02413 - 1.23164I$	$-2.49024 + 3.94876I$

VIII. $\boldsymbol{I^u_8 =}$
$\boldsymbol{\langle u^{24}-3u^{23}+\cdots+242u+157,\ 1.66\times10^{37}u^{23}-3.26\times10^{37}u^{22}+\cdots+2.13\times10^{40}b-8.93\times10^{39},\ 5.21\times10^{49}u^{23}-1.64\times10^{50}u^{22}+\cdots+2.89\times10^{51}a+1.94\times10^{52}\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0180294u^{23} + 0.0568827u^{22} + \cdots + 20.3003u - 6.70601 \\ -0.000782531u^{23} + 0.00153081u^{22} + \cdots - 2.13538u + 0.419577 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0180294u^{23} + 0.0568827u^{22} + \cdots + 20.3003u - 6.70601 \\ -0.00140211u^{23} + 0.00422650u^{22} + \cdots + 0.0189825u - 0.0191506 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0188120u^{23} + 0.0584135u^{22} + \cdots + 18.1649u - 6.28644 \\ -0.000782531u^{23} + 0.00153081u^{22} + \cdots - 2.13538u + 0.419577 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00612886u^{23} - 0.0214496u^{22} + \cdots - 5.15382u + 8.59251 \\ -0.00236769u^{23} + 0.00607469u^{22} + \cdots + 1.92665u + 0.178423 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0323435u^{23} + 0.107445u^{22} + \cdots + 26.4314u - 12.9673 \\ -0.000929483u^{23} + 0.00161085u^{22} + \cdots + 0.415423u + 0.953554 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0192099u^{23} - 0.0590999u^{22} + \cdots - 18.3969u + 12.7326 \\ -0.00350471u^{23} + 0.0108833u^{22} + \cdots + 4.88609u - 0.0285373 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0332730u^{23} + 0.109055u^{22} + \cdots + 26.8468u - 12.0137 \\ -0.000929483u^{23} + 0.00161085u^{22} + \cdots + 0.415423u + 0.953554 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0116158u^{23} - 0.0319235u^{22} + \cdots - 1.41312u + 2.90249 \\ -0.00158516u^{23} + 0.00454388u^{22} + \cdots + 4.06204u + 0.758846 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0283094u^{23} + 0.0910250u^{22} + \cdots + 35.7343u - 6.39516 \\ -0.00313535u^{23} + 0.00697962u^{22} + \cdots + 1.05098u + 2.07254 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0283094u^{23} + 0.0910250u^{22} + \cdots + 35.7343u - 6.39516 \\ -0.00313535u^{23} + 0.00697962u^{22} + \cdots + 1.05098u + 2.07254 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_8^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.57291-0.16189I$ $a=\ \ 0.625231+0.107269I$ $b=-0.877439-0.744862I$	$-0.26574-6.88789I$	$-14.4902+9.9077I$
$u=-1.57291+0.16189I$ $a=\ \ 0.625231-0.107269I$ $b=-0.877439+0.744862I$	$-0.26574+6.88789I$	$-14.4902-9.9077I$
$u=-1.23772-1.32475I$ $a=-0.006362-0.645801I$ $b=-0.877439+0.744862I$	$-0.26574+6.88789I$	$-14.4902-9.9077I$
$u=-1.23772+1.32475I$ $a=-0.006362+0.645801I$ $b=-0.877439-0.744862I$	$-0.26574-6.88789I$	$-14.4902+9.9077I$
$u=-0.957160-0.116334I$ $a=-0.394840+0.653787I$ $b=-0.877439-0.744862I$	$-0.265740+1.231644I$	$-14.4902-3.9488I$
$u=-0.957160+0.116334I$ $a=-0.394840-0.653787I$ $b=-0.877439+0.744862I$	$-0.265740-1.231644I$	$-14.4902+3.9488I$
$u=-0.318223-0.033097I$ $a=-4.12038+1.95199I$ $b=\ \ 0.754878$	$-4.40332+4.05977I$	$-21.0195-6.9282I$
$u=-0.318223+0.033097I$ $a=-4.12038-1.95199I$ $b=\ \ 0.754878$	$-4.40332-4.05977I$	$-21.0195+6.9282I$
$u=\ \ 0.12962-3.24360I$ $a=-0.0586387+0.0385763I$ $b=\ \ 0.754878$	$-4.40332+4.05977I$	$-21.0195-6.9282I$
$u=\ \ 0.12962+3.24360I$ $a=-0.0586387-0.0385763I$ $b=\ \ 0.754878$	$-4.40332-4.05977I$	$-21.0195+6.9282I$

Solution to I_8^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.21537 - 2.25332I$ $a = 0.677015 - 0.079336I$ $b = 0.754878$	$-4.40332 + 4.05977I$	$-21.0195 - 6.9282I$
$u = 0.21537 + 2.25332I$ $a = 0.677015 + 0.079336I$ $b = 0.754878$	$-4.40332 - 4.05977I$	$-21.0195 + 6.9282I$
$u = 0.293478 - 1.043708I$ $a = 0.34098 - 2.10106I$ $b = -0.877439 + 0.744862I$	$-0.26574 + 6.88789I$	$-14.4902 - 9.9077I$
$u = 0.293478 + 1.043708I$ $a = 0.34098 + 2.10106I$ $b = -0.877439 - 0.744862I$	$-0.26574 - 6.88789I$	$-14.4902 + 9.9077I$
$u = 0.418059 - 0.300929I$ $a = 1.24038 + 1.94633I$ $b = -0.877439 + 0.744862I$	$-0.265740 - 1.231644I$	$-14.4902 + 3.9488I$
$u = 0.418059 + 0.300929I$ $a = 1.24038 - 1.94633I$ $b = -0.877439 - 0.744862I$	$-0.265740 + 1.231644I$	$-14.4902 - 3.9488I$
$u = 0.961588 - 1.015855I$ $a = 0.92666 + 1.10981I$ $b = -0.877439 - 0.744862I$	$-0.265740 + 1.231644I$	$-14.4902 - 3.9488I$
$u = 0.961588 + 1.015855I$ $a = 0.92666 - 1.10981I$ $b = -0.877439 + 0.744862I$	$-0.265740 - 1.231644I$	$-14.4902 + 3.9488I$
$u = 1.135587 - 0.509778I$ $a = -0.977216 - 0.128956I$ $b = 0.754878$	$-4.40332 + 4.05977I$	$-21.0195 - 6.9282I$
$u = 1.135587 + 0.509778I$ $a = -0.977216 + 0.128956I$ $b = 0.754878$	$-4.40332 - 4.05977I$	$-21.0195 + 6.9282I$

Solution to I_8^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.207179 - 0.235183I$ $a = 0.095454 - 0.800840I$ $b = -0.877439 + 0.744862I$	$-0.265740 - 1.231644I$	$-14.4902 + 3.9488I$
$u = 1.207179 + 0.235183I$ $a = 0.095454 + 0.800840I$ $b = -0.877439 - 0.744862I$	$-0.265740 + 1.231644I$	$-14.4902 - 3.9488I$
$u = 1.22513 - 1.04820I$ $a = -0.239999 + 0.870109I$ $b = -0.877439 - 0.744862I$	$-0.26574 - 6.88789I$	$-14.4902 + 9.9077I$
$u = 1.22513 + 1.04820I$ $a = -0.239999 - 0.870109I$ $b = -0.877439 + 0.744862I$	$-0.26574 + 6.88789I$	$-14.4902 - 9.9077I$

IX. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_7	$u(u^3+u^2+2u+1)^3(u^6-2u^4-u^3+3u^2+u-1)^2$ $(u^{12}-3u^{11}+\cdots+30u+25)$ $(1-4u+4u^2+30u^3+70u^4+65u^5+51u^6+23u^7+10u^8+5u^9+2u^{10}+u^{11}+u^{12})^2$ $(u^{14}-u^{13}+\cdots+2u^2+2)$ $(u^{18}+2u^{16}-u^{14}-u^{12}+12u^{10}+u^8-20u^6+u^4+20u^2-4)$
c_2, c_8	$(u-1)(u^3-u^2+2u-1)(u^6-u^5+2u^4-4u^2-2u-1)$ $(u^{12}+u^{11}+\cdots+7u+1)(u^{12}+u^{11}+\cdots-4u+7)$ $(u^{14}+u^{13}+\cdots+u+1)(u^{18}-5u^{16}+\cdots+5u+1)$ $(u^{24}-u^{23}+\cdots-94u+19)$
c_3	$u^3(u+1)^7(u^2+u+1)^6(u^4+u^3-2u+1)^6$ $(u^{12}-5u^{11}+\cdots+42u-7)(u^{14}-7u^{13}+\cdots-25u+11)$ $(u^{18}+10u^{17}+\cdots+4u+1)$
c_4, c_9, c_{10}	$u(u^3-u^2+1)^{14}(u^3+u^2-1)(u^6+4u^5+6u^4+3u^3-3u^2-6u-4)^2$ $(u^{14}+6u^{13}+\cdots+16u+8)(u^{18}-8u^{16}+\cdots+28u^2-4)$
c_5	$u^3(u-1)(u+1)^6(u^2+u+1)^6(u^4+u^3-2u+1)^6$ $(u^{12}-5u^{11}+\cdots+42u-7)(u^{14}-7u^{13}+\cdots-25u+11)$ $(u^{18}-10u^{17}+\cdots-4u+1)$
c_6, c_{11}	$(u+1)(u^3-u^2+2u-1)(u^6-u^5+2u^4-4u^2-2u-1)$ $(u^{12}+u^{11}+\cdots+7u+1)(u^{12}+u^{11}+\cdots-4u+7)$ $(u^{14}+u^{13}+\cdots+u+1)(u^{18}-5u^{16}+\cdots-5u+1)$ $(u^{24}-u^{23}+\cdots-94u+19)$

X. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_7	$y(y^3+3y^2+2y-1)^3(y^6-4y^5+10y^4-15y^3+15y^2-7y+1)^2$ $(y^9+2y^8-y^7-y^6+12y^5+y^4-20y^3+y^2+20y-4)^2$ $(y^{12}-9y^{11}+\cdots-100y+625)$ $(1-8y+396y^2+282y^3+1612y^4+1659y^5+737y^6+69y^7+84y^8+71y^9+14y^{10}+3y^{11}+$ $(y^{14}+3y^{13}+\cdots+8y+4)$
c_2, c_6, c_8 c_{11}	$(y-1)(y^3+3y^2+2y-1)(y^6+3y^5+\cdots+4y+1)$ $(y^{12}+y^{11}+\cdots-59y+1)(y^{12}+3y^{11}+\cdots+208y+49)$ $(y^{14}+11y^{13}+\cdots+21y+1)(y^{18}-10y^{17}+\cdots-9y+1)$ $(y^{24}-15y^{23}+\cdots+6136y+361)$
c_3, c_5	$y^3(y-1)^7(y^2+y+1)^6(y^4-y^3+6y^2-4y+1)^6$ $(y^{12}-5y^{11}+\cdots+154y+49)(y^{14}-7y^{13}+\cdots-493y+121)$ $(y^{18}-10y^{17}+\cdots-2y+1)$
c_4, c_9, c_{10}	$y(y^3-y^2+2y-1)^{15}(y^6-4y^5+6y^4-5y^3-3y^2-12y+16)^2$ $(-4+28y-79y^2+126y^3-141y^4+115y^5-68y^6+29y^7-8y^8+y^9)^2$ $(y^{14}-8y^{13}+\cdots+160y+64)$