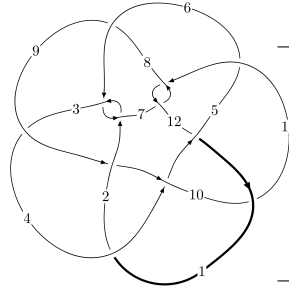
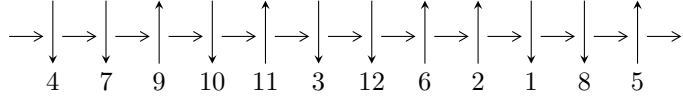


12a₁₀₅₀ (K12a₁₀₅₀)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle b - u,$$

$$1038287630242143u^{29} - 958498975405341u^{28} + \dots + 319885682890594a - 1073606987003145, \\ u^{30} + 9u^{28} + \dots + u + 1 \rangle$$

$$I_2^u = \langle -1.41328 \times 10^{1030}u^{161} - 6.25485 \times 10^{1030}u^{160} + \dots + 1.10537 \times 10^{1032}b + 2.26405 \times 10^{1037}, \\ -1.18364 \times 10^{1037}u^{161} - 1.15080 \times 10^{1037}u^{160} + \dots + 5.49710 \times 10^{1038}a - 7.94857 \times 10^{1043}, \\ u^{162} + 2u^{161} + \dots - 47832405u - 4973081 \rangle$$

$$I_3^u = \langle b + u, -734u^{15} + 181u^{14} + \dots + 293a - 1410, \\ u^{16} + u^{15} + 3u^{14} + 2u^{13} + u^{12} + 2u^{11} - 9u^{10} - u^9 - 21u^8 - 4u^7 - 26u^6 - 5u^5 - 18u^4 - 3u^3 - 7u^2 - u - 1 \rangle$$

$$I_4^u = \langle -1.89209 \times 10^{23}u^{35} - 2.03575 \times 10^{23}u^{34} + \dots + 4.01297 \times 10^{22}b + 1.58103 \times 10^{23}, \\ -5.17931 \times 10^{23}u^{35} - 1.18836 \times 10^{24}u^{34} + \dots + 4.01297 \times 10^{22}a - 1.89759 \times 10^{24}, u^{36} + u^{35} + \dots - 5u + \dots \rangle$$

$$I_5^u = \langle b - u, a + 2u - 2, u^2 - u + 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 246 representations.

¹The 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>).

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

$$\mathbf{I. } I_1^u = \langle b - u, 1.04 \times 10^{15}u^{29} - 9.58 \times 10^{14}u^{28} + \dots + 3.20 \times 10^{14}u - 1.07 \times 10^{15}, u^{30} + 9u^{28} + \dots + u + 1 \rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.24581u^{29} + 2.99638u^{28} + \dots + 0.0490322u + 3.35622 \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -3.24581u^{29} + 2.99638u^{28} + \dots + 1.04903u + 3.35622 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.99638u^{29} - 1.59260u^{28} + \dots - 6.60203u - 2.24581 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.24792u^{29} + 0.435669u^{28} + \dots - 1.11933u + 1.58988 \\ 0.494712u^{29} + 0.504033u^{28} + \dots + 2.28664u + 1.07932 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.65873u^{29} + 1.54575u^{28} + \dots - 3.82666u - 0.511097 \\ 0.859974u^{29} + 0.408482u^{28} + \dots + 1.56275u + 0.0318001 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.28377u^{29} - 1.01732u^{28} + \dots - 4.29969u - 1.73253 \\ 0.380987u^{29} + 0.209763u^{28} + \dots + 1.01444u - 0.0620043 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.149967u^{29} - 1.33960u^{28} + \dots - 1.47705u - 2.31641 \\ -1.11679u^{29} + 0.869739u^{28} + \dots + 0.544449u + 0.862712 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.50317u^{29} + 1.18430u^{28} + \dots + 7.47794u + 3.74054 \\ -0.380987u^{29} - 0.209763u^{28} + \dots - 1.01444u + 0.0620043 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes

$$= \frac{342774543239619}{159942841445297}u^{29} + \frac{474438880742083}{159942841445297}u^{28} + \dots + \frac{4794999154726662}{159942841445297}u + \frac{233245930441382}{159942841445297}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{30} - 3u^{29} + \dots - 2u + 1$
c_2, c_6, c_7 c_{11}	$u^{30} + 9u^{28} + \dots - u + 1$
c_3, c_5	$u^{30} - u^{29} + \dots + 12u + 11$
c_4	$u^{30} - 22u^{29} + \dots - 17664u + 1536$
c_8	$u^{30} + 19u^{29} + \dots + 22608u + 2592$
c_9, c_{12}	$u^{30} - u^{29} + \dots + 11u^2 + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{30} + 15y^{29} + \dots + 30y + 1$
c_2, c_6, c_7 c_{11}	$y^{30} + 18y^{29} + \dots + 7y + 1$
c_3, c_5	$y^{30} - y^{29} + \dots + 890y + 121$
c_4	$y^{30} + 8y^{29} + \dots + 26935296y + 2359296$
c_8	$y^{30} - 5y^{29} + \dots + 33737472y + 6718464$
c_9, c_{12}	$y^{30} - 5y^{29} + \dots + 44y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.449233 + 0.940800I$ $a = -1.042800 + 0.142208I$ $b = -0.449233 + 0.940800I$	$1.29911 + 11.91330I$	$1.70103 - 12.86421I$
$u = -0.449233 - 0.940800I$ $a = -1.042800 - 0.142208I$ $b = -0.449233 - 0.940800I$	$1.29911 - 11.91330I$	$1.70103 + 12.86421I$
$u = 1.039650 + 0.080672I$ $a = 0.988016 - 0.252509I$ $b = 1.039650 + 0.080672I$	$-0.50635 + 9.09970I$	$-2.62952 - 7.49406I$
$u = 1.039650 - 0.080672I$ $a = 0.988016 + 0.252509I$ $b = 1.039650 - 0.080672I$	$-0.50635 - 9.09970I$	$-2.62952 + 7.49406I$
$u = -0.192642 + 0.892017I$ $a = -1.116590 - 0.674078I$ $b = -0.192642 + 0.892017I$	$3.81522 - 0.95935I$	$6.29739 + 2.72741I$
$u = -0.192642 - 0.892017I$ $a = -1.116590 + 0.674078I$ $b = -0.192642 - 0.892017I$	$3.81522 + 0.95935I$	$6.29739 - 2.72741I$
$u = 0.528654 + 0.725501I$ $a = 0.207468 - 0.513474I$ $b = 0.528654 + 0.725501I$	$-1.12796 - 2.16922I$	$-4.84782 + 3.12859I$
$u = 0.528654 - 0.725501I$ $a = 0.207468 + 0.513474I$ $b = 0.528654 - 0.725501I$	$-1.12796 + 2.16922I$	$-4.84782 - 3.12859I$
$u = 0.216729 + 1.101220I$ $a = 0.12091 - 2.80714I$ $b = 0.216729 + 1.101220I$	$4.12713 - 2.60846I$	$4.07410 + 8.65048I$
$u = 0.216729 - 1.101220I$ $a = 0.12091 + 2.80714I$ $b = 0.216729 - 1.101220I$	$4.12713 + 2.60846I$	$4.07410 - 8.65048I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.334146 + 0.806203I$ $a = 0.97112 + 1.30413I$ $b = 0.334146 + 0.806203I$	$2.39563 - 1.87382I$	$2.69727 + 2.55936I$
$u = 0.334146 - 0.806203I$ $a = 0.97112 - 1.30413I$ $b = 0.334146 - 0.806203I$	$2.39563 + 1.87382I$	$2.69727 - 2.55936I$
$u = 0.008350 + 0.766245I$ $a = 1.31335 - 4.65457I$ $b = 0.008350 + 0.766245I$	$-0.91288 - 6.45984I$	$6.96574 + 6.19266I$
$u = 0.008350 - 0.766245I$ $a = 1.31335 + 4.65457I$ $b = 0.008350 - 0.766245I$	$-0.91288 + 6.45984I$	$6.96574 - 6.19266I$
$u = -0.746790 + 0.129308I$ $a = -0.581917 - 0.242711I$ $b = -0.746790 + 0.129308I$	$1.94728 - 2.37977I$	$0.01549 + 3.22068I$
$u = -0.746790 - 0.129308I$ $a = -0.581917 + 0.242711I$ $b = -0.746790 - 0.129308I$	$1.94728 + 2.37977I$	$0.01549 - 3.22068I$
$u = -0.339807 + 1.223790I$ $a = -0.89868 - 2.29972I$ $b = -0.339807 + 1.223790I$	$9.08252 + 4.70541I$	$7.58999 - 4.89180I$
$u = -0.339807 - 1.223790I$ $a = -0.89868 + 2.29972I$ $b = -0.339807 - 1.223790I$	$9.08252 - 4.70541I$	$7.58999 + 4.89180I$
$u = -0.598923 + 0.180377I$ $a = -1.19103 - 2.17009I$ $b = -0.598923 + 0.180377I$	$-2.84910 + 6.12107I$	$-11.6552 - 8.5759I$
$u = -0.598923 - 0.180377I$ $a = -1.19103 + 2.17009I$ $b = -0.598923 - 0.180377I$	$-2.84910 - 6.12107I$	$-11.6552 + 8.5759I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.545038 + 1.269990I$ $a = -1.05931 - 1.88668I$ $b = -0.545038 + 1.269990I$	$8.6354 + 12.3602I$	$6.89874 - 8.94538I$
$u = -0.545038 - 1.269990I$ $a = -1.05931 + 1.88668I$ $b = -0.545038 - 1.269990I$	$8.6354 - 12.3602I$	$6.89874 + 8.94538I$
$u = -0.76172 + 1.19937I$ $a = -1.29587 - 1.18790I$ $b = -0.76172 + 1.19937I$	$6.51330 + 6.47115I$	$3.75399 - 6.89218I$
$u = -0.76172 - 1.19937I$ $a = -1.29587 + 1.18790I$ $b = -0.76172 - 1.19937I$	$6.51330 - 6.47115I$	$3.75399 + 6.89218I$
$u = 0.313821 + 0.430877I$ $a = -0.606847 - 0.536231I$ $b = 0.313821 + 0.430877I$	$-0.192876 - 1.170060I$	$-2.11608 + 6.41291I$
$u = 0.313821 - 0.430877I$ $a = -0.606847 + 0.536231I$ $b = 0.313821 - 0.430877I$	$-0.192876 + 1.170060I$	$-2.11608 - 6.41291I$
$u = 0.66183 + 1.33533I$ $a = 1.03587 - 1.54140I$ $b = 0.66183 + 1.33533I$	$6.7565 - 21.4337I$	$1.89596 + 10.81516I$
$u = 0.66183 - 1.33533I$ $a = 1.03587 + 1.54140I$ $b = 0.66183 - 1.33533I$	$6.7565 + 21.4337I$	$1.89596 - 10.81516I$
$u = 0.53097 + 1.50169I$ $a = 0.65631 - 1.42667I$ $b = 0.53097 + 1.50169I$	$8.72016 - 3.34746I$	$7.85889 + 0.87317I$
$u = 0.53097 - 1.50169I$ $a = 0.65631 + 1.42667I$ $b = 0.53097 - 1.50169I$	$8.72016 + 3.34746I$	$7.85889 - 0.87317I$

$$\text{II. } I_2^u = \langle -1.41 \times 10^{1030} u^{161} - 6.25 \times 10^{1030} u^{160} + \dots + 1.11 \times 10^{1032} b + 2.26 \times 10^{1037}, -1.18 \times 10^{1037} u^{161} - 1.15 \times 10^{1037} u^{160} + \dots + 5.50 \times 10^{1038} a - 7.95 \times 10^{1043}, u^{162} + 2u^{161} + \dots - 47832405u - 4973081 \rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0215320u^{161} + 0.0209347u^{160} + \dots + 1.26150 \times 10^6 u + 144596. \\ 0.0127856u^{161} + 0.0565860u^{160} + \dots - 2.04836 \times 10^6 u - 204823. \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.0343177u^{161} + 0.0775207u^{160} + \dots - 786853.u - 60227.2 \\ 0.0127856u^{161} + 0.0565860u^{160} + \dots - 2.04836 \times 10^6 u - 204823. \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0211515u^{161} - 0.0906693u^{160} + \dots + 3.11461 \times 10^6 u + 310143. \\ 0.00672843u^{161} + 0.0300770u^{160} + \dots - 1.19310 \times 10^6 u - 119473. \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0422973u^{161} + 0.0991295u^{160} + \dots - 1.59305 \times 10^6 u - 138499. \\ 0.00681074u^{161} + 0.00910050u^{160} + \dots + 300382.u + 34734.8 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0684913u^{161} + 0.264874u^{160} + \dots - 7.29836 \times 10^6 u - 718586. \\ -0.00950507u^{161} - 0.0170791u^{160} + \dots + 198269.u + 9569.50 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0126198u^{161} - 0.0530040u^{160} + \dots + 1.70926 \times 10^6 u + 169761. \\ 0.00878790u^{161} + 0.0400472u^{160} + \dots - 1.57058 \times 10^6 u - 157399. \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0119242u^{161} + 0.00757900u^{160} + \dots - 1.69460 \times 10^6 u - 187863. \\ 0.0134614u^{161} + 0.0466547u^{160} + \dots - 1.33051 \times 10^6 u - 128598. \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0578349u^{161} + 0.139788u^{160} + \dots - 2.13978 \times 10^6 u - 182492. \\ 0.0210823u^{161} + 0.0177459u^{160} + \dots + 1.60534 \times 10^6 u + 180830. \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $0.128045u^{161} + 0.241674u^{160} + \dots + 417800.u + 122922.$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{162} - 15u^{161} + \dots - 1915810u + 78157$
c_2, c_6, c_7 c_{11}	$u^{162} - 2u^{161} + \dots + 47832405u - 4973081$
c_3, c_5	$u^{162} - 5u^{161} + \dots - 1263792898u - 135983129$
c_4	$(u^{81} + 4u^{80} + \dots - 9u + 1)^2$
c_8	$(u^{81} - 13u^{80} + \dots - 348250u - 398125)^2$
c_9, c_{12}	$u^{162} - 13u^{161} + \dots - 1252u + 5341$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{162} - 5y^{161} + \dots + 315891474626y + 6108516649$
c_2, c_6, c_7 c_{11}	$y^{162} + 96y^{161} + \dots + 1122280033576759y + 24731534632561$
c_3, c_5	$y^{162} - 79y^{161} + \dots - 1050391772674517412y + 18491411372630641$
c_4	$(y^{81} - 36y^{80} + \dots + 151y - 1)^2$
c_8	$(y^{81} - 65y^{80} + \dots + 3852346312500y - 158503515625)^2$
c_9, c_{12}	$y^{162} + 29y^{161} + \dots - 2042438378y + 28526281$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.512433 + 0.858107I$ $a = -1.56439 - 1.14376I$ $b = -0.021504 - 0.885713I$	$2.62612 - 2.03925I$	0
$u = 0.512433 - 0.858107I$ $a = -1.56439 + 1.14376I$ $b = -0.021504 + 0.885713I$	$2.62612 + 2.03925I$	0
$u = 0.145803 + 0.995620I$ $a = -0.12521 + 2.89018I$ $b = -0.21774 - 1.48046I$	$4.97164 - 0.41306I$	0
$u = 0.145803 - 0.995620I$ $a = -0.12521 - 2.89018I$ $b = -0.21774 + 1.48046I$	$4.97164 + 0.41306I$	0
$u = 0.757871 + 0.640617I$ $a = 0.223968 + 0.318131I$ $b = -0.168701 + 1.066500I$	$-0.450299 + 0.683300I$	0
$u = 0.757871 - 0.640617I$ $a = 0.223968 - 0.318131I$ $b = -0.168701 - 1.066500I$	$-0.450299 - 0.683300I$	0
$u = -0.935488 + 0.378434I$ $a = -0.493795 - 0.101544I$ $b = -0.291077 + 0.780516I$	$-1.21159 - 3.47818I$	0
$u = -0.935488 - 0.378434I$ $a = -0.493795 + 0.101544I$ $b = -0.291077 - 0.780516I$	$-1.21159 + 3.47818I$	0
$u = -1.009490 + 0.082758I$ $a = 0.144527 - 0.572008I$ $b = 0.279301 + 1.280210I$	$5.28165 - 6.21646I$	0
$u = -1.009490 - 0.082758I$ $a = 0.144527 + 0.572008I$ $b = 0.279301 - 1.280210I$	$5.28165 + 6.21646I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.412029 + 0.891858I$ $a = -0.683993 - 0.241671I$ $b = -0.533283 + 0.580692I$	$-0.95013 - 2.08177I$	0
$u = 0.412029 - 0.891858I$ $a = -0.683993 + 0.241671I$ $b = -0.533283 - 0.580692I$	$-0.95013 + 2.08177I$	0
$u = 0.519713 + 0.810533I$ $a = 3.34397 - 1.12815I$ $b = 0.067527 - 0.928521I$	$3.14164 - 1.81489I$	0
$u = 0.519713 - 0.810533I$ $a = 3.34397 + 1.12815I$ $b = 0.067527 + 0.928521I$	$3.14164 + 1.81489I$	0
$u = -0.955469 + 0.100910I$ $a = -0.526877 + 0.609433I$ $b = -0.480389 - 1.194020I$	$5.08464 - 6.96702I$	0
$u = -0.955469 - 0.100910I$ $a = -0.526877 - 0.609433I$ $b = -0.480389 + 1.194020I$	$5.08464 + 6.96702I$	0
$u = 0.111590 + 1.053510I$ $a = -0.17695 + 2.23642I$ $b = -0.85395 - 1.30740I$	$5.44010 - 4.01731I$	0
$u = 0.111590 - 1.053510I$ $a = -0.17695 - 2.23642I$ $b = -0.85395 + 1.30740I$	$5.44010 + 4.01731I$	0
$u = -0.209883 + 0.916511I$ $a = -0.936561 + 0.160907I$ $b = 1.047010 + 0.532708I$	$-1.156040 - 0.497979I$	0
$u = -0.209883 - 0.916511I$ $a = -0.936561 - 0.160907I$ $b = 1.047010 - 0.532708I$	$-1.156040 + 0.497979I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.203861 + 1.047750I$ $a = -1.131320 + 0.390938I$ $b = -0.596978 - 0.695658I$	$0.55788 + 7.73645I$	0
$u = -0.203861 - 1.047750I$ $a = -1.131320 - 0.390938I$ $b = -0.596978 + 0.695658I$	$0.55788 - 7.73645I$	0
$u = 0.067527 + 0.928521I$ $a = -2.06891 - 3.00695I$ $b = 0.519713 - 0.810533I$	$3.14164 + 1.81489I$	0
$u = 0.067527 - 0.928521I$ $a = -2.06891 + 3.00695I$ $b = 0.519713 + 0.810533I$	$3.14164 - 1.81489I$	0
$u = -0.403847 + 1.001040I$ $a = 0.972188 + 0.638285I$ $b = 0.638989 - 0.893575I$	$0.29347 + 5.89699I$	0
$u = -0.403847 - 1.001040I$ $a = 0.972188 - 0.638285I$ $b = 0.638989 + 0.893575I$	$0.29347 - 5.89699I$	0
$u = -0.168701 + 1.066500I$ $a = 0.356727 - 0.024490I$ $b = 0.757871 + 0.640617I$	$-0.450299 + 0.683300I$	0
$u = -0.168701 - 1.066500I$ $a = 0.356727 + 0.024490I$ $b = 0.757871 - 0.640617I$	$-0.450299 - 0.683300I$	0
$u = -0.596978 + 0.695658I$ $a = 1.174400 - 0.750538I$ $b = -0.203861 - 1.047750I$	$0.55788 - 7.73645I$	0
$u = -0.596978 - 0.695658I$ $a = 1.174400 + 0.750538I$ $b = -0.203861 + 1.047750I$	$0.55788 + 7.73645I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.556675 + 0.721239I$		
$a = -0.486203 + 0.128189I$	$-1.18885 - 2.26631I$	0
$b = 0.470448 - 0.329063I$		
$u = 0.556675 - 0.721239I$		
$a = -0.486203 - 0.128189I$	$-1.18885 + 2.26631I$	0
$b = 0.470448 + 0.329063I$		
$u = -0.307643 + 1.045480I$		
$a = -0.71470 - 2.54306I$	$2.87307 + 11.89210I$	0
$b = -0.56943 + 1.36887I$		
$u = -0.307643 - 1.045480I$		
$a = -0.71470 + 2.54306I$	$2.87307 - 11.89210I$	0
$b = -0.56943 - 1.36887I$		
$u = 0.108889 + 1.086580I$		
$a = 0.37526 - 3.67069I$	$3.76566 - 2.19626I$	0
$b = 0.453686 + 1.003950I$		
$u = 0.108889 - 1.086580I$		
$a = 0.37526 + 3.67069I$	$3.76566 + 2.19626I$	0
$b = 0.453686 - 1.003950I$		
$u = -0.115536 + 0.897724I$		
$a = 1.51318 - 0.28133I$	$-1.38965 + 5.51445I$	0
$b = -1.318600 - 0.090799I$		
$u = -0.115536 - 0.897724I$		
$a = 1.51318 + 0.28133I$	$-1.38965 - 5.51445I$	0
$b = -1.318600 + 0.090799I$		
$u = -0.286546 + 1.060440I$		
$a = 0.84668 + 2.28405I$	$1.43885 + 5.66327I$	0
$b = 0.617252 - 1.244230I$		
$u = -0.286546 - 1.060440I$		
$a = 0.84668 - 2.28405I$	$1.43885 - 5.66327I$	0
$b = 0.617252 + 1.244230I$		

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.638989 + 0.893575I$ $a = -1.075960 + 0.385013I$ $b = -0.403847 - 1.001040I$	$0.29347 - 5.89699I$	0
$u = 0.638989 - 0.893575I$ $a = -1.075960 - 0.385013I$ $b = -0.403847 + 1.001040I$	$0.29347 + 5.89699I$	0
$u = 0.453686 + 1.003950I$ $a = 1.51280 - 3.32988I$ $b = 0.108889 + 1.086580I$	$3.76566 - 2.19626I$	0
$u = 0.453686 - 1.003950I$ $a = 1.51280 + 3.32988I$ $b = 0.108889 - 1.086580I$	$3.76566 + 2.19626I$	0
$u = 0.500231 + 0.987406I$ $a = -0.113954 + 1.069820I$ $b = -0.016879 + 0.463860I$	$2.53258 - 1.74513I$	0
$u = 0.500231 - 0.987406I$ $a = -0.113954 - 1.069820I$ $b = -0.016879 - 0.463860I$	$2.53258 + 1.74513I$	0
$u = -0.021504 + 0.885713I$ $a = 2.17115 - 0.25574I$ $b = 0.512433 - 0.858107I$	$2.62612 + 2.03925I$	0
$u = -0.021504 - 0.885713I$ $a = 2.17115 + 0.25574I$ $b = 0.512433 + 0.858107I$	$2.62612 - 2.03925I$	0
$u = -0.236688 + 1.094480I$ $a = -0.911354 - 0.289853I$ $b = 0.075281 + 0.561161I$	$3.96542 - 1.04583I$	0
$u = -0.236688 - 1.094480I$ $a = -0.911354 + 0.289853I$ $b = 0.075281 - 0.561161I$	$3.96542 + 1.04583I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.875010 + 0.701374I$ $a = -0.770488 + 0.471265I$ $b = -0.157943 - 0.747564I$	$-1.66166 - 2.52133I$	0
$u = 0.875010 - 0.701374I$ $a = -0.770488 - 0.471265I$ $b = -0.157943 + 0.747564I$	$-1.66166 + 2.52133I$	0
$u = 0.057961 + 0.865236I$ $a = -0.28751 + 4.29189I$ $b = 0.057961 - 0.865236I$	-1.97189	0
$u = 0.057961 - 0.865236I$ $a = -0.28751 - 4.29189I$ $b = 0.057961 + 0.865236I$	-1.97189	0
$u = 0.027828 + 0.865924I$ $a = 0.751447 - 0.473201I$ $b = -0.860284 + 0.988822I$	$4.59681 + 3.31614I$	0
$u = 0.027828 - 0.865924I$ $a = 0.751447 + 0.473201I$ $b = -0.860284 - 0.988822I$	$4.59681 - 3.31614I$	0
$u = 0.769595 + 0.325344I$ $a = -0.569829 - 0.525763I$ $b = -0.529535 + 0.181712I$	$0.36607 - 2.90205I$	0
$u = 0.769595 - 0.325344I$ $a = -0.569829 + 0.525763I$ $b = -0.529535 - 0.181712I$	$0.36607 + 2.90205I$	0
$u = -0.291077 + 0.780516I$ $a = -0.313224 - 0.524262I$ $b = -0.935488 + 0.378434I$	$-1.21159 - 3.47818I$	0
$u = -0.291077 - 0.780516I$ $a = -0.313224 + 0.524262I$ $b = -0.935488 - 0.378434I$	$-1.21159 + 3.47818I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.830393 + 0.029504I$ $a = -1.24676 + 0.83114I$ $b = -0.626767 - 0.052292I$	$-3.65545 + 1.37519I$	0
$u = 0.830393 - 0.029504I$ $a = -1.24676 - 0.83114I$ $b = -0.626767 + 0.052292I$	$-3.65545 - 1.37519I$	0
$u = 1.047010 + 0.532708I$ $a = -0.307134 - 0.695817I$ $b = -0.209883 + 0.916511I$	$-1.156040 - 0.497979I$	0
$u = 1.047010 - 0.532708I$ $a = -0.307134 + 0.695817I$ $b = -0.209883 - 0.916511I$	$-1.156040 + 0.497979I$	0
$u = -0.372385 + 1.119160I$ $a = 0.233864 - 0.676700I$ $b = -0.596775 - 0.085152I$	$5.57476 + 1.26107I$	0
$u = -0.372385 - 1.119160I$ $a = 0.233864 + 0.676700I$ $b = -0.596775 + 0.085152I$	$5.57476 - 1.26107I$	0
$u = 0.590944 + 1.051200I$ $a = -0.0352149 - 0.0751616I$ $b = -0.348936 + 0.423459I$	$-0.39673 - 2.90112I$	0
$u = 0.590944 - 1.051200I$ $a = -0.0352149 + 0.0751616I$ $b = -0.348936 - 0.423459I$	$-0.39673 + 2.90112I$	0
$u = -1.155170 + 0.349157I$ $a = 0.414460 + 0.227910I$ $b = 0.231689 - 1.224410I$	$0.98145 + 5.35116I$	0
$u = -1.155170 - 0.349157I$ $a = 0.414460 - 0.227910I$ $b = 0.231689 + 1.224410I$	$0.98145 - 5.35116I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.533283 + 0.580692I$ $a = -0.606038 + 0.670713I$ $b = 0.412029 + 0.891858I$	$-0.95013 - 2.08177I$	0
$u = -0.533283 - 0.580692I$ $a = -0.606038 - 0.670713I$ $b = 0.412029 - 0.891858I$	$-0.95013 + 2.08177I$	0
$u = -0.379537 + 1.166630I$ $a = -0.287074 + 0.807064I$ $b = 1.260680 - 0.392746I$	$3.24751 + 6.55339I$	0
$u = -0.379537 - 1.166630I$ $a = -0.287074 - 0.807064I$ $b = 1.260680 + 0.392746I$	$3.24751 - 6.55339I$	0
$u = -0.812370 + 0.928927I$ $a = -0.393145 - 0.449552I$ $b = -0.812370 - 0.928927I$	5.43471	0
$u = -0.812370 - 0.928927I$ $a = -0.393145 + 0.449552I$ $b = -0.812370 + 0.928927I$	5.43471	0
$u = -0.157943 + 0.747564I$ $a = 0.435776 + 1.251920I$ $b = 0.875010 - 0.701374I$	$-1.66166 + 2.52133I$	0
$u = -0.157943 - 0.747564I$ $a = 0.435776 - 1.251920I$ $b = 0.875010 + 0.701374I$	$-1.66166 - 2.52133I$	0
$u = 0.231689 + 1.224410I$ $a = 0.010178 + 0.457941I$ $b = -1.155170 - 0.349157I$	$0.98145 - 5.35116I$	0
$u = 0.231689 - 1.224410I$ $a = 0.010178 - 0.457941I$ $b = -1.155170 + 0.349157I$	$0.98145 + 5.35116I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.230370 + 0.254703I$ $a = 0.458305 + 0.363439I$ $b = 0.55533 - 1.31007I$	$3.2921 + 14.7804I$	0
$u = 1.230370 - 0.254703I$ $a = 0.458305 - 0.363439I$ $b = 0.55533 + 1.31007I$	$3.2921 - 14.7804I$	0
$u = -0.319455 + 1.229650I$ $a = 0.42204 + 1.71387I$ $b = -0.427974 - 1.343660I$	$9.57560 + 2.05177I$	0
$u = -0.319455 - 1.229650I$ $a = 0.42204 - 1.71387I$ $b = -0.427974 + 1.343660I$	$9.57560 - 2.05177I$	0
$u = -1.258400 + 0.224628I$ $a = 0.319793 - 0.210496I$ $b = 0.50264 + 1.39154I$	$0.80371 - 6.31586I$	0
$u = -1.258400 - 0.224628I$ $a = 0.319793 + 0.210496I$ $b = 0.50264 - 1.39154I$	$0.80371 + 6.31586I$	0
$u = -0.480389 + 1.194020I$ $a = 0.329898 - 0.502838I$ $b = -0.955469 - 0.100910I$	$5.08464 + 6.96702I$	0
$u = -0.480389 - 1.194020I$ $a = 0.329898 + 0.502838I$ $b = -0.955469 + 0.100910I$	$5.08464 - 6.96702I$	0
$u = 1.281720 + 0.237816I$ $a = 0.363279 + 0.164218I$ $b = 0.42535 - 1.43716I$	$4.28311 - 3.65401I$	0
$u = 1.281720 - 0.237816I$ $a = 0.363279 - 0.164218I$ $b = 0.42535 + 1.43716I$	$4.28311 + 3.65401I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.279301 + 1.280210I$ $a = 0.423438 + 0.169368I$ $b = -1.009490 + 0.082758I$	$5.28165 - 6.21646I$	0
$u = 0.279301 - 1.280210I$ $a = 0.423438 - 0.169368I$ $b = -1.009490 - 0.082758I$	$5.28165 + 6.21646I$	0
$u = -0.860284 + 0.988822I$ $a = 0.151296 - 0.567165I$ $b = 0.027828 + 0.865924I$	$4.59681 + 3.31614I$	0
$u = -0.860284 - 0.988822I$ $a = 0.151296 + 0.567165I$ $b = 0.027828 - 0.865924I$	$4.59681 - 3.31614I$	0
$u = -0.591986 + 1.173790I$ $a = 0.342599 + 0.107155I$ $b = -0.346029 - 0.556883I$	$1.31737 + 9.03075I$	0
$u = -0.591986 - 1.173790I$ $a = 0.342599 - 0.107155I$ $b = -0.346029 + 0.556883I$	$1.31737 - 9.03075I$	0
$u = 1.260680 + 0.392746I$ $a = -0.457565 + 0.651176I$ $b = -0.379537 - 1.166630I$	$3.24751 - 6.55339I$	0
$u = 1.260680 - 0.392746I$ $a = -0.457565 - 0.651176I$ $b = -0.379537 + 1.166630I$	$3.24751 + 6.55339I$	0
$u = -1.318600 + 0.090799I$ $a = -0.130965 + 1.045830I$ $b = -0.115536 - 0.897724I$	$-1.38965 - 5.51445I$	0
$u = -1.318600 - 0.090799I$ $a = -0.130965 - 1.045830I$ $b = -0.115536 + 0.897724I$	$-1.38965 + 5.51445I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.346029 + 0.556883I$ $a = -0.174283 + 0.698348I$ $b = -0.591986 - 1.173790I$	$1.31737 - 9.03075I$	0
$u = -0.346029 - 0.556883I$ $a = -0.174283 - 0.698348I$ $b = -0.591986 + 1.173790I$	$1.31737 + 9.03075I$	0
$u = -0.149861 + 1.343480I$ $a = -0.34255 - 1.61940I$ $b = 0.46213 + 1.64750I$	$7.69928 - 1.29048I$	0
$u = -0.149861 - 1.343480I$ $a = -0.34255 + 1.61940I$ $b = 0.46213 - 1.64750I$	$7.69928 + 1.29048I$	0
$u = -0.626767 + 0.052292I$ $a = 1.59287 + 1.17537I$ $b = 0.830393 - 0.029504I$	$-3.65545 - 1.37519I$	0
$u = -0.626767 - 0.052292I$ $a = 1.59287 - 1.17537I$ $b = 0.830393 + 0.029504I$	$-3.65545 + 1.37519I$	0
$u = 0.022779 + 1.373030I$ $a = -0.15349 - 1.79171I$ $b = -0.43295 + 1.39446I$	$9.95382 - 0.97789I$	0
$u = 0.022779 - 1.373030I$ $a = -0.15349 + 1.79171I$ $b = -0.43295 - 1.39446I$	$9.95382 + 0.97789I$	0
$u = 0.617252 + 1.244230I$ $a = -1.00959 + 1.64080I$ $b = -0.286546 - 1.060440I$	$1.43885 - 5.66327I$	0
$u = 0.617252 - 1.244230I$ $a = -1.00959 - 1.64080I$ $b = -0.286546 + 1.060440I$	$1.43885 + 5.66327I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.596775 + 0.085152I$ $a = -1.221090 + 0.686600I$ $b = -0.372385 - 1.119160I$	$5.57476 - 1.26107I$	0
$u = -0.596775 - 0.085152I$ $a = -1.221090 - 0.686600I$ $b = -0.372385 + 1.119160I$	$5.57476 + 1.26107I$	0
$u = -0.457576 + 1.327340I$ $a = -0.311758 + 0.409802I$ $b = 1.41697 + 0.24184I$	$0.58587 + 5.61514I$	0
$u = -0.457576 - 1.327340I$ $a = -0.311758 - 0.409802I$ $b = 1.41697 - 0.24184I$	$0.58587 - 5.61514I$	0
$u = -0.551315 + 1.291600I$ $a = 0.93491 + 1.79988I$ $b = 0.40397 - 1.39491I$	$8.9863 + 11.7712I$	0
$u = -0.551315 - 1.291600I$ $a = 0.93491 - 1.79988I$ $b = 0.40397 + 1.39491I$	$8.9863 - 11.7712I$	0
$u = -0.427974 + 1.343660I$ $a = 0.50186 + 1.50893I$ $b = -0.319455 - 1.229650I$	$9.57560 - 2.05177I$	0
$u = -0.427974 - 1.343660I$ $a = 0.50186 - 1.50893I$ $b = -0.319455 + 1.229650I$	$9.57560 + 2.05177I$	0
$u = 0.55533 + 1.31007I$ $a = -0.235598 - 0.459632I$ $b = 1.230370 - 0.254703I$	$3.2921 - 14.7804I$	0
$u = 0.55533 - 1.31007I$ $a = -0.235598 + 0.459632I$ $b = 1.230370 + 0.254703I$	$3.2921 + 14.7804I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.470448 + 0.329063I$ $a = -0.239423 + 0.761179I$ $b = 0.556675 - 0.721239I$	$-1.18885 + 2.26631I$	0
$u = 0.470448 - 0.329063I$ $a = -0.239423 - 0.761179I$ $b = 0.556675 + 0.721239I$	$-1.18885 - 2.26631I$	0
$u = 0.075281 + 0.561161I$ $a = -1.50082 - 1.15106I$ $b = -0.236688 + 1.094480I$	$3.96542 - 1.04583I$	0
$u = 0.075281 - 0.561161I$ $a = -1.50082 + 1.15106I$ $b = -0.236688 - 1.094480I$	$3.96542 + 1.04583I$	0
$u = 1.41697 + 0.24184I$ $a = -0.345569 - 0.365393I$ $b = -0.457576 + 1.327340I$	$0.58587 + 5.61514I$	0
$u = 1.41697 - 0.24184I$ $a = -0.345569 + 0.365393I$ $b = -0.457576 - 1.327340I$	$0.58587 - 5.61514I$	0
$u = -0.529535 + 0.181712I$ $a = 0.109848 + 1.151910I$ $b = 0.769595 + 0.325344I$	$0.36607 - 2.90205I$	0
$u = -0.529535 - 0.181712I$ $a = 0.109848 - 1.151910I$ $b = 0.769595 - 0.325344I$	$0.36607 + 2.90205I$	0
$u = -0.348936 + 0.423459I$ $a = -0.181989 + 0.012522I$ $b = 0.590944 + 1.051200I$	$-0.39673 - 2.90112I$	0
$u = -0.348936 - 0.423459I$ $a = -0.181989 - 0.012522I$ $b = 0.590944 - 1.051200I$	$-0.39673 + 2.90112I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.40397 + 1.39491I$ $a = -0.68638 + 1.83730I$ $b = -0.551315 - 1.291600I$	$8.9863 - 11.7712I$	0
$u = 0.40397 - 1.39491I$ $a = -0.68638 - 1.83730I$ $b = -0.551315 + 1.291600I$	$8.9863 + 11.7712I$	0
$u = -0.43295 + 1.39446I$ $a = -0.66340 - 1.55568I$ $b = 0.022779 + 1.373030I$	$9.95382 - 0.97789I$	0
$u = -0.43295 - 1.39446I$ $a = -0.66340 + 1.55568I$ $b = 0.022779 - 1.373030I$	$9.95382 + 0.97789I$	0
$u = -0.62997 + 1.33590I$ $a = 0.93898 + 1.51064I$ $b = 0.68237 - 1.40239I$	$4.43218 + 12.85640I$	0
$u = -0.62997 - 1.33590I$ $a = 0.93898 - 1.51064I$ $b = 0.68237 + 1.40239I$	$4.43218 - 12.85640I$	0
$u = 0.50264 + 1.39154I$ $a = 0.132502 + 0.303080I$ $b = -1.258400 + 0.224628I$	$0.80371 - 6.31586I$	0
$u = 0.50264 - 1.39154I$ $a = 0.132502 - 0.303080I$ $b = -1.258400 - 0.224628I$	$0.80371 + 6.31586I$	0
$u = 0.39602 + 1.42579I$ $a = -0.44463 + 1.46195I$ $b = 0.21407 - 1.56500I$	$9.93148 - 9.21401I$	0
$u = 0.39602 - 1.42579I$ $a = -0.44463 - 1.46195I$ $b = 0.21407 + 1.56500I$	$9.93148 + 9.21401I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.56943 + 1.36887I$ $a = -0.72383 - 1.80179I$ $b = -0.307643 + 1.045480I$	$2.87307 + 11.89210I$	0
$u = -0.56943 - 1.36887I$ $a = -0.72383 + 1.80179I$ $b = -0.307643 - 1.045480I$	$2.87307 - 11.89210I$	0
$u = -0.21774 + 1.48046I$ $a = 0.08540 + 1.94345I$ $b = 0.145803 - 0.995620I$	$4.97164 + 0.41306I$	0
$u = -0.21774 - 1.48046I$ $a = 0.08540 - 1.94345I$ $b = 0.145803 + 0.995620I$	$4.97164 - 0.41306I$	0
$u = 0.42535 + 1.43716I$ $a = -0.109163 - 0.329124I$ $b = 1.281720 - 0.237816I$	$4.28311 + 3.65401I$	0
$u = 0.42535 - 1.43716I$ $a = -0.109163 + 0.329124I$ $b = 1.281720 + 0.237816I$	$4.28311 - 3.65401I$	0
$u = -0.09512 + 1.50453I$ $a = -0.19654 - 1.51770I$ $b = 0.28620 + 1.76342I$	$7.74831 - 1.15388I$	0
$u = -0.09512 - 1.50453I$ $a = -0.19654 + 1.51770I$ $b = 0.28620 - 1.76342I$	$7.74831 + 1.15388I$	0
$u = -1.50934$ $a = 1.06725$ $b = 1.57849$	-4.68287	0
$u = -0.016879 + 0.463860I$ $a = 0.99715 + 2.36389I$ $b = 0.500231 + 0.987406I$	$2.53258 - 1.74513I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.016879 - 0.463860I$ $a = 0.99715 - 2.36389I$ $b = 0.500231 - 0.987406I$	$2.53258 + 1.74513I$	0
$u = 0.68237 + 1.40239I$ $a = -0.90664 + 1.41967I$ $b = -0.62997 - 1.33590I$	$4.43218 - 12.85640I$	0
$u = 0.68237 - 1.40239I$ $a = -0.90664 - 1.41967I$ $b = -0.62997 + 1.33590I$	$4.43218 + 12.85640I$	0
$u = -0.85395 + 1.30740I$ $a = 0.79814 + 1.29591I$ $b = 0.111590 - 1.053510I$	$5.44010 + 4.01731I$	0
$u = -0.85395 - 1.30740I$ $a = 0.79814 - 1.29591I$ $b = 0.111590 + 1.053510I$	$5.44010 - 4.01731I$	0
$u = 1.57849$ $a = -1.02050$ $b = -1.50934$	-4.68287	0
$u = 0.21407 + 1.56500I$ $a = -0.15946 + 1.42261I$ $b = 0.39602 - 1.42579I$	$9.93148 + 9.21401I$	0
$u = 0.21407 - 1.56500I$ $a = -0.15946 - 1.42261I$ $b = 0.39602 + 1.42579I$	$9.93148 - 9.21401I$	0
$u = 0.46213 + 1.64750I$ $a = 0.229099 - 1.287460I$ $b = -0.149861 + 1.343480I$	$7.69928 - 1.29048I$	0
$u = 0.46213 - 1.64750I$ $a = 0.229099 + 1.287460I$ $b = -0.149861 - 1.343480I$	$7.69928 + 1.29048I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.28620 + 1.76342I$	$7.74831 - 1.15388I$	0
$a = 0.122828 - 1.285550I$		
$b = -0.09512 + 1.50453I$		
$u = 0.28620 - 1.76342I$	$7.74831 + 1.15388I$	0
$a = 0.122828 + 1.285550I$		
$b = -0.09512 - 1.50453I$		

III.

$$I_3^u = \langle b + u, -734u^{15} + 181u^{14} + \dots + 293a - 1410, u^{16} + u^{15} + \dots - u - 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_7 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_3 &= \begin{pmatrix} 2.50512u^{15} - 0.617747u^{14} + \dots - 11.6382u + 4.81229 \\ -u \end{pmatrix} \\ a_8 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_2 &= \begin{pmatrix} 2.50512u^{15} - 0.617747u^{14} + \dots - 12.6382u + 4.81229 \\ -u \end{pmatrix} \\ a_6 &= \begin{pmatrix} -3.12287u^{15} - 3.17406u^{14} + \dots + 7.31741u + 3.50512 \\ -u^2 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 3.74744u^{15} + 3.80887u^{14} + \dots - 15.1809u + 0.593857 \\ 0.286689u^{15} + 1.40614u^{14} + \dots - 1.74061u - 0.511945 \end{pmatrix} \\ a_4 &= \begin{pmatrix} 4.39590u^{15} + 3.89420u^{14} + \dots - 25.6894u - 6.84983 \\ 1.33106u^{15} + 1.38567u^{14} + \dots - 4.93857u - 1.80546 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_5 &= \begin{pmatrix} -2.18089u^{15} - 2.83959u^{14} + \dots + 5.88396u + 3.96587 \\ 0.522184u^{15} - 0.0102389u^{14} + \dots - 1.09898u - 0.146758 \end{pmatrix} \\ a_1 &= \begin{pmatrix} -2.07167u^{15} - 0.351536u^{14} + \dots + 4.93515u - 6.37201 \\ -0.720137u^{15} - 1.43686u^{14} + \dots + 1.44369u + 1.07167 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -3.48805u^{15} - 4.77474u^{14} + \dots + 11.1775u + 9.22867 \\ -0.522184u^{15} + 0.0102389u^{14} + \dots + 1.09898u + 0.146758 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

$$(iii) \text{ Cusp Shapes} = \frac{3185}{293}u^{15} + \frac{5855}{293}u^{14} + \dots - \frac{3662}{293}u - \frac{6713}{293}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{16} - 4u^{15} + \dots + 8u^2 + 1$
c_2, c_7	$u^{16} + u^{15} + \dots - u - 1$
c_3, c_5	$u^{16} - 2u^{15} + \dots + 10u^2 - 1$
c_4	$u^{16} - 6u^{15} + \dots - 8u^2 + 1$
c_6, c_{11}	$u^{16} - u^{15} + \dots + u - 1$
c_8	$u^{16} + u^{13} + \dots + 37u + 44$
c_9, c_{12}	$u^{16} + u^{14} + \dots - 11u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{16} - 2y^{15} + \dots + 16y + 1$
c_2, c_6, c_7 c_{11}	$y^{16} + 5y^{15} + \dots + 13y + 1$
c_3, c_5	$y^{16} - 2y^{15} + \dots - 20y + 1$
c_4	$y^{16} + 6y^{15} + \dots - 16y + 1$
c_8	$y^{16} + 6y^{14} + \dots + 3911y + 1936$
c_9, c_{12}	$y^{16} + 2y^{15} + \dots - 53y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.592060 + 0.863415I$ $a = -1.05915 + 1.03727I$ $b = -0.592060 - 0.863415I$	$-1.02577 - 4.67734I$	$-5.65090 + 5.59419I$
$u = 0.592060 - 0.863415I$ $a = -1.05915 - 1.03727I$ $b = -0.592060 + 0.863415I$	$-1.02577 + 4.67734I$	$-5.65090 - 5.59419I$
$u = -0.614419 + 0.860141I$ $a = 0.333592 + 1.113720I$ $b = 0.614419 - 0.860141I$	$3.49086 + 4.82972I$	$2.21580 - 6.31142I$
$u = -0.614419 - 0.860141I$ $a = 0.333592 - 1.113720I$ $b = 0.614419 + 0.860141I$	$3.49086 - 4.82972I$	$2.21580 + 6.31142I$
$u = 0.246477 + 1.093440I$ $a = -0.22389 + 3.00248I$ $b = -0.246477 - 1.093440I$	$4.24334 - 2.06485I$	$7.24940 - 4.45089I$
$u = 0.246477 - 1.093440I$ $a = -0.22389 - 3.00248I$ $b = -0.246477 + 1.093440I$	$4.24334 + 2.06485I$	$7.24940 + 4.45089I$
$u = -0.284980 + 0.799719I$ $a = -0.963447 - 0.110403I$ $b = 0.284980 - 0.799719I$	$7.09502 + 2.34872I$	$9.46627 - 2.87092I$
$u = -0.284980 - 0.799719I$ $a = -0.963447 + 0.110403I$ $b = 0.284980 + 0.799719I$	$7.09502 - 2.34872I$	$9.46627 + 2.87092I$
$u = 0.324670 + 0.783821I$ $a = -1.37964 - 1.17093I$ $b = -0.324670 - 0.783821I$	$2.14631 - 2.74663I$	$-1.59579 + 10.42633I$
$u = 0.324670 - 0.783821I$ $a = -1.37964 + 1.17093I$ $b = -0.324670 + 0.783821I$	$2.14631 + 2.74663I$	$-1.59579 - 10.42633I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.38814$ $a = -1.14584$ $b = -1.38814$	-5.04879	-24.4310
$u = -0.49308 + 1.36578I$ $a = 0.71446 + 1.76339I$ $b = 0.49308 - 1.36578I$	$6.67717 + 12.38700I$	$2.39219 - 9.54639I$
$u = -0.49308 - 1.36578I$ $a = 0.71446 - 1.76339I$ $b = 0.49308 + 1.36578I$	$6.67717 - 12.38700I$	$2.39219 + 9.54639I$
$u = -0.147311 + 0.489997I$ $a = 0.65324 - 4.40227I$ $b = 0.147311 - 0.489997I$	$-1.45120 - 6.37650I$	$-7.62737 + 3.65085I$
$u = -0.147311 - 0.489997I$ $a = 0.65324 + 4.40227I$ $b = 0.147311 + 0.489997I$	$-1.45120 + 6.37650I$	$-7.62737 - 3.65085I$
$u = -1.63498$ $a = 0.995493$ $b = 1.63498$	-4.40398	26.5320

IV.

$$I_4^u = \langle -1.89 \times 10^{23} u^{35} - 2.04 \times 10^{23} u^{34} + \dots + 4.01 \times 10^{22} b + 1.58 \times 10^{23}, -5.18 \times 10^{23} u^{35} - 1.19 \times 10^{24} u^{34} + \dots + 4.01 \times 10^{22} a - 1.90 \times 10^{24}, u^{36} + u^{35} + \dots - 5u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_7 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_3 &= \begin{pmatrix} 12.9064u^{35} + 29.6131u^{34} + \dots - 126.653u + 47.2864 \\ 4.71494u^{35} + 5.07293u^{34} + \dots + 33.0974u - 3.93979 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_2 &= \begin{pmatrix} 17.6214u^{35} + 34.6860u^{34} + \dots - 93.5552u + 43.3466 \\ 4.71494u^{35} + 5.07293u^{34} + \dots + 33.0974u - 3.93979 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -14.0943u^{35} - 7.88760u^{34} + \dots - 252.812u + 43.2033 \\ 0.0442055u^{35} + 0.974307u^{34} + \dots - 10.5700u + 5.87301 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 33.5628u^{35} + 30.9546u^{34} + \dots + 253.130u - 23.5349 \\ 0.598467u^{35} - 4.69580u^{34} + \dots + 116.376u - 25.1793 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -19.8289u^{35} - 24.6222u^{34} + \dots - 23.1178u - 8.00354 \\ -4.02420u^{35} - 2.74113u^{34} + \dots - 71.8049u + 11.7930 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_5 &= \begin{pmatrix} -12.5082u^{35} - 7.16357u^{34} + \dots - 220.332u + 38.8645 \\ 1.42665u^{35} + 1.82004u^{34} + \dots + 16.0141u + 2.39634 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 3.02990u^{35} + 8.90801u^{34} + \dots - 102.663u + 23.4781 \\ 3.05249u^{35} + 8.44770u^{34} + \dots - 83.8348u + 22.1681 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -12.2037u^{35} - 23.3130u^{34} + \dots + 73.6885u - 24.3272 \\ -13.3543u^{35} - 19.2670u^{34} + \dots + 9.59052u - 13.7166 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = \frac{1009559048178357751475129}{40129683758578691916323} u^{35} + \frac{222601695048292064322363}{40129683758578691916323} u^{34} + \dots + \frac{29700683414882181083918445}{40129683758578691916323} u - \frac{5700161845371451471985897}{40129683758578691916323}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{36} - 8u^{34} + \dots - 6u + 1$
c_2, c_7	$u^{36} + u^{35} + \dots - 5u + 1$
c_3, c_5	$u^{36} + 10u^{35} + \dots - 8u + 1$
c_4	$(u^{18} + 11u^{17} + \dots + u - 1)^2$
c_6, c_{11}	$u^{36} - u^{35} + \dots + 5u + 1$
c_8	$(u^{18} - 14u^{17} + \dots + 3u - 1)^2$
c_9, c_{12}	$u^{36} + 7u^{34} + \dots + 58u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{36} - 16y^{35} + \cdots + 22y + 1$
c_2, c_6, c_7 c_{11}	$y^{36} + 21y^{35} + \cdots + 27y + 1$
c_3, c_5	$y^{36} - 18y^{35} + \cdots + 4y + 1$
c_4	$(y^{18} - 27y^{17} + \cdots + 5y + 1)^2$
c_8	$(y^{18} - 30y^{17} + \cdots + 7y + 1)^2$
c_9, c_{12}	$y^{36} + 14y^{35} + \cdots + 636y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.541473 + 0.830962I$ $a = -2.09717 + 2.03383I$ $b = -0.043999 + 0.916796I$	$3.09034 - 1.86167I$	$0.8564 + 60.9206I$
$u = 0.541473 - 0.830962I$ $a = -2.09717 - 2.03383I$ $b = -0.043999 - 0.916796I$	$3.09034 + 1.86167I$	$0.8564 - 60.9206I$
$u = 0.386474 + 0.837721I$ $a = 0.419150 + 0.156355I$ $b = -0.880189 + 0.675372I$	$-1.73831 + 0.48135I$	$-9.52466 + 0.97628I$
$u = 0.386474 - 0.837721I$ $a = 0.419150 - 0.156355I$ $b = -0.880189 - 0.675372I$	$-1.73831 - 0.48135I$	$-9.52466 - 0.97628I$
$u = 0.043999 + 0.916796I$ $a = 0.55043 + 3.10845I$ $b = -0.541473 + 0.830962I$	$3.09034 + 1.86167I$	$0.8564 - 60.9206I$
$u = 0.043999 - 0.916796I$ $a = 0.55043 - 3.10845I$ $b = -0.541473 - 0.830962I$	$3.09034 - 1.86167I$	$0.8564 + 60.9206I$
$u = -1.084870 + 0.023231I$ $a = -0.353053 + 0.855440I$ $b = -0.040741 - 0.632363I$	$-1.94708 - 5.10746I$	$-6.87261 + 2.69949I$
$u = -1.084870 - 0.023231I$ $a = -0.353053 - 0.855440I$ $b = -0.040741 + 0.632363I$	$-1.94708 + 5.10746I$	$-6.87261 - 2.69949I$
$u = 0.880189 + 0.675372I$ $a = -0.203647 - 0.311319I$ $b = -0.386474 + 0.837721I$	$-1.73831 - 0.48135I$	$-9.52466 - 0.97628I$
$u = 0.880189 - 0.675372I$ $a = -0.203647 + 0.311319I$ $b = -0.386474 - 0.837721I$	$-1.73831 + 0.48135I$	$-9.52466 + 0.97628I$

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.271165 + 1.085780I$ $a = 1.096240 - 0.351622I$ $b = -0.535514 - 0.645292I$	$3.43335 - 1.38990I$	$2.04757 + 8.62806I$
$u = -0.271165 - 1.085780I$ $a = 1.096240 + 0.351622I$ $b = -0.535514 + 0.645292I$	$3.43335 + 1.38990I$	$2.04757 - 8.62806I$
$u = 0.535514 + 0.645292I$ $a = 1.24417 + 0.90153I$ $b = 0.271165 - 1.085780I$	$3.43335 - 1.38990I$	$2.04757 + 8.62806I$
$u = 0.535514 - 0.645292I$ $a = 1.24417 - 0.90153I$ $b = 0.271165 + 1.085780I$	$3.43335 + 1.38990I$	$2.04757 - 8.62806I$
$u = 0.454742 + 1.078240I$ $a = -0.367164 + 0.530546I$ $b = -0.684840 - 0.182885I$	$-0.60073 - 3.90759I$	$-3.09553 + 6.62345I$
$u = 0.454742 - 1.078240I$ $a = -0.367164 - 0.530546I$ $b = -0.684840 + 0.182885I$	$-0.60073 + 3.90759I$	$-3.09553 - 6.62345I$
$u = -0.504760 + 1.162640I$ $a = -0.888848 - 0.360620I$ $b = -0.053754 + 0.421357I$	$1.56290 + 9.91227I$	$2.17108 - 9.92474I$
$u = -0.504760 - 1.162640I$ $a = -0.888848 + 0.360620I$ $b = -0.053754 - 0.421357I$	$1.56290 - 9.91227I$	$2.17108 + 9.92474I$
$u = -0.264126 + 1.256880I$ $a = -0.41171 - 1.95918I$ $b = 0.264126 + 1.256880I$	9.00272	$5.31845 + 0.I$
$u = -0.264126 - 1.256880I$ $a = -0.41171 + 1.95918I$ $b = 0.264126 - 1.256880I$	9.00272	$5.31845 + 0.I$

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.684840 + 0.182885I$ $a = -1.063560 + 0.058235I$ $b = -0.454742 - 1.078240I$	$-0.60073 - 3.90759I$	$-3.09553 + 6.62345I$
$u = 0.684840 - 0.182885I$ $a = -1.063560 - 0.058235I$ $b = -0.454742 + 1.078240I$	$-0.60073 + 3.90759I$	$-3.09553 - 6.62345I$
$u = 0.040741 + 0.632363I$ $a = -1.43758 - 0.66688I$ $b = 1.084870 - 0.023231I$	$-1.94708 - 5.10746I$	$-6.87261 + 2.69949I$
$u = 0.040741 - 0.632363I$ $a = -1.43758 + 0.66688I$ $b = 1.084870 + 0.023231I$	$-1.94708 + 5.10746I$	$-6.87261 - 2.69949I$
$u = -0.353687 + 1.355250I$ $a = -0.292302 + 0.386330I$ $b = 1.41551 - 0.00925I$	$1.72116 + 6.20021I$	$0. - 8.78612I$
$u = -0.353687 - 1.355250I$ $a = -0.292302 - 0.386330I$ $b = 1.41551 + 0.00925I$	$1.72116 - 6.20021I$	$0. + 8.78612I$
$u = -1.41551 + 0.00925I$ $a = 0.294376 + 0.378311I$ $b = 0.353687 - 1.355250I$	$1.72116 + 6.20021I$	$0. - 8.78612I$
$u = -1.41551 - 0.00925I$ $a = 0.294376 - 0.378311I$ $b = 0.353687 + 1.355250I$	$1.72116 - 6.20021I$	$0. + 8.78612I$
$u = 0.142023 + 0.520428I$ $a = -0.94483 + 3.46224I$ $b = -0.142023 + 0.520428I$	-2.70675	$-8.71466 + 0.I$
$u = 0.142023 - 0.520428I$ $a = -0.94483 - 3.46224I$ $b = -0.142023 - 0.520428I$	-2.70675	$-8.71466 + 0.I$

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.03839 + 1.48640I$ $a = -0.14029 - 1.55761I$ $b = 0.33123 + 1.79297I$	$7.77973 - 1.03544I$	$0. - 33.4931I$
$u = -0.03839 - 1.48640I$ $a = -0.14029 + 1.55761I$ $b = 0.33123 - 1.79297I$	$7.77973 + 1.03544I$	$0. + 33.4931I$
$u = 0.053754 + 0.421357I$ $a = 2.24679 - 1.77320I$ $b = 0.504760 + 1.162640I$	$1.56290 - 9.91227I$	$2.17108 + 9.92474I$
$u = 0.053754 - 0.421357I$ $a = 2.24679 + 1.77320I$ $b = 0.504760 - 1.162640I$	$1.56290 + 9.91227I$	$2.17108 - 9.92474I$
$u = -0.33123 + 1.79297I$ $a = -0.151003 - 1.266400I$ $b = 0.03839 + 1.48640I$	$7.77973 + 1.03544I$	0
$u = -0.33123 - 1.79297I$ $a = -0.151003 + 1.266400I$ $b = 0.03839 - 1.48640I$	$7.77973 - 1.03544I$	0

$$\mathbf{V. } I_5^u = \langle b - u, a + 2u - 2, u^2 - u + 1 \rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -2u + 2 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -1 \\ -u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3u + 2 \\ u + 1 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u \\ -u + 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ -u + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2u \\ u - 2 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $12u - 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_5, c_6, c_7 c_9, c_{10}, c_{11} c_{12}	$y^2 + y + 1$
c_4	$y^2 - 3y + 9$
c_8	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$	$-6.08965I$	$0. + 10.39230I$
$a = 1.00000 - 1.73205I$		
$b = 0.500000 + 0.866025I$		
$u = 0.500000 - 0.866025I$	$6.08965I$	$0. - 10.39230I$
$a = 1.00000 + 1.73205I$		
$b = 0.500000 - 0.866025I$		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^2 + u + 1)(u^{16} - 4u^{15} + \dots + 8u^2 + 1)(u^{30} - 3u^{29} + \dots - 2u + 1)$ $\cdot (u^{36} - 8u^{34} + \dots - 6u + 1)(u^{162} - 15u^{161} + \dots - 1915810u + 78157)$
c_2, c_7	$(u^2 + u + 1)(u^{16} + u^{15} + \dots - u - 1)(u^{30} + 9u^{28} + \dots - u + 1)$ $\cdot (u^{36} + u^{35} + \dots - 5u + 1)(u^{162} - 2u^{161} + \dots + 4.78324 \times 10^7 u - 4973081)$
c_3, c_5	$(u^2 - u + 1)(u^{16} - 2u^{15} + \dots + 10u^2 - 1)(u^{30} - u^{29} + \dots + 12u + 11)$ $\cdot (u^{36} + 10u^{35} + \dots - 8u + 1)$ $\cdot (u^{162} - 5u^{161} + \dots - 1263792898u - 135983129)$
c_4	$(u^2 - 3u + 3)(u^{16} - 6u^{15} + \dots - 8u^2 + 1)(u^{18} + 11u^{17} + \dots + u - 1)^2$ $\cdot (u^{30} - 22u^{29} + \dots - 17664u + 1536)(u^{81} + 4u^{80} + \dots - 9u + 1)^2$
c_6, c_{11}	$(u^2 + u + 1)(u^{16} - u^{15} + \dots + u - 1)(u^{30} + 9u^{28} + \dots - u + 1)$ $\cdot (u^{36} - u^{35} + \dots + 5u + 1)(u^{162} - 2u^{161} + \dots + 4.78324 \times 10^7 u - 4973081)$
c_8	$u^2(u^{16} + u^{13} + \dots + 37u + 44)(u^{18} - 14u^{17} + \dots + 3u - 1)^2$ $\cdot (u^{30} + 19u^{29} + \dots + 22608u + 2592)$ $\cdot (u^{81} - 13u^{80} + \dots - 348250u - 398125)^2$
c_9, c_{12}	$(u^2 + u + 1)(u^{16} + u^{14} + \dots - 11u + 2)(u^{30} - u^{29} + \dots + 11u^2 + 2)$ $\cdot (u^{36} + 7u^{34} + \dots + 58u + 5)(u^{162} - 13u^{161} + \dots - 1252u + 5341)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^2 + y + 1)(y^{16} - 2y^{15} + \dots + 16y + 1)(y^{30} + 15y^{29} + \dots + 30y + 1)$ $\cdot (y^{36} - 16y^{35} + \dots + 22y + 1)$ $\cdot (y^{162} - 5y^{161} + \dots + 315891474626y + 6108516649)$
c_2, c_6, c_7 c_{11}	$(y^2 + y + 1)(y^{16} + 5y^{15} + \dots + 13y + 1)(y^{30} + 18y^{29} + \dots + 7y + 1)$ $\cdot (y^{36} + 21y^{35} + \dots + 27y + 1)$ $\cdot (y^{162} + 96y^{161} + \dots + 1122280033576759y + 24731534632561)$
c_3, c_5	$(y^2 + y + 1)(y^{16} - 2y^{15} + \dots - 20y + 1)(y^{30} - y^{29} + \dots + 890y + 121)$ $\cdot (y^{36} - 18y^{35} + \dots + 4y + 1)$ $\cdot (y^{162} - 79y^{161} + \dots - 1050391772674517412y + 18491411372630641)$
c_4	$(y^2 - 3y + 9)(y^{16} + 6y^{15} + \dots - 16y + 1)(y^{18} - 27y^{17} + \dots + 5y + 1)^2$ $\cdot (y^{30} + 8y^{29} + \dots + 26935296y + 2359296)$ $\cdot (y^{81} - 36y^{80} + \dots + 151y - 1)^2$
c_8	$y^2(y^{16} + 6y^{14} + \dots + 3911y + 1936)(y^{18} - 30y^{17} + \dots + 7y + 1)^2$ $\cdot (y^{30} - 5y^{29} + \dots + 33737472y + 6718464)$ $\cdot (y^{81} - 65y^{80} + \dots + 3852346312500y - 158503515625)^2$
c_9, c_{12}	$(y^2 + y + 1)(y^{16} + 2y^{15} + \dots - 53y + 4)(y^{30} - 5y^{29} + \dots + 44y + 4)$ $\cdot (y^{36} + 14y^{35} + \dots + 636y + 25)$ $\cdot (y^{162} + 29y^{161} + \dots - 2042438378y + 28526281)$