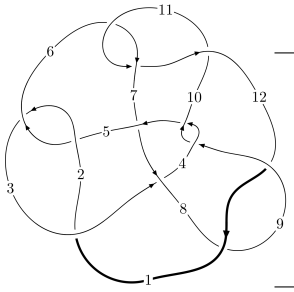
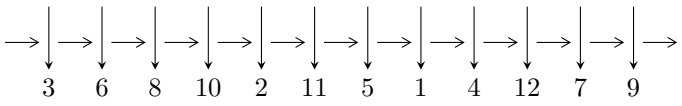
$12a_{0293}$ $(K12a_{0293})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -2.68620 \times 10^{394} u^{141} + 2.89813 \times 10^{395} u^{140} + \cdots + 1.40096 \times 10^{396} b - 3.85850 \times 10^{398},$$
$$-2.69292 \times 10^{397} u^{141} - 7.48767 \times 10^{397} u^{140} + \cdots + 8.29864 \times 10^{397} a + 9.29056 \times 10^{400},$$
$$u^{142} + 2u^{141} + \cdots + 547u - 1007 \rangle$$
$$I_2^u = \langle 11u^{28} + 2u^{27} + \cdots + b + 1,\ 36u^{28} - 17u^{27} + \cdots + a + 57,\ u^{29} - u^{28} + \cdots + 4u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 171 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. $\boldsymbol{I_1^u = \langle -2.69 \times 10^{394} u^{141} + 2.90 \times 10^{395} u^{140} + \cdots + 1.40 \times 10^{396} b - 3.86 \times 10^{398},\ -2.69 \times 10^{397} u^{141} - 7.49 \times 10^{397} u^{140} + \cdots + 8.30 \times 10^{397} a + 9.29 \times 10^{400},\ u^{142} + 2u^{141} + \cdots + 547u - 1007 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.324502u^{141} + 0.902277u^{140} + \cdots + 2024.09u - 1119.53 \\ 0.0191740u^{141} - 0.206867u^{140} + \cdots - 570.651u + 275.418 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.343676u^{141} + 0.695410u^{140} + \cdots + 1453.44u - 844.109 \\ 0.0191740u^{141} - 0.206867u^{140} + \cdots - 570.651u + 275.418 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.445228u^{141} + 0.992377u^{140} + \cdots + 1813.92u - 1079.17 \\ -1.24464u^{141} - 1.82063u^{140} + \cdots - 2017.86u + 1441.73 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.454052u^{141} - 0.769538u^{140} + \cdots - 1265.24u + 766.555 \\ -1.22762u^{141} - 1.01892u^{140} + \cdots + 23.3711u + 500.852 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.723879u^{141} - 0.854490u^{140} + \cdots + 584.319u - 16.5073 \\ 0.555025u^{141} + 0.280459u^{140} + \cdots - 836.186u + 46.1797 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.235017u^{141} - 0.253990u^{140} + \cdots - 1520.59u + 620.267 \\ -1.37505u^{141} - 1.24854u^{140} + \cdots - 244.129u + 679.355 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.62936u^{141} - 1.75855u^{140} + \cdots - 1055.05u + 1207.03 \\ 0.550954u^{141} + 0.242025u^{140} + \cdots - 673.973u + 8.66774 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.391067u^{141} - 0.798487u^{140} + \cdots - 3673.90u + 1241.22$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{142} + 54u^{141} + \cdots + 370442u + 6241$
c_2, c_5	$u^{142} + 8u^{141} + \cdots - 566u - 79$
c_3	$u^{142} + u^{141} + \cdots + 16848u - 905$
c_4, c_9	$u^{142} - u^{141} + \cdots + 10u^2 - 1$
c_6, c_{11}	$u^{142} - 2u^{141} + \cdots - 547u - 1007$
c_7	$u^{142} - 3u^{141} + \cdots - 8672u + 4937$
c_8, c_{12}	$u^{142} - 4u^{141} + \cdots + 11237u + 289$
c_{10}	$u^{142} + 58u^{141} + \cdots + 38359781u + 1014049$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{142} + 82y^{141} + \cdots - 5472163826y + 38950081$
c_2, c_5	$y^{142} - 54y^{141} + \cdots - 370442y + 6241$
c_3	$y^{142} + 27y^{141} + \cdots - 80000234y + 819025$
c_4, c_9	$y^{142} - 89y^{141} + \cdots - 20y + 1$
c_6, c_{11}	$y^{142} - 58y^{141} + \cdots - 38359781y + 1014049$
c_7	$y^{142} + 15y^{141} + \cdots + 1536104854y + 24373969$
c_8, c_{12}	$y^{142} + 104y^{141} + \cdots - 98905915y + 83521$
c_{10}	$y^{142} + 66y^{141} + \cdots + 28207829072127y + 1028295374401$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.852421 + 0.522282I$ $a = 1.74806 - 3.40367I$ $b = 0.859735 + 0.616722I$	$2.99761 - 1.03355I$	0
$u = 0.852421 - 0.522282I$ $a = 1.74806 + 3.40367I$ $b = 0.859735 - 0.616722I$	$2.99761 + 1.03355I$	0
$u = -0.928961 + 0.343247I$ $a = -1.079520 - 0.573628I$ $b = -1.182340 - 0.121222I$	$-3.19866 + 1.20959I$	0
$u = -0.928961 - 0.343247I$ $a = -1.079520 + 0.573628I$ $b = -1.182340 + 0.121222I$	$-3.19866 - 1.20959I$	0
$u = 0.869382 + 0.524205I$ $a = -1.01437 + 2.22245I$ $b = 0.835100 - 0.706450I$	$2.93974 - 3.19163I$	0
$u = 0.869382 - 0.524205I$ $a = -1.01437 - 2.22245I$ $b = 0.835100 + 0.706450I$	$2.93974 + 3.19163I$	0
$u = 0.672295 + 0.763385I$ $a = -0.16994 - 1.79953I$ $b = 0.647232 + 0.959592I$	$8.07878 + 0.85121I$	0
$u = 0.672295 - 0.763385I$ $a = -0.16994 + 1.79953I$ $b = 0.647232 - 0.959592I$	$8.07878 - 0.85121I$	0
$u = 0.816739 + 0.607186I$ $a = -2.34879 - 0.13672I$ $b = 0.850895 - 0.622594I$	$3.02412 + 3.83131I$	0
$u = 0.816739 - 0.607186I$ $a = -2.34879 + 0.13672I$ $b = 0.850895 + 0.622594I$	$3.02412 - 3.83131I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.886616 + 0.422301I$ $a = 0.286300 + 0.129508I$ $b = -1.131980 + 0.715887I$	$-1.56995 + 1.18711I$	0
$u = 0.886616 - 0.422301I$ $a = 0.286300 - 0.129508I$ $b = -1.131980 - 0.715887I$	$-1.56995 - 1.18711I$	0
$u = -0.953198 + 0.370460I$ $a = -0.445465 - 0.726537I$ $b = -1.40087 - 0.19638I$	$-3.10094 + 1.36359I$	0
$u = -0.953198 - 0.370460I$ $a = -0.445465 + 0.726537I$ $b = -1.40087 + 0.19638I$	$-3.10094 - 1.36359I$	0
$u = 0.618279 + 0.818936I$ $a = -0.82090 + 1.24911I$ $b = 1.079850 - 0.753387I$	$6.71061 + 7.10649I$	0
$u = 0.618279 - 0.818936I$ $a = -0.82090 - 1.24911I$ $b = 1.079850 + 0.753387I$	$6.71061 - 7.10649I$	0
$u = 0.509160 + 0.822000I$ $a = 0.27897 - 1.61555I$ $b = -1.010670 + 0.646060I$	$-0.76963 + 6.91366I$	0
$u = 0.509160 - 0.822000I$ $a = 0.27897 + 1.61555I$ $b = -1.010670 - 0.646060I$	$-0.76963 - 6.91366I$	0
$u = -0.826303 + 0.500457I$ $a = 1.49305 + 0.62863I$ $b = -1.000330 - 0.949949I$	$-0.81298 - 1.57306I$	0
$u = -0.826303 - 0.500457I$ $a = 1.49305 - 0.62863I$ $b = -1.000330 + 0.949949I$	$-0.81298 + 1.57306I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.930284 + 0.254180I$ $a = 0.998616 - 0.488365I$ $b = -0.664075 + 0.912474I$	$-0.38593 + 1.76929I$	0
$u = 0.930284 - 0.254180I$ $a = 0.998616 + 0.488365I$ $b = -0.664075 - 0.912474I$	$-0.38593 - 1.76929I$	0
$u = -0.898633 + 0.516167I$ $a = -0.60340 - 2.44721I$ $b = -1.08826 + 0.92073I$	$-1.06998 + 5.69980I$	0
$u = -0.898633 - 0.516167I$ $a = -0.60340 + 2.44721I$ $b = -1.08826 - 0.92073I$	$-1.06998 - 5.69980I$	0
$u = 0.560948 + 0.779853I$ $a = 0.731956 + 1.195910I$ $b = -0.595659 - 0.690517I$	$0.43167 + 1.73263I$	0
$u = 0.560948 - 0.779853I$ $a = 0.731956 - 1.195910I$ $b = -0.595659 + 0.690517I$	$0.43167 - 1.73263I$	0
$u = 1.033110 + 0.123064I$ $a = 1.059870 - 0.179354I$ $b = 0.922437 - 0.459297I$	$-2.24178 + 1.78905I$	0
$u = 1.033110 - 0.123064I$ $a = 1.059870 + 0.179354I$ $b = 0.922437 + 0.459297I$	$-2.24178 - 1.78905I$	0
$u = -0.831311 + 0.460358I$ $a = -0.664289 + 0.801812I$ $b = 0.652636 - 0.765992I$	$2.51745 + 0.76617I$	0
$u = -0.831311 - 0.460358I$ $a = -0.664289 - 0.801812I$ $b = 0.652636 + 0.765992I$	$2.51745 - 0.76617I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.862941 + 0.602584I$ $a = -0.23863 + 1.41189I$ $b = -0.693700 - 0.779435I$	$-0.40441 - 4.89013I$	0
$u = 0.862941 - 0.602584I$ $a = -0.23863 - 1.41189I$ $b = -0.693700 + 0.779435I$	$-0.40441 + 4.89013I$	0
$u = 0.725636 + 0.591320I$ $a = 0.871670 - 0.629506I$ $b = -0.459795 + 0.602011I$	$-0.0147121 + 0.0682797I$	0
$u = 0.725636 - 0.591320I$ $a = 0.871670 + 0.629506I$ $b = -0.459795 - 0.602011I$	$-0.0147121 - 0.0682797I$	0
$u = 0.887664 + 0.589588I$ $a = -1.20735 - 2.14295I$ $b = 0.879629 + 0.692664I$	$2.80012 - 8.55528I$	0
$u = 0.887664 - 0.589588I$ $a = -1.20735 + 2.14295I$ $b = 0.879629 - 0.692664I$	$2.80012 + 8.55528I$	0
$u = -0.516624 + 0.940358I$ $a = 0.40988 - 1.61323I$ $b = -0.613362 + 0.891946I$	$5.24057 - 7.32404I$	0
$u = -0.516624 - 0.940358I$ $a = 0.40988 + 1.61323I$ $b = -0.613362 - 0.891946I$	$5.24057 + 7.32404I$	0
$u = 0.569659 + 0.727782I$ $a = 0.968075 - 0.287809I$ $b = -0.713803 - 0.051834I$	$0.598697 + 0.714553I$	0
$u = 0.569659 - 0.727782I$ $a = 0.968075 + 0.287809I$ $b = -0.713803 + 0.051834I$	$0.598697 - 0.714553I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.115177 + 1.072180I$ $a = -0.123782 + 1.343500I$ $b = 0.752483 - 0.668716I$	$4.75781 + 2.09794I$	0
$u = 0.115177 - 1.072180I$ $a = -0.123782 - 1.343500I$ $b = 0.752483 + 0.668716I$	$4.75781 - 2.09794I$	0
$u = -0.741271 + 0.533819I$ $a = 1.08179 + 0.96471I$ $b = 0.554539 + 0.273850I$	$2.62137 + 2.52187I$	0
$u = -0.741271 - 0.533819I$ $a = 1.08179 - 0.96471I$ $b = 0.554539 - 0.273850I$	$2.62137 - 2.52187I$	0
$u = -1.066580 + 0.218214I$ $a = 1.70743 + 1.44159I$ $b = 1.003330 - 0.194292I$	$-8.84637 + 0.96973I$	0
$u = -1.066580 - 0.218214I$ $a = 1.70743 - 1.44159I$ $b = 1.003330 + 0.194292I$	$-8.84637 - 0.96973I$	0
$u = 0.984927 + 0.486064I$ $a = -0.65608 + 1.72958I$ $b = -1.197500 - 0.431898I$	$-2.16249 - 4.43464I$	0
$u = 0.984927 - 0.486064I$ $a = -0.65608 - 1.72958I$ $b = -1.197500 + 0.431898I$	$-2.16249 + 4.43464I$	0
$u = -0.894072 + 0.087314I$ $a = 1.58003 + 0.02822I$ $b = 1.071510 - 0.596786I$	$0.65212 + 7.13519I$	0
$u = -0.894072 - 0.087314I$ $a = 1.58003 - 0.02822I$ $b = 1.071510 + 0.596786I$	$0.65212 - 7.13519I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.105770+0.011522I$ $a=-0.246979-0.051448I$ $b=-0.484147+0.531407I$	$-5.19893-0.47938I$	0
$u=-1.105770-0.011522I$ $a=-0.246979+0.051448I$ $b=-0.484147-0.531407I$	$-5.19893+0.47938I$	0
$u=-0.951359+0.570532I$ $a=-0.730005-0.023077I$ $b=\ \ 0.481977+0.690534I$	$1.81719+3.20843I$	0
$u=-0.951359-0.570532I$ $a=-0.730005+0.023077I$ $b=\ \ 0.481977-0.690534I$	$1.81719-3.20843I$	0
$u=-0.306565+0.835713I$ $a=-0.433750+0.159578I$ $b=\ \ 1.158000+0.149980I$	$-1.86782-6.31057I$	0
$u=-0.306565-0.835713I$ $a=-0.433750-0.159578I$ $b=\ \ 1.158000-0.149980I$	$-1.86782+6.31057I$	0
$u=-1.056030+0.344774I$ $a=-0.811469+0.043475I$ $b=-1.110640-0.123459I$	$-3.62518+1.11514I$	0
$u=-1.056030-0.344774I$ $a=-0.811469-0.043475I$ $b=-1.110640+0.123459I$	$-3.62518-1.11514I$	0
$u=-0.491268+1.002510I$ $a=\ \ 0.60323+1.41024I$ $b=-1.072330-0.719237I$	$3.82528-13.28310I$	0
$u=-0.491268-1.002510I$ $a=\ \ 0.60323-1.41024I$ $b=-1.072330+0.719237I$	$3.82528+13.28310I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.792020+0.388662I$ $a=\ \ 0.21687-1.62463I$ $b=\ \ 1.006630+0.692777I$	$1.46834-4.76812I$	0
$u=-0.792020-0.388662I$ $a=\ \ 0.21687+1.62463I$ $b=\ \ 1.006630-0.692777I$	$1.46834+4.76812I$	0
$u=\ \ 1.022710+0.492451I$ $a=-0.57379+1.89405I$ $b=-1.158960-0.640463I$	$-2.15714-4.58322I$	0
$u=\ \ 1.022710-0.492451I$ $a=-0.57379-1.89405I$ $b=-1.158960+0.640463I$	$-2.15714+4.58322I$	0
$u=-0.881572+0.716802I$ $a=\ \ 0.094222+0.420241I$ $b=\ \ 0.587744+0.066837I$	$2.20673+2.73955I$	0
$u=-0.881572-0.716802I$ $a=\ \ 0.094222-0.420241I$ $b=\ \ 0.587744-0.066837I$	$2.20673-2.73955I$	0
$u=-0.542340+0.671516I$ $a=-0.232618+1.233450I$ $b=\ \ 0.690239-0.693270I$	$3.04926+1.49186I$	0
$u=-0.542340-0.671516I$ $a=-0.232618-1.233450I$ $b=\ \ 0.690239+0.693270I$	$3.04926-1.49186I$	0
$u=\ \ 0.288449+1.100650I$ $a=-0.476611-1.223120I$ $b=\ \ 0.928005+0.655043I$	$4.22559-3.04093I$	0
$u=\ \ 0.288449-1.100650I$ $a=-0.476611+1.223120I$ $b=\ \ 0.928005-0.655043I$	$4.22559+3.04093I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.006040+0.558030I$ $a=-0.593780-1.195060I$ $b=-0.285916+1.151110I$	$1.54322+7.46859I$	0
$u=-1.006040-0.558030I$ $a=-0.593780+1.195060I$ $b=-0.285916-1.151110I$	$1.54322-7.46859I$	0
$u=-0.852694+0.790262I$ $a=\ \ 1.21942+1.54580I$ $b=-0.834454-0.668822I$	$5.22377+0.45128I$	0
$u=-0.852694-0.790262I$ $a=\ \ 1.21942-1.54580I$ $b=-0.834454+0.668822I$	$5.22377-0.45128I$	0
$u=-1.037860+0.536300I$ $a=\ \ 1.22926+1.86599I$ $b=\ \ 1.051930-0.626147I$	$0.21554+8.31542I$	0
$u=-1.037860-0.536300I$ $a=\ \ 1.22926-1.86599I$ $b=\ \ 1.051930+0.626147I$	$0.21554-8.31542I$	0
$u=-0.883184+0.800610I$ $a=\ \ 0.51949-2.33474I$ $b=-0.874144+0.660405I$	$5.09967+5.59963I$	0
$u=-0.883184-0.800610I$ $a=\ \ 0.51949+2.33474I$ $b=-0.874144-0.660405I$	$5.09967-5.59963I$	0
$u=\ \ 0.987651+0.670354I$ $a=-1.236710+0.622231I$ $b=\ \ 0.593529-1.029230I$	$7.11697-6.28451I$	0
$u=\ \ 0.987651-0.670354I$ $a=-1.236710-0.622231I$ $b=\ \ 0.593529+1.029230I$	$7.11697+6.28451I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.196680+0.052257I$ $a=-1.195550+0.516743I$ $b=-0.998351-0.559733I$	$-6.59305-4.92954I$	0
$u=-1.196680-0.052257I$ $a=-1.195550-0.516743I$ $b=-0.998351+0.559733I$	$-6.59305+4.92954I$	0
$u=0.440387+0.666012I$ $a=0.341366-0.304582I$ $b=1.041510+0.008108I$	$-4.67675+0.93022I$	0
$u=0.440387-0.666012I$ $a=0.341366+0.304582I$ $b=1.041510-0.008108I$	$-4.67675-0.93022I$	0
$u=1.057410+0.574781I$ $a=0.888170-0.941572I$ $b=1.124080-0.026846I$	$-6.45619-5.74720I$	0
$u=1.057410-0.574781I$ $a=0.888170+0.941572I$ $b=1.124080+0.026846I$	$-6.45619+5.74720I$	0
$u=-0.365087+0.706066I$ $a=-0.430904-1.136980I$ $b=0.963091+0.652339I$	$2.24095-3.70692I$	0
$u=-0.365087-0.706066I$ $a=-0.430904+1.136980I$ $b=0.963091-0.652339I$	$2.24095+3.70692I$	0
$u=-0.915836+0.787133I$ $a=1.35611+0.89539I$ $b=-0.835653-0.645485I$	$5.00880+0.41593I$	0
$u=-0.915836-0.787133I$ $a=1.35611-0.89539I$ $b=-0.835653+0.645485I$	$5.00880-0.41593I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.951707+0.744263I$ $a=-0.24627-2.58132I$ $b=-0.868640+0.639271I$	$4.90622+5.42592I$	0
$u=-0.951707-0.744263I$ $a=-0.24627+2.58132I$ $b=-0.868640-0.639271I$	$4.90622-5.42592I$	0
$u=-0.927004+0.806925I$ $a=\ \ 0.031716-0.152386I$ $b=\ \ 0.678856+0.083156I$	$2.03155+2.81639I$	0
$u=-0.927004-0.806925I$ $a=\ \ 0.031716+0.152386I$ $b=\ \ 0.678856-0.083156I$	$2.03155-2.81639I$	0
$u=\ \ 1.041520+0.660714I$ $a=\ \ 0.263352+0.982891I$ $b=-0.566293-0.067504I$	$-0.79154-6.05539I$	0
$u=\ \ 1.041520-0.660714I$ $a=\ \ 0.263352-0.982891I$ $b=-0.566293+0.067504I$	$-0.79154+6.05539I$	0
$u=-0.547295+0.528936I$ $a=\ \ 1.33594+1.05849I$ $b=-0.125786-0.961890I$	$2.87276-2.98213I$	0
$u=-0.547295-0.528936I$ $a=\ \ 1.33594-1.05849I$ $b=-0.125786+0.961890I$	$2.87276+2.98213I$	0
$u=\ \ 1.037830+0.681322I$ $a=\ \ 0.59818-2.22506I$ $b=\ \ 1.126840+0.756715I$	$5.42664-12.72780I$	0
$u=\ \ 1.037830-0.681322I$ $a=\ \ 0.59818+2.22506I$ $b=\ \ 1.126840-0.756715I$	$5.42664+12.72780I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.055010 + 0.659601I$ $a = 1.174390 - 0.198664I$ $b = -0.540277 + 0.734008I$	$-1.04234 - 7.18358I$	0
$u = 1.055010 - 0.659601I$ $a = 1.174390 + 0.198664I$ $b = -0.540277 - 0.734008I$	$-1.04234 + 7.18358I$	0
$u = -0.740184$ $a = -2.64934$ $b = 0.662336$	-6.93278	0
$u = -1.122460 + 0.584418I$ $a = -0.377221 - 0.478588I$ $b = 0.449675 + 0.702664I$	$1.28964 + 3.08825I$	0
$u = -1.122460 - 0.584418I$ $a = -0.377221 + 0.478588I$ $b = 0.449675 - 0.702664I$	$1.28964 - 3.08825I$	0
$u = 1.089700 + 0.660771I$ $a = -0.95175 + 2.31640I$ $b = -1.044460 - 0.647731I$	$-2.50261 - 12.47390I$	0
$u = 1.089700 - 0.660771I$ $a = -0.95175 - 2.31640I$ $b = -1.044460 + 0.647731I$	$-2.50261 + 12.47390I$	0
$u = 0.689411 + 0.224881I$ $a = -3.90942 + 0.07327I$ $b = -0.719659 + 0.334319I$	$1.26734 + 2.22619I$	0
$u = 0.689411 - 0.224881I$ $a = -3.90942 - 0.07327I$ $b = -0.719659 - 0.334319I$	$1.26734 - 2.22619I$	0
$u = -1.134690 + 0.590773I$ $a = 0.542467 + 1.090910I$ $b = 1.276070 - 0.165270I$	$-4.29322 + 11.53980I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.134690-0.590773I$ $a=\ \ 0.542467-1.090910I$ $b=\ \ 1.276070+0.165270I$	$-4.29322-11.53980I$	0
$u=\ \ 1.276830+0.090214I$ $a=-0.143056-0.638524I$ $b=-0.437817+0.730600I$	$-1.82393-5.06035I$	0
$u=\ \ 1.276830-0.090214I$ $a=-0.143056+0.638524I$ $b=-0.437817-0.730600I$	$-1.82393+5.06035I$	0
$u=\ \ 1.274000+0.169712I$ $a=\ \ 0.872102-0.620200I$ $b=\ \ 1.162740+0.055348I$	$-7.15183+3.04097I$	0
$u=\ \ 1.274000-0.169712I$ $a=\ \ 0.872102+0.620200I$ $b=\ \ 1.162740-0.055348I$	$-7.15183-3.04097I$	0
$u=\ \ 1.200940+0.459666I$ $a=-0.817004-0.699552I$ $b=-0.694705+0.187364I$	$-1.07287-5.16618I$	0
$u=\ \ 1.200940-0.459666I$ $a=-0.817004+0.699552I$ $b=-0.694705-0.187364I$	$-1.07287+5.16618I$	0
$u=\ \ 0.510384+0.457807I$ $a=-0.25756+2.12054I$ $b=-0.941939-0.682938I$	$-0.66864-4.46154I$	$-12.00000+6.34611I$
$u=\ \ 0.510384-0.457807I$ $a=-0.25756-2.12054I$ $b=-0.941939+0.682938I$	$-0.66864+4.46154I$	$-12.00000-6.34611I$
$u=-1.124330+0.695783I$ $a=\ \ 1.086250+0.569823I$ $b=-0.589088-0.953259I$	$3.36656+13.30970I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.124330-0.695783I$ $a=\ \ 1.086250-0.569823I$ $b=-0.589088+0.953259I$	$3.36656-13.30970I$	0
$u=-0.684608+1.143640I$ $a=\ \ 0.457127+1.228960I$ $b=-0.792595-0.650036I$	$5.30903+1.27411I$	0
$u=-0.684608-1.143640I$ $a=\ \ 0.457127-1.228960I$ $b=-0.792595+0.650036I$	$5.30903-1.27411I$	0
$u=\ \ 0.359345+0.557401I$ $a=\ \ 1.20433-1.01092I$ $b=-0.847857+0.530595I$	$-0.328455+0.488355I$	$-12.00000+0.I$
$u=\ \ 0.359345-0.557401I$ $a=\ \ 1.20433+1.01092I$ $b=-0.847857-0.530595I$	$-0.328455-0.488355I$	$-12.00000+0.I$
$u=-1.157360+0.708554I$ $a=-0.60930-2.10440I$ $b=-1.106330+0.732461I$	$1.7558+19.4784I$	0
$u=-1.157360-0.708554I$ $a=-0.60930+2.10440I$ $b=-1.106330-0.732461I$	$1.7558-19.4784I$	0
$u=-1.258480+0.546486I$ $a=\ \ 0.72100+1.39173I$ $b=\ \ 1.060370-0.615194I$	$-0.42453+8.15719I$	0
$u=-1.258480-0.546486I$ $a=\ \ 0.72100-1.39173I$ $b=\ \ 1.060370+0.615194I$	$-0.42453-8.15719I$	0
$u=-0.516602+0.330660I$ $a=\ \ 0.889289+0.980939I$ $b=\ \ 0.268665+0.528134I$	$2.59542+2.42924I$	$-8.98013-3.62235I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.516602-0.330660I$ $a=\ \ 0.889289-0.980939I$ $b=\ \ 0.268665-0.528134I$	$2.59542-2.42924I$	$-8.98013+3.62235I$
$u=-0.821880+1.138330I$ $a=\ \ 0.22707-1.56704I$ $b=-0.902509+0.643069I$	$4.96870+6.31400I$	0
$u=-0.821880-1.138330I$ $a=\ \ 0.22707+1.56704I$ $b=-0.902509-0.643069I$	$4.96870-6.31400I$	0
$u=\ \ 1.42024+0.05698I$ $a=-0.583934+0.776544I$ $b=-1.059620-0.621021I$	$-3.55866-10.18710I$	0
$u=\ \ 1.42024-0.05698I$ $a=-0.583934-0.776544I$ $b=-1.059620+0.621021I$	$-3.55866+10.18710I$	0
$u=\ \ 0.273864+0.484795I$ $a=\ \ 1.55901-0.38548I$ $b=-1.007400+0.327231I$	$-0.400494+0.677706I$	$-12.80709-0.70696I$
$u=\ \ 0.273864-0.484795I$ $a=\ \ 1.55901+0.38548I$ $b=-1.007400-0.327231I$	$-0.400494-0.677706I$	$-12.80709+0.70696I$
$u=\ \ 1.23490+0.77502I$ $a=-0.585004+0.424050I$ $b=\ \ 0.824809-0.630248I$	$1.45052-3.65443I$	0
$u=\ \ 1.23490-0.77502I$ $a=-0.585004-0.424050I$ $b=\ \ 0.824809+0.630248I$	$1.45052+3.65443I$	0
$u=\ \ 1.30410+0.72200I$ $a=\ \ 0.63288-1.59942I$ $b=\ \ 0.880350+0.627594I$	$1.27526-8.58010I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.30410 - 0.72200I$ $a = 0.63288 + 1.59942I$ $b = 0.880350 - 0.627594I$	$1.27526 + 8.58010I$	0
$u = 0.395694$ $a = 0.906540$ $b = -0.287464$	-0.606435	-16.2640

II. $I_2^u =$
$\langle 11u^{28}+2u^{27}+\cdots+b+1,\ 36u^{28}-17u^{27}+\cdots+a+57,\ u^{29}-u^{28}+\cdots+4u-1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-36u^{28}+17u^{27}+\cdots+160u-57\\-11u^{28}-2u^{27}+\cdots+25u-1\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-47u^{28}+15u^{27}+\cdots+185u-58\\-11u^{28}-2u^{27}+\cdots+25u-1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-4u^{28}+2u^{27}+\cdots+23u-15\\-11u^{28}+8u^{27}+\cdots+48u-22\end{pmatrix}$$
$$a_5 = \begin{pmatrix}37u^{28}-9u^{27}+\cdots-133u+27\\u^{28}+6u^{27}+\cdots+24u-21\end{pmatrix}$$
$$a_8 = \begin{pmatrix}15u^{28}-11u^{27}+\cdots-67u+38\\21u^{28}-11u^{27}+\cdots-104u+40\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}35u^{28}-6u^{27}+\cdots-121u+21\\-7u^{28}+9u^{27}+\cdots+57u-30\end{pmatrix}$$
$$a_9 = \begin{pmatrix}2u^{28}-u^{27}+\cdots-3u+5\\2u^{28}-2u^{27}+\cdots-20u+11\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 17u^{28}-36u^{27}-111u^{26}+165u^{25}+563u^{24}-477u^{23}-1910u^{22}+704u^{21}+4831u^{20}-138u^{19}-9268u^{18}-2171u^{17}+13804u^{16}+6084u^{15}-16217u^{14}-9923u^{13}+15170u^{12}+11368u^{11}-11521u^{10}-9679u^9+7148u^8+6204u^7-3725u^6-2909u^5+1570u^4+907u^3-518u^2-134u+79$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{29} - 13u^{28} + \cdots + 13u - 1$
c_2	$u^{29} - u^{28} + \cdots + u - 1$
c_3	$u^{29} + 2u^{27} + \cdots - 5u + 1$
c_4	$u^{29} - 14u^{27} + \cdots - 5u - 1$
c_5	$u^{29} + u^{28} + \cdots + u + 1$
c_6	$u^{29} - u^{28} + \cdots + 4u - 1$
c_7	$u^{29} + 4u^{28} + \cdots - 3u - 1$
c_8	$u^{29} - 3u^{28} + \cdots - 14u + 1$
c_9	$u^{29} - 14u^{27} + \cdots - 5u + 1$
c_{10}	$u^{29} - 13u^{28} + \cdots + 16u - 1$
c_{11}	$u^{29} + u^{28} + \cdots + 4u + 1$
c_{12}	$u^{29} + 3u^{28} + \cdots - 14u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 19y^{28} + \cdots - 15y - 1$
c_2, c_5	$y^{29} - 13y^{28} + \cdots + 13y - 1$
c_3	$y^{29} + 4y^{28} + \cdots + 9y - 1$
c_4, c_9	$y^{29} - 28y^{28} + \cdots + 39y - 1$
c_6, c_{11}	$y^{29} - 13y^{28} + \cdots + 16y - 1$
c_7	$y^{29} + 4y^{28} + \cdots + y - 1$
c_8, c_{12}	$y^{29} + 29y^{28} + \cdots + 206y - 1$
c_{10}	$y^{29} + 19y^{28} + \cdots - 16y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.708682+0.706879I$ $a=-0.893787-0.356981I$ $b=-0.600078+0.325234I$	$2.84527+3.52178I$	$-8.49470-9.09030I$
$u=-0.708682-0.706879I$ $a=-0.893787+0.356981I$ $b=-0.600078-0.325234I$	$2.84527-3.52178I$	$-8.49470+9.09030I$
$u=\ \ 0.949439+0.344920I$ $a=-0.579561+0.469405I$ $b=-1.351550+0.183171I$	$-2.78666-1.34218I$	$-1.86789+3.69651I$
$u=\ \ 0.949439-0.344920I$ $a=-0.579561-0.469405I$ $b=-1.351550-0.183171I$	$-2.78666+1.34218I$	$-1.86789-3.69651I$
$u=-1.03450$ $a=\ \ 2.36502$ $b=\ \ 0.953608$	-8.19679	-18.7970
$u=-0.983441+0.423593I$ $a=-0.75928-1.90094I$ $b=-1.17965+0.82264I$	$-2.17144+5.33216I$	$-19.6381-10.3026I$
$u=-0.983441-0.423593I$ $a=-0.75928+1.90094I$ $b=-1.17965-0.82264I$	$-2.17144-5.33216I$	$-19.6381+10.3026I$
$u=-0.822395+0.367255I$ $a=\ \ 1.120940+0.216870I$ $b=-1.019350-0.952646I$	$-1.52479-2.08083I$	$-20.4700+8.2994I$
$u=-0.822395-0.367255I$ $a=\ \ 1.120940-0.216870I$ $b=-1.019350+0.952646I$	$-1.52479+2.08083I$	$-20.4700-8.2994I$
$u=\ \ 0.655207+0.510573I$ $a=\ \ 2.39911-0.66644I$ $b=-0.478636+0.543600I$	$2.09148+1.81545I$	$-8.66489+0.00164I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.655207 - 0.510573I$ $a = \ 2.39911 + 0.66644I$ $b = -0.478636 - 0.543600I$	$2.09148 - 1.81545I$	$-8.66489 - 0.00164I$
$u = \ 1.012860 + 0.607385I$ $a = -0.08121 + 1.62764I$ $b = -0.591641 - 0.751187I$	$0.81130 - 6.41559I$	$-11.07367 + 6.84378I$
$u = \ 1.012860 - 0.607385I$ $a = -0.08121 - 1.62764I$ $b = -0.591641 + 0.751187I$	$0.81130 + 6.41559I$	$-11.07367 - 6.84378I$
$u = -0.795960$ $a = -1.97044$ $b = \ 0.724069$	-7.18752	-32.5700
$u = -0.754306 + 0.938842I$ $a = -0.71440 - 1.58425I$ $b = \ 0.817156 + 0.626213I$	$4.56439 + 1.00837I$	$-13.87215 - 0.84539I$
$u = -0.754306 - 0.938842I$ $a = -0.71440 + 1.58425I$ $b = \ 0.817156 - 0.626213I$	$4.56439 - 1.00837I$	$-13.87215 + 0.84539I$
$u = -0.958095 + 0.780825I$ $a = -0.030445 - 0.207091I$ $b = -0.747918 - 0.239429I$	$2.06419 + 2.21482I$	$-13.0850 + 7.8005I$
$u = -0.958095 - 0.780825I$ $a = -0.030445 + 0.207091I$ $b = -0.747918 + 0.239429I$	$2.06419 - 2.21482I$	$-13.0850 - 7.8005I$
$u = -0.839978 + 0.958517I$ $a = -0.48533 + 1.91757I$ $b = \ 0.891083 - 0.623856I$	$4.32840 + 5.91057I$	$-15.1269 - 5.5579I$
$u = -0.839978 - 0.958517I$ $a = -0.48533 - 1.91757I$ $b = \ 0.891083 + 0.623856I$	$4.32840 - 5.91057I$	$-15.1269 + 5.5579I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.709941$ $a = -1.25201$ $b = -0.922509$	-2.61653	-14.9460
$u = 0.533138 + 0.376748I$ $a = -0.540364 + 0.961614I$ $b = 0.691869 + 0.647206I$	$2.76175 + 0.52093I$	$-9.25074 - 1.95433I$
$u = 0.533138 - 0.376748I$ $a = -0.540364 - 0.961614I$ $b = 0.691869 - 0.647206I$	$2.76175 - 0.52093I$	$-9.25074 + 1.95433I$
$u = 1.197150 + 0.620700I$ $a = -0.0244236 - 0.0063163I$ $b = 0.669209 - 0.498052I$	$0.18935 - 4.85552I$	$-11.83979 + 3.81182I$
$u = 1.197150 - 0.620700I$ $a = -0.0244236 + 0.0063163I$ $b = 0.669209 + 0.498052I$	$0.18935 + 4.85552I$	$-11.83979 - 3.81182I$
$u = 1.244970 + 0.518804I$ $a = 0.87656 - 1.16889I$ $b = 1.030430 + 0.560570I$	$-1.06350 - 9.22077I$	$-14.6851 + 10.6039I$
$u = 1.244970 - 0.518804I$ $a = 0.87656 + 1.16889I$ $b = 1.030430 - 0.560570I$	$-1.06350 + 9.22077I$	$-14.6851 - 10.6039I$
$u = 0.534383 + 0.287838I$ $a = 1.64090 + 1.27657I$ $b = 0.991488 - 0.654340I$	$1.82548 + 5.63846I$	$-9.77497 - 8.05002I$
$u = 0.534383 - 0.287838I$ $a = 1.64090 - 1.27657I$ $b = 0.991488 + 0.654340I$	$1.82548 - 5.63846I$	$-9.77497 + 8.05002I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{29}-13u^{28}+\cdots+13u-1)(u^{142}+54u^{141}+\cdots+370442u+6241)$
c_2	$(u^{29}-u^{28}+\cdots+u-1)(u^{142}+8u^{141}+\cdots-566u-79)$
c_3	$(u^{29}+2u^{27}+\cdots-5u+1)(u^{142}+u^{141}+\cdots+16848u-905)$
c_4	$(u^{29}-14u^{27}+\cdots-5u-1)(u^{142}-u^{141}+\cdots+10u^2-1)$
c_5	$(u^{29}+u^{28}+\cdots+u+1)(u^{142}+8u^{141}+\cdots-566u-79)$
c_6	$(u^{29}-u^{28}+\cdots+4u-1)(u^{142}-2u^{141}+\cdots-547u-1007)$
c_7	$(u^{29}+4u^{28}+\cdots-3u-1)(u^{142}-3u^{141}+\cdots-8672u+4937)$
c_8	$(u^{29}-3u^{28}+\cdots-14u+1)(u^{142}-4u^{141}+\cdots+11237u+289)$
c_9	$(u^{29}-14u^{27}+\cdots-5u+1)(u^{142}-u^{141}+\cdots+10u^2-1)$
c_{10}	$(u^{29}-13u^{28}+\cdots+16u-1)$ $\cdot(u^{142}+58u^{141}+\cdots+38359781u+1014049)$
c_{11}	$(u^{29}+u^{28}+\cdots+4u+1)(u^{142}-2u^{141}+\cdots-547u-1007)$
c_{12}	$(u^{29}+3u^{28}+\cdots-14u-1)(u^{142}-4u^{141}+\cdots+11237u+289)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{29}+19y^{28}+\cdots-15y-1)$ $\cdot(y^{142}+82y^{141}+\cdots-5472163826y+38950081)$
c_2, c_5	$(y^{29}-13y^{28}+\cdots+13y-1)(y^{142}-54y^{141}+\cdots-370442y+6241)$
c_3	$(y^{29}+4y^{28}+\cdots+9y-1)$ $\cdot(y^{142}+27y^{141}+\cdots-80000234y+819025)$
c_4, c_9	$(y^{29}-28y^{28}+\cdots+39y-1)(y^{142}-89y^{141}+\cdots-20y+1)$
c_6, c_{11}	$(y^{29}-13y^{28}+\cdots+16y-1)$ $\cdot(y^{142}-58y^{141}+\cdots-38359781y+1014049)$
c_7	$(y^{29}+4y^{28}+\cdots+y-1)$ $\cdot(y^{142}+15y^{141}+\cdots+1536104854y+24373969)$
c_8, c_{12}	$(y^{29}+29y^{28}+\cdots+206y-1)$ $\cdot(y^{142}+104y^{141}+\cdots-98905915y+83521)$
c_{10}	$(y^{29}+19y^{28}+\cdots-16y-1)$ $\cdot(y^{142}+66y^{141}+\cdots+28207829072127y+1028295374401)$