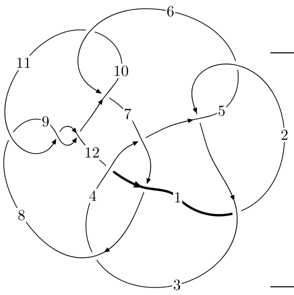
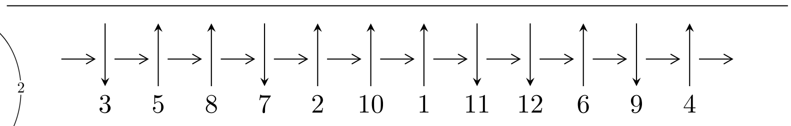
$12a_{0134}$ ($K12a_{0134}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.86227 \times 10^{495} u^{118} - 4.68618 \times 10^{495} u^{117} + \cdots + 1.43467 \times 10^{497} b - 3.00236 \times 10^{498}, \\ & 4.78619 \times 10^{497} u^{118} - 1.23447 \times 10^{498} u^{117} + \cdots + 4.47045 \times 10^{499} a - 1.58926 \times 10^{501}, \\ & u^{119} + u^{118} + \cdots + 4096u + 512 \rangle \end{aligned}$$

$$I_1^v = \langle a,\ 59103v^8 - 362866v^7 + \cdots + 178147b + 551223,\ v^9 - 5v^8 + 10v^7 - v^5 - 37v^4 + 7v^3 - 12v^2 + v - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 128 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. $\boldsymbol{I_1^u = \langle -1.86 \times 10^{495} u^{118} - 4.69 \times 10^{495} u^{117} + \cdots + 1.43 \times 10^{497} b - 3.00 \times 10^{498},\ 4.79 \times 10^{497} u^{118} - 1.23 \times 10^{498} u^{117} + \cdots + 4.47 \times 10^{499} a - 1.59 \times 10^{501},\ u^{119} + u^{118} + \cdots + 4096u + 512 \rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -0.0107063u^{118} + 0.0276140u^{117} + \cdots + 265.664u + 35.5505 \\ 0.0129804u^{118} + 0.0326637u^{117} + \cdots + 174.370u + 20.9271 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.0499003u^{118} - 0.0301250u^{117} + \cdots + 96.3323u + 17.6475 \\ -0.0248375u^{118} - 0.0192909u^{117} + \cdots + 27.4367u + 5.81828 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0668403u^{118} - 0.0545125u^{117} + \cdots - 0.779841u + 6.91602 \\ -0.0284835u^{118} - 0.0271884u^{117} + \cdots - 88.5312u - 7.25798 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0132150u^{118} - 0.0126096u^{117} + \cdots - 186.921u - 26.5168 \\ -0.0237768u^{118} - 0.0244099u^{117} + \cdots - 41.8929u - 2.43633 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00385505u^{118} - 0.00206836u^{117} + \cdots - 60.8198u - 8.57415 \\ 0.0354571u^{118} + 0.00289238u^{117} + \cdots - 230.820u - 34.3222 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0508154u^{118} - 0.0358733u^{117} + \cdots + 68.3183u + 13.3408 \\ -0.0261492u^{118} - 0.0238212u^{117} + \cdots + 7.17127u + 3.34367 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0316021u^{118} - 0.00496074u^{117} + \cdots + 170.000u + 25.7481 \\ -0.0478118u^{118} - 0.00189380u^{117} + \cdots + 323.763u + 47.9626 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0162097u^{118} - 0.00306695u^{117} + \cdots - 153.762u - 22.2145 \\ 0.0478118u^{118} + 0.00189380u^{117} + \cdots - 323.763u - 47.9626 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.155199u^{118} + 0.132157u^{117} + \cdots + 22.3469u - 16.4864$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{119} + 48u^{118} + \cdots - 10u - 1$
c_2, c_5	$u^{119} + 2u^{118} + \cdots - 10u - 1$
c_3	$u^{119} - 2u^{118} + \cdots + 8762u - 1327$
c_4	$u^{119} - 6u^{118} + \cdots - 3844u - 1441$
c_6, c_{10}	$u^{119} - u^{118} + \cdots + 4096u - 512$
c_7	$u^{119} + 10u^{118} + \cdots - 2u - 1$
c_8, c_9, c_{11}	$u^{119} - 10u^{118} + \cdots + 14u - 1$
c_{12}	$u^{119} + 12u^{118} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{119} + 48y^{118} + \cdots - 1922y - 1$
c_2, c_5	$y^{119} + 48y^{118} + \cdots - 10y - 1$
c_3	$y^{119} - 132y^{118} + \cdots + 73112778y - 1760929$
c_4	$y^{119} - 108y^{118} + \cdots - 880963674y - 2076481$
c_6, c_{10}	$y^{119} + 57y^{118} + \cdots - 1572864y - 262144$
c_7	$y^{119} - 12y^{118} + \cdots + 10y - 1$
c_8, c_9, c_{11}	$y^{119} - 108y^{118} + \cdots - 162y - 1$
c_{12}	$y^{119} + 100y^{117} + \cdots - 10y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.526423 + 0.832737I$ $a = -0.379040 + 0.949735I$ $b = 0.955538 + 0.601021I$	$2.70873 + 3.86349I$	0
$u = 0.526423 - 0.832737I$ $a = -0.379040 - 0.949735I$ $b = 0.955538 - 0.601021I$	$2.70873 - 3.86349I$	0
$u = 0.921604 + 0.339981I$ $a = 0.599719 + 0.536043I$ $b = -0.675300 + 1.052770I$	$2.91318 - 8.94395I$	0
$u = 0.921604 - 0.339981I$ $a = 0.599719 - 0.536043I$ $b = -0.675300 - 1.052770I$	$2.91318 + 8.94395I$	0
$u = -0.497653 + 0.822885I$ $a = 0.555826 + 0.047006I$ $b = 0.115814 - 0.219568I$	$0.04303 - 1.98692I$	0
$u = -0.497653 - 0.822885I$ $a = 0.555826 - 0.047006I$ $b = 0.115814 + 0.219568I$	$0.04303 + 1.98692I$	0
$u = 0.848144 + 0.441248I$ $a = 0.653233 - 0.314441I$ $b = -0.822990 - 0.578925I$	$4.34687 - 3.34050I$	0
$u = 0.848144 - 0.441248I$ $a = 0.653233 + 0.314441I$ $b = -0.822990 + 0.578925I$	$4.34687 + 3.34050I$	0
$u = -0.395311 + 0.868690I$ $a = -4.40337 - 2.54920I$ $b = 0.525263 - 0.898450I$	$-0.25612 - 3.85842I$	0
$u = -0.395311 - 0.868690I$ $a = -4.40337 + 2.54920I$ $b = 0.525263 + 0.898450I$	$-0.25612 + 3.85842I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.000340 + 0.308388I$ $a = 0.686162 + 0.562362I$ $b = -0.625987 + 0.939108I$	$2.82823 - 5.08911I$	0
$u = -1.000340 - 0.308388I$ $a = 0.686162 - 0.562362I$ $b = -0.625987 - 0.939108I$	$2.82823 + 5.08911I$	0
$u = 0.486144 + 0.934868I$ $a = -1.21381 + 2.09573I$ $b = 0.687854 + 1.176020I$	$0.50738 + 6.41058I$	0
$u = 0.486144 - 0.934868I$ $a = -1.21381 - 2.09573I$ $b = 0.687854 - 1.176020I$	$0.50738 - 6.41058I$	0
$u = -0.100723 + 1.062340I$ $a = 0.08824 - 2.61983I$ $b = -0.072083 - 1.177180I$	$-5.55472 - 1.58319I$	0
$u = -0.100723 - 1.062340I$ $a = 0.08824 + 2.61983I$ $b = -0.072083 + 1.177180I$	$-5.55472 + 1.58319I$	0
$u = -0.868718 + 0.318232I$ $a = -0.208382 - 0.342220I$ $b = 0.625738 + 1.148730I$	$-2.17047 + 4.66203I$	0
$u = -0.868718 - 0.318232I$ $a = -0.208382 + 0.342220I$ $b = 0.625738 - 1.148730I$	$-2.17047 - 4.66203I$	0
$u = 0.002867 + 0.924913I$ $a = 0.529675 - 0.759000I$ $b = -0.224374 - 0.203815I$	$-1.31680 - 1.56421I$	0
$u = 0.002867 - 0.924913I$ $a = 0.529675 + 0.759000I$ $b = -0.224374 + 0.203815I$	$-1.31680 + 1.56421I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.535297 + 0.750461I$ $a = 0.483410 + 0.719185I$ $b = 0.939624 - 0.355644I$	$2.95353 + 0.44405I$	0
$u = 0.535297 - 0.750461I$ $a = 0.483410 - 0.719185I$ $b = 0.939624 + 0.355644I$	$2.95353 - 0.44405I$	0
$u = 0.843634 + 0.305336I$ $a = 1.053140 + 0.212736I$ $b = -0.146729 - 0.103716I$	$-2.62882 - 0.46286I$	0
$u = 0.843634 - 0.305336I$ $a = 1.053140 - 0.212736I$ $b = -0.146729 + 0.103716I$	$-2.62882 + 0.46286I$	0
$u = -0.417757 + 0.773293I$ $a = -0.71113 - 2.74755I$ $b = 0.520079 + 0.812541I$	$0.027445 + 0.372128I$	0
$u = -0.417757 - 0.773293I$ $a = -0.71113 + 2.74755I$ $b = 0.520079 - 0.812541I$	$0.027445 - 0.372128I$	0
$u = -0.859101 + 0.154610I$ $a = 0.637106 - 0.427319I$ $b = -0.664918 - 0.727137I$	$3.48096 - 0.06555I$	0
$u = -0.859101 - 0.154610I$ $a = 0.637106 + 0.427319I$ $b = -0.664918 + 0.727137I$	$3.48096 + 0.06555I$	0
$u = -0.209029 + 0.820458I$ $a = 1.24444 + 4.72940I$ $b = 0.431964 + 0.872764I$	$-0.797814 + 0.550209I$	$12.54758 + 0.I$
$u = -0.209029 - 0.820458I$ $a = 1.24444 - 4.72940I$ $b = 0.431964 - 0.872764I$	$-0.797814 - 0.550209I$	$12.54758 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.118120 + 0.282841I$ $a = 0.571251 + 0.676237I$ $b = -0.036836 + 1.239910I$	$-6.98001 + 4.13299I$	0
$u = -1.118120 - 0.282841I$ $a = 0.571251 - 0.676237I$ $b = -0.036836 - 1.239910I$	$-6.98001 - 4.13299I$	0
$u = -0.398186 + 1.085280I$ $a = -0.040349 + 0.323432I$ $b = 0.921149 + 1.021620I$	$-3.27191 - 0.12438I$	0
$u = -0.398186 - 1.085280I$ $a = -0.040349 - 0.323432I$ $b = 0.921149 - 1.021620I$	$-3.27191 + 0.12438I$	0
$u = -0.411359 + 1.083630I$ $a = -0.693040 + 0.000352I$ $b = -0.819404 - 0.474535I$	$0.08564 - 3.67293I$	0
$u = -0.411359 - 1.083630I$ $a = -0.693040 - 0.000352I$ $b = -0.819404 + 0.474535I$	$0.08564 + 3.67293I$	0
$u = 0.819575 + 0.109814I$ $a = -3.51686 - 2.94234I$ $b = 0.487246 - 0.894874I$	$-2.55503 - 2.22852I$	$26.2651 - 22.7094I$
$u = 0.819575 - 0.109814I$ $a = -3.51686 + 2.94234I$ $b = 0.487246 + 0.894874I$	$-2.55503 + 2.22852I$	$26.2651 + 22.7094I$
$u = 0.443863 + 1.094740I$ $a = -0.70279 + 2.05830I$ $b = 0.010995 + 1.274440I$	$-4.33720 + 6.36777I$	0
$u = 0.443863 - 1.094740I$ $a = -0.70279 - 2.05830I$ $b = 0.010995 - 1.274440I$	$-4.33720 - 6.36777I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.478462 + 1.080620I$		
$a = 0.235074 - 0.378978I$	$-1.80179 - 3.47511I$	0
$b = 1.109330 + 0.253117I$		
$u = -0.478462 - 1.080620I$		
$a = 0.235074 + 0.378978I$	$-1.80179 + 3.47511I$	0
$b = 1.109330 - 0.253117I$		
$u = -0.278092 + 1.159260I$		
$a = 0.28192 + 1.45729I$	$-6.92350 + 1.57130I$	0
$b = 0.411679 + 1.308160I$		
$u = -0.278092 - 1.159260I$		
$a = 0.28192 - 1.45729I$	$-6.92350 - 1.57130I$	0
$b = 0.411679 - 1.308160I$		
$u = 0.482491 + 0.622840I$		
$a = 0.207877 - 0.091383I$	$1.44329 - 2.36124I$	$8.29903 + 4.18833I$
$b = 0.755776 - 1.020320I$		
$u = 0.482491 - 0.622840I$		
$a = 0.207877 + 0.091383I$	$1.44329 + 2.36124I$	$8.29903 - 4.18833I$
$b = 0.755776 + 1.020320I$		
$u = -0.667291 + 0.411587I$		
$a = 0.43420 - 2.04602I$	$-0.08315 + 2.49375I$	$7.75933 - 3.67875I$
$b = 0.820942 + 0.613116I$		
$u = -0.667291 - 0.411587I$		
$a = 0.43420 + 2.04602I$	$-0.08315 - 2.49375I$	$7.75933 + 3.67875I$
$b = 0.820942 - 0.613116I$		
$u = 0.490044 + 1.116310I$		
$a = 0.282231 - 0.161432I$	$-4.94221 + 5.12424I$	0
$b = 0.420670 + 0.336969I$		
$u = 0.490044 - 1.116310I$		
$a = 0.282231 + 0.161432I$	$-4.94221 - 5.12424I$	0
$b = 0.420670 - 0.336969I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.451345 + 1.135050I$ $a = -0.611010 + 1.164460I$ $b = 0.590546 - 0.752125I$	$-5.11734 + 2.47956I$	0
$u = 0.451345 - 1.135050I$ $a = -0.611010 - 1.164460I$ $b = 0.590546 + 0.752125I$	$-5.11734 - 2.47956I$	0
$u = -0.529740 + 1.114830I$ $a = -0.360715 - 0.684753I$ $b = 1.073270 - 0.683609I$	$-2.26487 - 7.17835I$	0
$u = -0.529740 - 1.114830I$ $a = -0.360715 + 0.684753I$ $b = 1.073270 + 0.683609I$	$-2.26487 + 7.17835I$	0
$u = -1.141570 + 0.512721I$ $a = 0.672303 + 0.260569I$ $b = -0.874943 + 0.463475I$	$-0.86473 + 6.53924I$	0
$u = -1.141570 - 0.512721I$ $a = 0.672303 - 0.260569I$ $b = -0.874943 - 0.463475I$	$-0.86473 - 6.53924I$	0
$u = -0.399609 + 1.211290I$ $a = 0.74296 + 2.11227I$ $b = -0.641203 + 1.096930I$	$-1.77422 - 9.13916I$	0
$u = -0.399609 - 1.211290I$ $a = 0.74296 - 2.11227I$ $b = -0.641203 - 1.096930I$	$-1.77422 + 9.13916I$	0
$u = 0.370969 + 1.226650I$ $a = 0.06002 - 2.55757I$ $b = 0.377258 - 0.977217I$	$-6.68223 + 1.86961I$	0
$u = 0.370969 - 1.226650I$ $a = 0.06002 + 2.55757I$ $b = 0.377258 + 0.977217I$	$-6.68223 - 1.86961I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.527861+0.486187I$ $a=-0.73012-1.84153I$ $b=\ \ 0.751631-0.403800I$	$0.107706-0.619941I$	$7.54549+5.15553I$
$u=-0.527861-0.486187I$ $a=-0.73012+1.84153I$ $b=\ \ 0.751631+0.403800I$	$0.107706+0.619941I$	$7.54549-5.15553I$
$u=\ \ 0.615601+1.128990I$ $a=-0.438959-0.352835I$ $b=-0.913238+0.486014I$	$2.23345+8.79850I$	0
$u=\ \ 0.615601-1.128990I$ $a=-0.438959+0.352835I$ $b=-0.913238-0.486014I$	$2.23345-8.79850I$	0
$u=-0.791421+1.015070I$ $a=\ \ 0.179165-0.165126I$ $b=-0.475409-0.698950I$	$0.52690-1.71924I$	0
$u=-0.791421-1.015070I$ $a=\ \ 0.179165+0.165126I$ $b=-0.475409+0.698950I$	$0.52690+1.71924I$	0
$u=-0.106708+0.698575I$ $a=\ \ 0.580676+0.345557I$ $b=-0.860873+0.753065I$	$2.16952+1.09292I$	$-4.44336+1.96603I$
$u=-0.106708-0.698575I$ $a=\ \ 0.580676-0.345557I$ $b=-0.860873-0.753065I$	$2.16952-1.09292I$	$-4.44336-1.96603I$
$u=\ \ 0.509300+1.191870I$ $a=-2.52134+1.68303I$ $b=\ \ 0.558185+0.942794I$	$-5.71911+7.03575I$	0
$u=\ \ 0.509300-1.191870I$ $a=-2.52134-1.68303I$ $b=\ \ 0.558185-0.942794I$	$-5.71911-7.03575I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.570922 + 1.178260I$ $a = -0.94259 - 1.56885I$ $b = 0.71585 - 1.26082I$	$-4.83003 - 9.97536I$	0
$u = -0.570922 - 1.178260I$ $a = -0.94259 + 1.56885I$ $b = 0.71585 + 1.26082I$	$-4.83003 + 9.97536I$	0
$u = 0.816192 + 1.046570I$ $a = 1.24732 - 1.06920I$ $b = -0.388853 - 0.871583I$	$-3.34529 + 0.06544I$	0
$u = 0.816192 - 1.046570I$ $a = 1.24732 + 1.06920I$ $b = -0.388853 + 0.871583I$	$-3.34529 - 0.06544I$	0
$u = 0.641810 + 0.188094I$ $a = -1.11657 - 4.91853I$ $b = 0.455731 + 0.841145I$	$-2.33120 + 1.65341I$	$8.7372 - 21.0423I$
$u = 0.641810 - 0.188094I$ $a = -1.11657 + 4.91853I$ $b = 0.455731 - 0.841145I$	$-2.33120 - 1.65341I$	$8.7372 + 21.0423I$
$u = -1.239000 + 0.520126I$ $a = 0.560973 - 0.551572I$ $b = -0.655391 - 1.118060I$	$-2.84169 + 12.19540I$	0
$u = -1.239000 - 0.520126I$ $a = 0.560973 + 0.551572I$ $b = -0.655391 + 1.118060I$	$-2.84169 - 12.19540I$	0
$u = 0.029731 + 0.651792I$ $a = 0.630389 - 0.468626I$ $b = -0.767043 - 0.982314I$	$1.45890 + 7.13045I$	$-7.35209 - 6.24138I$
$u = 0.029731 - 0.651792I$ $a = 0.630389 + 0.468626I$ $b = -0.767043 + 0.982314I$	$1.45890 - 7.13045I$	$-7.35209 + 6.24138I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.623092 + 1.199390I$ $a = 1.13835 - 1.85356I$ $b = -0.676126 - 1.125040I$	$0.2822 + 14.6365I$	0
$u = 0.623092 - 1.199390I$ $a = 1.13835 + 1.85356I$ $b = -0.676126 + 1.125040I$	$0.2822 - 14.6365I$	0
$u = -0.189768 + 1.349420I$ $a = 0.114224 - 1.390760I$ $b = -0.371239 - 0.809422I$	$-1.69763 - 1.29769I$	0
$u = -0.189768 - 1.349420I$ $a = 0.114224 + 1.390760I$ $b = -0.371239 + 0.809422I$	$-1.69763 + 1.29769I$	0
$u = 0.743280 + 1.160850I$ $a = 0.158837 - 0.118246I$ $b = -0.637380 + 0.541821I$	$-4.38510 + 6.20836I$	0
$u = 0.743280 - 1.160850I$ $a = 0.158837 + 0.118246I$ $b = -0.637380 - 0.541821I$	$-4.38510 - 6.20836I$	0
$u = 0.000177 + 0.620334I$ $a = 2.56162 - 3.35001I$ $b = 0.484996 - 1.009400I$	$-1.25021 - 2.82984I$	$-1.97233 + 3.51172I$
$u = 0.000177 - 0.620334I$ $a = 2.56162 + 3.35001I$ $b = 0.484996 + 1.009400I$	$-1.25021 + 2.82984I$	$-1.97233 - 3.51172I$
$u = 0.066386 + 1.397900I$ $a = -0.003743 + 0.255910I$ $b = -0.764971 + 0.159760I$	$-8.87900 + 3.08041I$	0
$u = 0.066386 - 1.397900I$ $a = -0.003743 - 0.255910I$ $b = -0.764971 - 0.159760I$	$-8.87900 - 3.08041I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.156339 + 0.564741I$ $a = 0.36877 - 5.91174I$ $b = 0.577530 - 1.010180I$	$-1.23906 - 2.78377I$	$-4.72487 + 7.33170I$
$u = -0.156339 - 0.564741I$ $a = 0.36877 + 5.91174I$ $b = 0.577530 + 1.010180I$	$-1.23906 + 2.78377I$	$-4.72487 - 7.33170I$
$u = -0.62276 + 1.27617I$ $a = -0.59014 - 1.59494I$ $b = 0.011139 - 1.362930I$	$-10.1820 - 10.3208I$	0
$u = -0.62276 - 1.27617I$ $a = -0.59014 + 1.59494I$ $b = 0.011139 + 1.362930I$	$-10.1820 + 10.3208I$	0
$u = 0.523055 + 0.235557I$ $a = 0.885052 - 0.681673I$ $b = 0.106383 - 1.076490I$	$-1.94863 - 2.48320I$	$1.59791 + 4.26965I$
$u = 0.523055 - 0.235557I$ $a = 0.885052 + 0.681673I$ $b = 0.106383 + 1.076490I$	$-1.94863 + 2.48320I$	$1.59791 - 4.26965I$
$u = -0.73996 + 1.23324I$ $a = -0.209991 + 0.379317I$ $b = -0.974965 - 0.473478I$	$-3.21741 - 13.29190I$	0
$u = -0.73996 - 1.23324I$ $a = -0.209991 - 0.379317I$ $b = -0.974965 + 0.473478I$	$-3.21741 + 13.29190I$	0
$u = -0.17158 + 1.44108I$ $a = 0.53087 + 1.73249I$ $b = -0.252256 + 1.226900I$	$-13.32730 - 0.47174I$	0
$u = -0.17158 - 1.44108I$ $a = 0.53087 - 1.73249I$ $b = -0.252256 - 1.226900I$	$-13.32730 + 0.47174I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.24359 + 1.43179I$ $a = -0.088732 + 1.356570I$ $b = -0.499786 + 0.954982I$	$-2.46876 - 5.01134I$	0
$u = 0.24359 - 1.43179I$ $a = -0.088732 - 1.356570I$ $b = -0.499786 - 0.954982I$	$-2.46876 + 5.01134I$	0
$u = -0.74049 + 1.27461I$ $a = 0.99727 + 1.35913I$ $b = -0.542998 + 0.951080I$	$-0.29654 - 5.98543I$	0
$u = -0.74049 - 1.27461I$ $a = 0.99727 - 1.35913I$ $b = -0.542998 - 0.951080I$	$-0.29654 + 5.98543I$	0
$u = 1.25979 + 0.78001I$ $a = 0.442889 + 0.486633I$ $b = -0.469383 + 0.939560I$	$-3.81372 - 3.40916I$	0
$u = 1.25979 - 0.78001I$ $a = 0.442889 - 0.486633I$ $b = -0.469383 - 0.939560I$	$-3.81372 + 3.40916I$	0
$u = -0.77623 + 1.27272I$ $a = 1.17761 + 1.56095I$ $b = -0.691757 + 1.154010I$	$-5.3195 - 19.3518I$	0
$u = -0.77623 - 1.27272I$ $a = 1.17761 - 1.56095I$ $b = -0.691757 - 1.154010I$	$-5.3195 + 19.3518I$	0
$u = 0.56449 + 1.38347I$ $a = 0.03792 + 1.41496I$ $b = -0.152059 + 0.944612I$	$-8.51063 + 5.18393I$	0
$u = 0.56449 - 1.38347I$ $a = 0.03792 - 1.41496I$ $b = -0.152059 - 0.944612I$	$-8.51063 - 5.18393I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.83498 + 1.26806I$ $a = 1.09365 - 1.28429I$ $b = -0.593241 - 1.022410I$	$-5.78573 + 11.06080I$	0
$u = 0.83498 - 1.26806I$ $a = 1.09365 + 1.28429I$ $b = -0.593241 + 1.022410I$	$-5.78573 - 11.06080I$	0
$u = 1.50160 + 0.22594I$ $a = 0.668456 - 0.685367I$ $b = -0.432267 - 0.911549I$	$-4.11769 + 1.69954I$	0
$u = 1.50160 - 0.22594I$ $a = 0.668456 + 0.685367I$ $b = -0.432267 + 0.911549I$	$-4.11769 - 1.69954I$	0
$u = 0.11055 + 1.58796I$ $a = 0.27661 - 1.56306I$ $b = -0.519882 - 1.115850I$	$-11.57620 + 7.68806I$	0
$u = 0.11055 - 1.58796I$ $a = 0.27661 + 1.56306I$ $b = -0.519882 + 1.115850I$	$-11.57620 - 7.68806I$	0
$u = -0.343485$ $a = 1.32364$ $b = 0.398463$	1.04484	10.3180
$u = -0.230175 + 0.140143I$ $a = 1.65142 - 0.72088I$ $b = 0.602478 - 0.853926I$	$0.59145 - 2.37148I$	$1.54709 + 3.28473I$
$u = -0.230175 - 0.140143I$ $a = 1.65142 + 0.72088I$ $b = 0.602478 + 0.853926I$	$0.59145 + 2.37148I$	$1.54709 - 3.28473I$

II.

$\boldsymbol{I_1^v = \langle a,\ 59103v^8 - 362866v^7 + \cdots + 178147b + 551223,\ v^9 - 5v^8 + \cdots + v - 1\rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} 0 \\ -0.331765v^8 + 2.03689v^7 + \cdots + 3.64641v - 3.09420 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ 0.727601v^8 - 4.15347v^7 + \cdots - 6.59548v + 3.24127 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.331765v^8 + 2.03689v^7 + \cdots + 3.64641v - 3.09420 \\ -1.07440v^8 + 6.00362v^7 + \cdots + 8.53879v - 3.73749 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.742640v^8 + 3.96673v^7 + \cdots + 4.89238v - 0.643283 \\ 0.310968v^8 - 1.59303v^7 + \cdots - 4.61878v + 1.66588 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.20067v^8 - 5.89924v^7 + \cdots - 2.68791v - 0.492840 \\ -v^8 + 5v^7 - 10v^6 + v^4 + 37v^3 - 7v^2 + 12v - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.727601v^8 - 4.15347v^7 + \cdots - 6.59548v + 4.24127 \\ 0.727601v^8 - 4.15347v^7 + \cdots - 6.59548v + 3.24127 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.20067v^8 + 5.89924v^7 + \cdots + 2.68791v + 0.492840 \\ v^8 - 5v^7 + 10v^6 - v^4 - 37v^3 + 7v^2 - 12v + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.20067v^8 - 5.89924v^7 + \cdots - 1.68791v - 0.492840 \\ -v^8 + 5v^7 - 10v^6 + v^4 + 37v^3 - 7v^2 + 12v - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{279551}{178147}v^8 + \frac{1437368}{178147}v^7 - \frac{2978743}{178147}v^6 + \frac{272298}{178147}v^5 + \frac{682691}{178147}v^4 + \frac{9851898}{178147}v^3 - \frac{3817557}{178147}v^2 + \frac{3775595}{178147}v + \frac{969331}{178147}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_2	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_3, c_{12}	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_5	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_6, c_{10}	u^9
c_7	$u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1$
c_8, c_9	$(u-1)^9$
c_{11}	$(u+1)^9$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_2, c_5	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_3, c_{12}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_6, c_{10}	y^9
c_7	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_8, c_9, c_{11}	$(y-1)^9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.939568 + 0.981640I$ $a = 0$ $b = 0.140343 - 0.966856I$	$-3.42837 - 2.09337I$	$-4.41045 + 5.46639I$
$v = -0.939568 - 0.981640I$ $a = 0$ $b = 0.140343 + 0.966856I$	$-3.42837 + 2.09337I$	$-4.41045 - 5.46639I$
$v = 0.119081 + 0.409451I$ $a = 0$ $b = -0.796005 - 0.733148I$	$2.72642 - 1.33617I$	$8.07941 + 3.55369I$
$v = 0.119081 - 0.409451I$ $a = 0$ $b = -0.796005 + 0.733148I$	$2.72642 + 1.33617I$	$8.07941 - 3.55369I$
$v = -0.016164 + 0.378317I$ $a = 0$ $b = -0.728966 + 0.986295I$	$1.95319 - 7.08493I$	$8.66846 + 5.33071I$
$v = -0.016164 - 0.378317I$ $a = 0$ $b = -0.728966 - 0.986295I$	$1.95319 + 7.08493I$	$8.66846 - 5.33071I$
$v = 2.14893$ $a = 0$ $b = 0.512358$	-0.446489	-0.182090
$v = 2.26219 + 2.13290I$ $a = 0$ $b = 0.628449 - 0.875112I$	$-1.02799 - 2.45442I$	$-2.24638 - 6.63381I$
$v = 2.26219 - 2.13290I$ $a = 0$ $b = 0.628449 + 0.875112I$	$-1.02799 + 2.45442I$	$-2.24638 + 6.63381I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1)$ $\cdot (u^{119} + 48u^{118} + \cdots - 10u - 1)$
c_2	$(u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1)$ $\cdot (u^{119} + 2u^{118} + \cdots - 10u - 1)$
c_3	$(u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1)$ $\cdot (u^{119} - 2u^{118} + \cdots + 8762u - 1327)$
c_4	$(u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1)$ $\cdot (u^{119} - 6u^{118} + \cdots - 3844u - 1441)$
c_5	$(u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1)$ $\cdot (u^{119} + 2u^{118} + \cdots - 10u - 1)$
c_6, c_{10}	$u^9(u^{119} - u^{118} + \cdots + 4096u - 512)$
c_7	$(u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1)$ $\cdot (u^{119} + 10u^{118} + \cdots - 2u - 1)$
c_8, c_9	$((u-1)^9)(u^{119} - 10u^{118} + \cdots + 14u - 1)$
c_{11}	$((u+1)^9)(u^{119} - 10u^{118} + \cdots + 14u - 1)$
c_{12}	$(u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1)$ $\cdot (u^{119} + 12u^{118} + \cdots - 2u - 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot\,(y^{119}+48y^{118}+\cdots-1922y-1)$
c_2, c_5	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot\,(y^{119}+48y^{118}+\cdots-10y-1)$
c_3	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot\,(y^{119}-132y^{118}+\cdots+73112778y-1760929)$
c_4	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot\,(y^{119}-108y^{118}+\cdots-880963674y-2076481)$
c_6, c_{10}	$y^9(y^{119}+57y^{118}+\cdots-1572864y-262144)$
c_7	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot\,(y^{119}-12y^{118}+\cdots+10y-1)$
c_8, c_9, c_{11}	$((y-1)^9)(y^{119}-108y^{118}+\cdots-162y-1)$
c_{12}	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot\,(y^{119}+100y^{117}+\cdots-10y-1)$