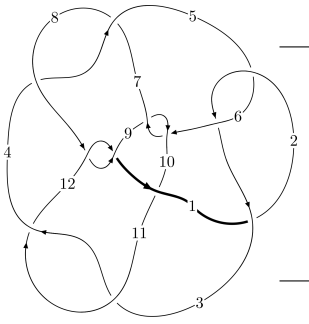
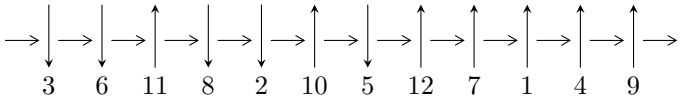
$12a_{0468}$ $(K12a_{0468})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -9.26391 \times 10^{528} u^{121} + 1.05469 \times 10^{529} u^{120} + \cdots + 6.31937 \times 10^{529} b + 1.64702 \times 10^{533}, \\ & 8.57740 \times 10^{533} u^{121} - 9.52881 \times 10^{533} u^{120} + \cdots + 1.28985 \times 10^{534} a - 1.58398 \times 10^{538}, \\ & u^{122} - 46 u^{120} + \cdots - 329813 u - 20411 \rangle \\ I_2^u = \langle & 30599 u^{26} - 159948 u^{25} + \cdots + 96731 b + 60044, \\ & - 112679 u^{26} + 544868 u^{25} + \cdots + 96731 a + 61134,\ u^{27} - 7 u^{26} + \cdots - 3 u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 149 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. $\boldsymbol{I_1^u = \langle -9.26 \times 10^{528} u^{121} + 1.05 \times 10^{529} u^{120} + \cdots + 6.32 \times 10^{529} b + 1.65 \times 10^{533},\ 8.58 \times 10^{533} u^{121} - 9.53 \times 10^{533} u^{120} + \cdots + 1.29 \times 10^{534} a - 1.58 \times 10^{538},\ u^{122} - 46 u^{120} + \cdots - 329813 u - 20411 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.664993 u^{121} + 0.738755 u^{120} + \cdots + 187219. u + 12280.4 \\ 0.146595 u^{121} - 0.166899 u^{120} + \cdots - 39879.7 u - 2606.30 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.518398 u^{121} + 0.571856 u^{120} + \cdots + 147339. u + 9674.07 \\ 0.146595 u^{121} - 0.166899 u^{120} + \cdots - 39879.7 u - 2606.30 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.518225 u^{121} + 0.534264 u^{120} + \cdots + 154724. u + 10182.6 \\ 0.0675599 u^{121} - 0.0594037 u^{120} + \cdots - 22498.9 u - 1486.46 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.58679 u^{121} + 2.79238 u^{120} + \cdots + 744064. u + 48838.4 \\ 0.486404 u^{121} - 0.509217 u^{120} + \cdots - 143474. u - 9429.90 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -11.6756 u^{121} + 12.7481 u^{120} + \cdots + 3.32414 \times 10^6 u + 218060. \\ 2.38119 u^{121} - 2.56874 u^{120} + \cdots - 684613. u - 44934.0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.51142 u^{121} + 2.71118 u^{120} + \cdots + 722356. u + 47412.4 \\ 0.474861 u^{121} - 0.498385 u^{120} + \cdots - 139939. u - 9198.53 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -2.33035 u^{121} + 2.88454 u^{120} + \cdots + 581831. u + 37845.7 \\ 1.32325 u^{121} - 1.52667 u^{120} + \cdots - 356834. u - 23317.1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -11.0534 u^{121} + 12.1726 u^{120} + \cdots + 3.12432 \times 10^6 u + 204861. \\ 2.49935 u^{121} - 2.76006 u^{120} + \cdots - 704365. u - 46177.5 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -8.86340 u^{121} + 9.44042 u^{120} + \cdots + 2.58147 \times 10^6 u + 169581.$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{122} + 54u^{121} + \cdots + 234560u + 3721$
c_2, c_5	$u^{122} + 4u^{121} + \cdots + 768u - 61$
c_3, c_{11}	$u^{122} + u^{121} + \cdots - 165778u + 43807$
c_4, c_7	$u^{122} - 3u^{121} + \cdots - 48567u - 5581$
c_6, c_9	$u^{122} + 11u^{121} + \cdots + 3691u + 583$
c_8, c_{12}	$u^{122} - 46u^{120} + \cdots + 329813u - 20411$
c_{10}	$u^{122} + 18u^{121} + \cdots - 1396048u - 97927$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{122} + 42y^{121} + \cdots - 15419630672y + 13845841$
c_2, c_5	$y^{122} - 54y^{121} + \cdots - 234560y + 3721$
c_3, c_{11}	$y^{122} - 91y^{121} + \cdots + 72533065960y + 1919053249$
c_4, c_7	$y^{122} + 107y^{121} + \cdots - 8059253861y + 31147561$
c_6, c_9	$y^{122} + 47y^{121} + \cdots + 16292581y + 339889$
c_8, c_{12}	$y^{122} - 92y^{121} + \cdots + 736931829y + 416608921$
c_{10}	$y^{122} - 34y^{121} + \cdots - 80169514796y + 9589697329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.185283+0.995240I$ $a=\ \ 0.434314-0.123749I$ $b=\ \ 0.083889+1.405940I$	$6.74660-6.32099I$	0
$u=-0.185283-0.995240I$ $a=\ \ 0.434314+0.123749I$ $b=\ \ 0.083889-1.405940I$	$6.74660+6.32099I$	0
$u=-0.983304+0.072186I$ $a=-0.186724-0.967483I$ $b=\ \ 0.0603164-0.0387061I$	$1.68246-2.04205I$	0
$u=-0.983304-0.072186I$ $a=-0.186724+0.967483I$ $b=\ \ 0.0603164+0.0387061I$	$1.68246+2.04205I$	0
$u=-0.313196+0.971427I$ $a=\ \ 0.265354+1.292510I$ $b=-0.303709-0.441266I$	$-4.76986-0.10029I$	0
$u=-0.313196-0.971427I$ $a=\ \ 0.265354-1.292510I$ $b=-0.303709+0.441266I$	$-4.76986+0.10029I$	0
$u=\ \ 0.919052+0.479728I$ $a=-0.505013+0.467012I$ $b=\ \ 0.869825-0.014469I$	$-0.38199+2.73563I$	0
$u=\ \ 0.919052-0.479728I$ $a=-0.505013-0.467012I$ $b=\ \ 0.869825+0.014469I$	$-0.38199-2.73563I$	0
$u=-1.015850+0.256086I$ $a=-1.048490-0.393541I$ $b=-0.229222-0.528802I$	$2.53416+1.42657I$	0
$u=-1.015850-0.256086I$ $a=-1.048490+0.393541I$ $b=-0.229222+0.528802I$	$2.53416-1.42657I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.617681 + 0.862562I$ $a = -0.158895 - 0.454665I$ $b = -0.478962 + 0.583740I$	$-5.47979 + 3.39146I$	0
$u = 0.617681 - 0.862562I$ $a = -0.158895 + 0.454665I$ $b = -0.478962 - 0.583740I$	$-5.47979 - 3.39146I$	0
$u = -1.094060 + 0.025243I$ $a = 1.25305 - 4.74859I$ $b = 0.025554 + 1.075220I$	$3.54795 + 1.94440I$	0
$u = -1.094060 - 0.025243I$ $a = 1.25305 + 4.74859I$ $b = 0.025554 - 1.075220I$	$3.54795 - 1.94440I$	0
$u = 0.212618 + 0.880188I$ $a = 0.042175 + 1.122760I$ $b = -0.442932 - 0.811781I$	$-4.92295 - 0.38816I$	0
$u = 0.212618 - 0.880188I$ $a = 0.042175 - 1.122760I$ $b = -0.442932 + 0.811781I$	$-4.92295 + 0.38816I$	0
$u = -1.090100 + 0.143218I$ $a = 1.99869 - 1.36653I$ $b = 0.213229 + 1.033570I$	$3.31035 - 2.58307I$	0
$u = -1.090100 - 0.143218I$ $a = 1.99869 + 1.36653I$ $b = 0.213229 - 1.033570I$	$3.31035 + 2.58307I$	0
$u = -0.254380 + 1.082060I$ $a = -0.432421 + 0.207693I$ $b = -0.001503 - 1.387090I$	$7.67004 - 0.40713I$	0
$u = -0.254380 - 1.082060I$ $a = -0.432421 - 0.207693I$ $b = -0.001503 + 1.387090I$	$7.67004 + 0.40713I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.090430 + 0.258405I$ $a = -0.35121 - 1.87368I$ $b = 0.26151 + 1.52819I$	$4.83023 - 1.99731I$	0
$u = 1.090430 - 0.258405I$ $a = -0.35121 + 1.87368I$ $b = 0.26151 - 1.52819I$	$4.83023 + 1.99731I$	0
$u = 1.001540 + 0.527659I$ $a = 0.587001 - 0.336708I$ $b = -0.884271 - 0.193902I$	$-1.57250 + 7.74927I$	0
$u = 1.001540 - 0.527659I$ $a = 0.587001 + 0.336708I$ $b = -0.884271 + 0.193902I$	$-1.57250 - 7.74927I$	0
$u = -1.130960 + 0.223715I$ $a = 0.53891 - 1.92792I$ $b = 0.62911 + 2.00733I$	$9.17958 - 4.12880I$	0
$u = -1.130960 - 0.223715I$ $a = 0.53891 + 1.92792I$ $b = 0.62911 - 2.00733I$	$9.17958 + 4.12880I$	0
$u = -1.125760 + 0.253622I$ $a = 0.511983 - 0.428645I$ $b = 0.758439 + 0.708769I$	$3.64396 - 3.00386I$	0
$u = -1.125760 - 0.253622I$ $a = 0.511983 + 0.428645I$ $b = 0.758439 - 0.708769I$	$3.64396 + 3.00386I$	0
$u = -1.138500 + 0.248182I$ $a = -0.75065 + 1.90644I$ $b = -0.35236 - 2.00818I$	$9.07248 + 1.65253I$	0
$u = -1.138500 - 0.248182I$ $a = -0.75065 - 1.90644I$ $b = -0.35236 + 2.00818I$	$9.07248 - 1.65253I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.963772 + 0.735482I$ $a = 0.348408 + 0.019050I$ $b = -0.319827 - 0.365548I$	$-4.51317 + 2.35259I$	0
$u = 0.963772 - 0.735482I$ $a = 0.348408 - 0.019050I$ $b = -0.319827 + 0.365548I$	$-4.51317 - 2.35259I$	0
$u = 1.187670 + 0.257386I$ $a = 0.23652 + 1.93229I$ $b = 0.00178 - 1.56169I$	$5.58538 + 3.88018I$	0
$u = 1.187670 - 0.257386I$ $a = 0.23652 - 1.93229I$ $b = 0.00178 + 1.56169I$	$5.58538 - 3.88018I$	0
$u = -1.224900 + 0.132148I$ $a = -0.73527 + 1.92025I$ $b = -0.024419 - 1.313570I$	$4.60074 + 0.06454I$	0
$u = -1.224900 - 0.132148I$ $a = -0.73527 - 1.92025I$ $b = -0.024419 + 1.313570I$	$4.60074 - 0.06454I$	0
$u = 0.349897 + 0.670589I$ $a = -0.298869 - 0.710686I$ $b = -0.780936 + 0.454130I$	$-3.40658 - 3.29129I$	0
$u = 0.349897 - 0.670589I$ $a = -0.298869 + 0.710686I$ $b = -0.780936 - 0.454130I$	$-3.40658 + 3.29129I$	0
$u = -1.232020 + 0.242519I$ $a = -0.458416 - 0.297642I$ $b = 1.54582 + 0.35213I$	$4.28648 - 5.49663I$	0
$u = -1.232020 - 0.242519I$ $a = -0.458416 + 0.297642I$ $b = 1.54582 - 0.35213I$	$4.28648 + 5.49663I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.103548 + 0.733188I$ $a = -0.319880 + 0.705862I$ $b = -0.611185 - 1.009860I$	$-1.77326 - 8.36598I$	0
$u = 0.103548 - 0.733188I$ $a = -0.319880 - 0.705862I$ $b = -0.611185 + 1.009860I$	$-1.77326 + 8.36598I$	0
$u = 0.508711 + 0.517972I$ $a = 0.020939 + 0.810543I$ $b = 0.702476 - 0.389803I$	$-1.55574 + 1.18943I$	0
$u = 0.508711 - 0.517972I$ $a = 0.020939 - 0.810543I$ $b = 0.702476 + 0.389803I$	$-1.55574 - 1.18943I$	0
$u = -1.259230 + 0.239950I$ $a = 0.605728 + 0.167825I$ $b = -1.66675 - 0.17193I$	$2.77395 - 11.03740I$	0
$u = -1.259230 - 0.239950I$ $a = 0.605728 - 0.167825I$ $b = -1.66675 + 0.17193I$	$2.77395 + 11.03740I$	0
$u = 1.28424$ $a = -0.182483$ $b = 1.09077$	2.33642	0
$u = -1.242320 + 0.327818I$ $a = 0.206622 - 0.146648I$ $b = -1.129820 + 0.001367I$	$-1.50052 - 4.11143I$	0
$u = -1.242320 - 0.327818I$ $a = 0.206622 + 0.146648I$ $b = -1.129820 - 0.001367I$	$-1.50052 + 4.11143I$	0
$u = 1.256120 + 0.328598I$ $a = -0.08162 - 2.02613I$ $b = -0.191382 + 1.230830I$	$-1.42430 + 4.48045I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.256120 - 0.328598I$ $a = -0.08162 + 2.02613I$ $b = -0.191382 - 1.230830I$	$-1.42430 - 4.48045I$	0
$u = 0.111179 + 0.690149I$ $a = 0.082288 - 0.622290I$ $b = 0.505590 + 1.004630I$	$0.24654 - 3.21510I$	0
$u = 0.111179 - 0.690149I$ $a = 0.082288 + 0.622290I$ $b = 0.505590 - 1.004630I$	$0.24654 + 3.21510I$	0
$u = 1.264340 + 0.323180I$ $a = -0.24787 - 2.17167I$ $b = -0.377052 + 1.263140I$	$1.89644 + 12.20220I$	0
$u = 1.264340 - 0.323180I$ $a = -0.24787 + 2.17167I$ $b = -0.377052 - 1.263140I$	$1.89644 - 12.20220I$	0
$u = 1.266750 + 0.316138I$ $a = 0.24407 + 2.07352I$ $b = 0.332473 - 1.326910I$	$3.91879 + 6.93656I$	0
$u = 1.266750 - 0.316138I$ $a = 0.24407 - 2.07352I$ $b = 0.332473 + 1.326910I$	$3.91879 - 6.93656I$	0
$u = -0.334371 + 0.565524I$ $a = -0.793853 - 0.739199I$ $b = -0.388025 - 0.836475I$	$1.55438 - 0.12200I$	0
$u = -0.334371 - 0.565524I$ $a = -0.793853 + 0.739199I$ $b = -0.388025 + 0.836475I$	$1.55438 + 0.12200I$	0
$u = -0.368653 + 0.542730I$ $a = -0.587831 - 1.011260I$ $b = -0.397710 - 1.137590I$	$2.42769 - 3.87191I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.368653-0.542730I$ $a=-0.587831+1.011260I$ $b=-0.397710+1.137590I$	$2.42769+3.87191I$	0
$u=-1.337120+0.155962I$ $a=-0.54295+1.62380I$ $b=\ \ 0.264196-1.340780I$	$5.05912+0.47037I$	0
$u=-1.337120-0.155962I$ $a=-0.54295-1.62380I$ $b=\ \ 0.264196+1.340780I$	$5.05912-0.47037I$	0
$u=-0.295131+0.581464I$ $a=-0.85667-1.84488I$ $b=\ \ 0.619427+0.073935I$	$1.23260+2.48040I$	0
$u=-0.295131-0.581464I$ $a=-0.85667+1.84488I$ $b=\ \ 0.619427-0.073935I$	$1.23260-2.48040I$	0
$u=-0.411888+0.504365I$ $a=-1.018360-0.680281I$ $b=-0.067693-0.513016I$	$1.72082-0.02250I$	0
$u=-0.411888-0.504365I$ $a=-1.018360+0.680281I$ $b=-0.067693+0.513016I$	$1.72082+0.02250I$	0
$u=-0.649192$ $a=-0.589360$ $b=-0.0907688$	0.892793	12.3040
$u=-0.169610+0.622301I$ $a=\ \ 0.200395+0.225308I$ $b=\ \ 0.268657+1.102790I$	$1.38119-2.52030I$	0
$u=-0.169610-0.622301I$ $a=\ \ 0.200395-0.225308I$ $b=\ \ 0.268657-1.102790I$	$1.38119+2.52030I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.355990+0.008881I$ $a=\ \ 0.13469+1.59361I$ $b=-0.226282-0.916721I$	$2.13275+1.36234I$	0
$u=-1.355990-0.008881I$ $a=\ \ 0.13469-1.59361I$ $b=-0.226282+0.916721I$	$2.13275-1.36234I$	0
$u=\ \ 1.363310+0.033367I$ $a=-0.261013-0.342681I$ $b=-0.787977+0.235223I$	$7.61827+1.39910I$	0
$u=\ \ 1.363310-0.033367I$ $a=-0.261013+0.342681I$ $b=-0.787977-0.235223I$	$7.61827-1.39910I$	0
$u=\ \ 1.371890+0.093794I$ $a=\ \ 0.046962+0.650836I$ $b=\ \ 0.949159-0.481079I$	$5.89354+6.46464I$	0
$u=\ \ 1.371890-0.093794I$ $a=\ \ 0.046962-0.650836I$ $b=\ \ 0.949159+0.481079I$	$5.89354-6.46464I$	0
$u=-0.369828+0.501185I$ $a=\ \ 0.444203+1.090710I$ $b=\ \ 0.316244+1.163110I$	$2.53576+0.53218I$	0
$u=-0.369828-0.501185I$ $a=\ \ 0.444203-1.090710I$ $b=\ \ 0.316244-1.163110I$	$2.53576-0.53218I$	0
$u=-0.197740+0.567124I$ $a=\ \ 0.56110+2.24172I$ $b=-0.750285-0.179233I$	$-0.65485+8.09028I$	0
$u=-0.197740-0.567124I$ $a=\ \ 0.56110-2.24172I$ $b=-0.750285+0.179233I$	$-0.65485-8.09028I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.150836 + 1.400180I$ $a = 0.015381 - 0.345136I$ $b = -0.306678 + 1.297390I$	$3.07475 + 11.83000I$	0
$u = 0.150836 - 1.400180I$ $a = 0.015381 + 0.345136I$ $b = -0.306678 - 1.297390I$	$3.07475 - 11.83000I$	0
$u = 1.40556 + 0.20546I$ $a = -0.03983 + 1.65725I$ $b = 0.92844 - 1.70992I$	$8.11081 + 2.07745I$	0
$u = 1.40556 - 0.20546I$ $a = -0.03983 - 1.65725I$ $b = 0.92844 + 1.70992I$	$8.11081 - 2.07745I$	0
$u = -0.250777 + 0.512072I$ $a = 0.949567 + 0.809716I$ $b = 0.566377 + 0.438121I$	$0.67353 - 4.33386I$	$0. + 7.02296I$
$u = -0.250777 - 0.512072I$ $a = 0.949567 - 0.809716I$ $b = 0.566377 - 0.438121I$	$0.67353 + 4.33386I$	$0. - 7.02296I$
$u = 1.41554 + 0.20667I$ $a = 0.09786 - 1.59194I$ $b = -1.05602 + 1.64043I$	$8.08886 + 6.60048I$	0
$u = 1.41554 - 0.20667I$ $a = 0.09786 + 1.59194I$ $b = -1.05602 - 1.64043I$	$8.08886 - 6.60048I$	0
$u = -1.42157 + 0.16278I$ $a = 0.45715 - 1.43573I$ $b = -0.456912 + 1.245300I$	$3.42642 + 5.06397I$	0
$u = -1.42157 - 0.16278I$ $a = 0.45715 + 1.43573I$ $b = -0.456912 - 1.245300I$	$3.42642 - 5.06397I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.42549 + 0.20836I$ $a = 0.046821 - 1.369870I$ $b = -1.04513 + 1.30066I$	$7.21313 + 2.93325I$	0
$u = 1.42549 - 0.20836I$ $a = 0.046821 + 1.369870I$ $b = -1.04513 - 1.30066I$	$7.21313 - 2.93325I$	0
$u = 1.42185 + 0.28595I$ $a = 0.32402 + 1.54579I$ $b = 0.60512 - 1.41033I$	$6.52707 + 5.96383I$	0
$u = 1.42185 - 0.28595I$ $a = 0.32402 - 1.54579I$ $b = 0.60512 + 1.41033I$	$6.52707 - 5.96383I$	0
$u = 0.04806 + 1.46007I$ $a = -0.087709 + 0.373885I$ $b = 0.231939 - 1.312120I$	$5.26484 + 5.45539I$	0
$u = 0.04806 - 1.46007I$ $a = -0.087709 - 0.373885I$ $b = 0.231939 + 1.312120I$	$5.26484 - 5.45539I$	0
$u = 1.41517 + 0.44626I$ $a = 0.76965 + 1.47422I$ $b = 0.42129 - 1.46978I$	$11.7726 + 11.4995I$	0
$u = 1.41517 - 0.44626I$ $a = 0.76965 - 1.47422I$ $b = 0.42129 + 1.46978I$	$11.7726 - 11.4995I$	0
$u = 1.44834 + 0.45505I$ $a = -0.73719 - 1.38855I$ $b = -0.38461 + 1.43888I$	$13.0030 + 5.8555I$	0
$u = 1.44834 - 0.45505I$ $a = -0.73719 + 1.38855I$ $b = -0.38461 - 1.43888I$	$13.0030 - 5.8555I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.28455+0.88465I$ $a=-0.665983+1.094100I$ $b=-0.09402-1.51647I$	$9.30469+0.14343I$	0
$u=-1.28455-0.88465I$ $a=-0.665983-1.094100I$ $b=-0.09402+1.51647I$	$9.30469-0.14343I$	0
$u=-1.51320+0.55870I$ $a=-0.42687+1.51074I$ $b=-0.59681-1.56994I$	$8.4055-18.5940I$	0
$u=-1.51320-0.55870I$ $a=-0.42687-1.51074I$ $b=-0.59681+1.56994I$	$8.4055+18.5940I$	0
$u=1.61043+0.18462I$ $a=0.388375+1.179820I$ $b=0.462835-1.035540I$	$6.15338+6.15152I$	0
$u=1.61043-0.18462I$ $a=0.388375-1.179820I$ $b=0.462835+1.035540I$	$6.15338-6.15152I$	0
$u=-1.51451+0.58350I$ $a=0.44911-1.47326I$ $b=0.53582+1.57275I$	$10.3791-12.5012I$	0
$u=-1.51451-0.58350I$ $a=0.44911+1.47326I$ $b=0.53582-1.57275I$	$10.3791+12.5012I$	0
$u=-1.45381+0.76710I$ $a=0.559538-1.257950I$ $b=0.25618+1.54059I$	$10.80050-6.60908I$	0
$u=-1.45381-0.76710I$ $a=0.559538+1.257950I$ $b=0.25618-1.54059I$	$10.80050+6.60908I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.043376 + 0.317650I$ $a = 0.86810 + 1.34327I$ $b = 0.541558 - 0.138767I$	$-1.34088 + 0.49926I$	$-5.57781 - 0.86695I$
$u = 0.043376 - 0.317650I$ $a = 0.86810 - 1.34327I$ $b = 0.541558 + 0.138767I$	$-1.34088 - 0.49926I$	$-5.57781 + 0.86695I$
$u = -1.60710 + 0.61679I$ $a = -0.37388 + 1.37210I$ $b = -0.46338 - 1.43070I$	$3.25452 - 9.72714I$	0
$u = -1.60710 - 0.61679I$ $a = -0.37388 - 1.37210I$ $b = -0.46338 + 1.43070I$	$3.25452 + 9.72714I$	0
$u = -0.246391 + 0.118040I$ $a = -0.57374 + 2.30124I$ $b = 0.066255 + 1.006660I$	$2.27701 - 2.35404I$	$1.13682 + 3.61254I$
$u = -0.246391 - 0.118040I$ $a = -0.57374 - 2.30124I$ $b = 0.066255 - 1.006660I$	$2.27701 + 2.35404I$	$1.13682 - 3.61254I$
$u = 1.65253 + 0.51466I$ $a = -0.576270 - 1.116790I$ $b = -0.244766 + 1.249460I$	$10.77680 + 2.11340I$	0
$u = 1.65253 - 0.51466I$ $a = -0.576270 + 1.116790I$ $b = -0.244766 - 1.249460I$	$10.77680 - 2.11340I$	0
$u = 1.71930 + 0.68117I$ $a = 0.550280 + 0.982535I$ $b = 0.142931 - 1.206000I$	$7.79971 - 3.82442I$	0
$u = 1.71930 - 0.68117I$ $a = 0.550280 - 0.982535I$ $b = 0.142931 + 1.206000I$	$7.79971 + 3.82442I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.24042+1.84495I$ $a=\ \ 0.171420-0.573839I$ $b=-0.105804+1.247870I$	$-1.97749+1.23305I$	0
$u=-0.24042-1.84495I$ $a=\ \ 0.171420+0.573839I$ $b=-0.105804-1.247870I$	$-1.97749-1.23305I$	0

II. $\boldsymbol{I_2^u = \langle 30599u^{26} - 159948u^{25} + \cdots + 96731b + 60044,\ -1.13 \times 10^5 u^{26} + 5.45 \times 10^5 u^{25} + \cdots + 9.67 \times 10^4 a + 6.11 \times 10^4,\ u^{27} - 7u^{26} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.16487u^{26} - 5.63282u^{25} + \cdots + 7.47333u - 0.632000 \\ -0.316331u^{26} + 1.65353u^{25} + \cdots - 0.183943u - 0.620732 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.848539u^{26} - 3.97928u^{25} + \cdots + 7.28939u - 1.25273 \\ -0.316331u^{26} + 1.65353u^{25} + \cdots - 0.183943u - 0.620732 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.51963u^{26} + 10.0236u^{25} + \cdots - 3.78453u + 4.65857 \\ 0.613816u^{26} - 3.83224u^{25} + \cdots + 3.90031u - 1.51963 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 7.85801u^{26} - 65.4779u^{25} + \cdots - 39.8520u + 8.37763 \\ -0.149342u^{26} + 2.78904u^{25} + \cdots - 0.578491u + 0.905811 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 6.42087u^{26} - 53.2276u^{25} + \cdots + 1.62778u + 2.55334 \\ -6.96505u^{26} + 55.7644u^{25} + \cdots + 34.4717u - 9.63398 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 8.85801u^{26} - 71.4779u^{25} + \cdots - 36.8520u + 7.37763 \\ -0.149342u^{26} + 2.78904u^{25} + \cdots + 0.421509u + 0.905811 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 12.7463u^{26} - 100.682u^{25} + \cdots - 51.5229u + 13.9725 \\ 0.600645u^{26} - 5.22174u^{25} + \cdots + 2.66461u - 1.80247 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -12.3296u^{26} + 100.395u^{25} + \cdots + 55.1362u - 12.2366 \\ 1.98117u^{26} - 17.3079u^{25} + \cdots + 7.14347u - 2.42784 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{3441662}{96731}u^{26} + \frac{26608834}{96731}u^{25} + \cdots + \frac{13611309}{96731}u - \frac{2509628}{96731}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{27} - 17u^{26} + \cdots + 16u - 1$
c_2	$u^{27} + 3u^{26} + \cdots - 6u - 1$
c_3	$u^{27} - 2u^{26} + \cdots + 2u - 1$
c_4	$u^{27} - 2u^{26} + \cdots - 9u - 1$
c_5	$u^{27} - 3u^{26} + \cdots - 6u + 1$
c_6	$u^{27} + 2u^{26} + \cdots - u + 1$
c_7	$u^{27} + 2u^{26} + \cdots - 9u + 1$
c_8	$u^{27} - 7u^{26} + \cdots - 3u + 1$
c_9	$u^{27} - 2u^{26} + \cdots - u - 1$
c_{10}	$u^{27} + u^{26} + \cdots + 20u + 1$
c_{11}	$u^{27} + 2u^{26} + \cdots + 2u + 1$
c_{12}	$u^{27} + 7u^{26} + \cdots - 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{27} - y^{26} + \cdots - 88y - 1$
c_2, c_5	$y^{27} - 17y^{26} + \cdots + 16y - 1$
c_3, c_{11}	$y^{27} - 6y^{26} + \cdots + 298y^2 - 1$
c_4, c_7	$y^{27} + 28y^{26} + \cdots + 45y - 1$
c_6, c_9	$y^{27} - 8y^{25} + \cdots - 5y - 1$
c_8, c_{12}	$y^{27} - 15y^{26} + \cdots + 3y - 1$
c_{10}	$y^{27} - 9y^{26} + \cdots + 28y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.107787+1.060130I$ $a=-0.26125+1.39730I$ $b=\ \ 0.255392-0.708618I$	$-4.36986+0.94186I$	$4.32882-7.97316I$
$u=-0.107787-1.060130I$ $a=-0.26125-1.39730I$ $b=\ \ 0.255392+0.708618I$	$-4.36986-0.94186I$	$4.32882+7.97316I$
$u=\ \ 0.876248+0.702233I$ $a=-0.376364-0.135976I$ $b=\ \ 0.193817-0.009805I$	$-4.54338+2.71100I$	$0.44164-10.63785I$
$u=\ \ 0.876248-0.702233I$ $a=-0.376364+0.135976I$ $b=\ \ 0.193817+0.009805I$	$-4.54338-2.71100I$	$0.44164+10.63785I$
$u=-1.160540+0.048438I$ $a=\ \ 0.04155-1.92162I$ $b=-0.17288+1.43623I$	$5.04480+2.65528I$	$5.96897-5.01438I$
$u=-1.160540-0.048438I$ $a=\ \ 0.04155+1.92162I$ $b=-0.17288-1.43623I$	$5.04480-2.65528I$	$5.96897+5.01438I$
$u=-1.163620+0.040576I$ $a=-0.78576+3.19152I$ $b=-0.029594-1.086680I$	$3.65676+1.89859I$	$16.5619+2.3505I$
$u=-1.163620-0.040576I$ $a=-0.78576-3.19152I$ $b=-0.029594+1.086680I$	$3.65676-1.89859I$	$16.5619-2.3505I$
$u=-0.801697$ $a=\ \ 0.269073$ $b=-0.565798$	0.124792	-0.864170
$u=-0.785361+0.062897I$ $a=-0.79466-1.35040I$ $b=-0.060019-0.874276I$	$2.82979-2.23758I$	$22.0223-3.8705I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.785361-0.062897I$ $a=-0.79466+1.35040I$ $b=-0.060019+0.874276I$	$2.82979+2.23758I$	$22.0223+3.8705I$
$u=1.211370+0.581494I$ $a=0.65438+1.46116I$ $b=0.23699-1.78233I$	$8.33811-0.73456I$	$3.49155+0.I$
$u=1.211370-0.581494I$ $a=0.65438-1.46116I$ $b=0.23699+1.78233I$	$8.33811+0.73456I$	$3.49155+0.I$
$u=1.294820+0.370255I$ $a=-0.31810-1.70609I$ $b=-0.65325+1.85007I$	$9.19948+5.20084I$	$8.18979-5.87227I$
$u=1.294820-0.370255I$ $a=-0.31810+1.70609I$ $b=-0.65325-1.85007I$	$9.19948-5.20084I$	$8.18979+5.87227I$
$u=0.534303+0.368722I$ $a=-2.08988+0.61152I$ $b=0.617007-0.425699I$	$0.22469+9.10529I$	$4.87426-8.12456I$
$u=0.534303-0.368722I$ $a=-2.08988-0.61152I$ $b=0.617007+0.425699I$	$0.22469-9.10529I$	$4.87426+8.12456I$
$u=1.41158+0.15557I$ $a=0.06103-1.46451I$ $b=-1.02813+1.36328I$	$7.39362+3.73716I$	$7.16285-6.64593I$
$u=1.41158-0.15557I$ $a=0.06103+1.46451I$ $b=-1.02813-1.36328I$	$7.39362-3.73716I$	$7.16285+6.64593I$
$u=0.350268+0.334731I$ $a=2.29916-1.47517I$ $b=-0.579949+0.586242I$	$1.91007+3.52122I$	$7.19053-4.22290I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.350268 - 0.334731I$ $a = 2.29916 + 1.47517I$ $b = -0.579949 - 0.586242I$	$1.91007 - 3.52122I$	$7.19053 + 4.22290I$
$u = -0.164164 + 0.382515I$ $a = -0.44634 - 1.60994I$ $b = -0.375995 - 1.017170I$	$1.92294 - 1.73525I$	$4.59316 + 1.63174I$
$u = -0.164164 - 0.382515I$ $a = -0.44634 + 1.60994I$ $b = -0.375995 + 1.017170I$	$1.92294 + 1.73525I$	$4.59316 - 1.63174I$
$u = -0.01422 + 1.60586I$ $a = -0.151767 - 0.443205I$ $b = 0.142590 + 1.192110I$	$-2.46276 - 0.55570I$	0
$u = -0.01422 - 1.60586I$ $a = -0.151767 + 0.443205I$ $b = 0.142590 - 1.192110I$	$-2.46276 + 0.55570I$	0
$u = 1.61796 + 0.10292I$ $a = 0.033471 + 1.305770I$ $b = 0.736915 - 1.144590I$	$5.33696 + 7.15481I$	$0. - 7.70887I$
$u = 1.61796 - 0.10292I$ $a = 0.033471 - 1.305770I$ $b = 0.736915 + 1.144590I$	$5.33696 - 7.15481I$	$0. + 7.70887I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{27}-17u^{26}+\cdots+16u-1)(u^{122}+54u^{121}+\cdots+234560u+3721)$
c_2	$(u^{27}+3u^{26}+\cdots-6u-1)(u^{122}+4u^{121}+\cdots+768u-61)$
c_3	$(u^{27}-2u^{26}+\cdots+2u-1)(u^{122}+u^{121}+\cdots-165778u+43807)$
c_4	$(u^{27}-2u^{26}+\cdots-9u-1)(u^{122}-3u^{121}+\cdots-48567u-5581)$
c_5	$(u^{27}-3u^{26}+\cdots-6u+1)(u^{122}+4u^{121}+\cdots+768u-61)$
c_6	$(u^{27}+2u^{26}+\cdots-u+1)(u^{122}+11u^{121}+\cdots+3691u+583)$
c_7	$(u^{27}+2u^{26}+\cdots-9u+1)(u^{122}-3u^{121}+\cdots-48567u-5581)$
c_8	$(u^{27}-7u^{26}+\cdots-3u+1)(u^{122}-46u^{120}+\cdots+329813u-20411)$
c_9	$(u^{27}-2u^{26}+\cdots-u-1)(u^{122}+11u^{121}+\cdots+3691u+583)$
c_{10}	$(u^{27}+u^{26}+\cdots+20u+1)(u^{122}+18u^{121}+\cdots-1396048u-97927)$
c_{11}	$(u^{27}+2u^{26}+\cdots+2u+1)(u^{122}+u^{121}+\cdots-165778u+43807)$
c_{12}	$(u^{27}+7u^{26}+\cdots-3u-1)(u^{122}-46u^{120}+\cdots+329813u-20411)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{27} - y^{26} + \cdots - 88y - 1)$ $\cdot (y^{122} + 42y^{121} + \cdots - 15419630672y + 13845841)$
c_2, c_5	$(y^{27} - 17y^{26} + \cdots + 16y - 1)(y^{122} - 54y^{121} + \cdots - 234560y + 3721)$
c_3, c_{11}	$(y^{27} - 6y^{26} + \cdots + 298y^2 - 1)$ $\cdot (y^{122} - 91y^{121} + \cdots + 72533065960y + 1919053249)$
c_4, c_7	$(y^{27} + 28y^{26} + \cdots + 45y - 1)$ $\cdot (y^{122} + 107y^{121} + \cdots - 8059253861y + 31147561)$
c_6, c_9	$(y^{27} - 8y^{25} + \cdots - 5y - 1)$ $\cdot (y^{122} + 47y^{121} + \cdots + 16292581y + 339889)$
c_8, c_{12}	$(y^{27} - 15y^{26} + \cdots + 3y - 1)$ $\cdot (y^{122} - 92y^{121} + \cdots + 736931829y + 416608921)$
c_{10}	$(y^{27} - 9y^{26} + \cdots + 28y - 1)$ $\cdot (y^{122} - 34y^{121} + \cdots - 80169514796y + 9589697329)$