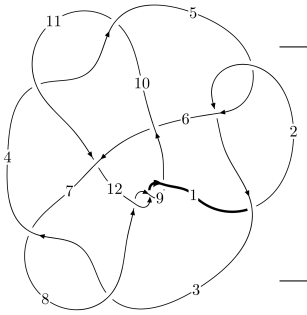
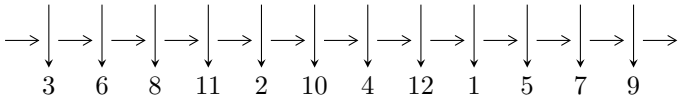
$12a_{0319}$ $(K12a_{0319})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 3.23946 \times 10^{261} u^{112} - 2.19296 \times 10^{262} u^{111} + \cdots + 7.08037 \times 10^{259} b + 1.92330 \times 10^{263}, \\ & 2.70622 \times 10^{262} u^{112} - 1.87120 \times 10^{263} u^{111} + \cdots + 5.16867 \times 10^{261} a + 1.72060 \times 10^{264}, \\ & u^{113} - 8u^{112} + \cdots - 191u - 73 \rangle \\ I_2^u = \langle & -9u^{21} + 23u^{20} + \cdots + b + 5,\ 10u^{21} - 23u^{20} + \cdots + a - 8,\ u^{22} - u^{21} + \cdots - 5u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 135 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. $\boldsymbol{I_1^u = \langle 3.24 \times 10^{261} u^{112} - 2.19 \times 10^{262} u^{111} + \cdots + 7.08 \times 10^{259} b + 1.92 \times 10^{263},\ 2.71 \times 10^{262} u^{112} - 1.87 \times 10^{263} u^{111} + \cdots + 5.17 \times 10^{261} a + 1.72 \times 10^{264},\ u^{113} - 8u^{112} + \cdots - 191u - 73 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_4 = \begin{pmatrix} -5.23581u^{112} + 36.2026u^{111} + \cdots - 1165.75u - 332.890 \\ -45.7527u^{112} + 309.724u^{111} + \cdots - 9315.33u - 2716.38 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -50.9886u^{112} + 345.927u^{111} + \cdots - 10481.1u - 3049.27 \\ -45.7527u^{112} + 309.724u^{111} + \cdots - 9315.33u - 2716.38 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 22.5547u^{112} - 150.445u^{111} + \cdots + 4155.12u + 1233.81 \\ 55.5418u^{112} - 373.123u^{111} + \cdots + 10722.4u + 3159.25 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 53.6085u^{112} - 358.658u^{111} + \cdots + 10074.6u + 2982.05 \\ 31.1098u^{112} - 209.344u^{111} + \cdots + 6063.36u + 1783.81 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 49.0069u^{112} - 325.058u^{111} + \cdots + 8714.16u + 2609.75 \\ 2.59511u^{112} - 18.1179u^{111} + \cdots + 624.353u + 175.782 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -3.49460u^{112} + 18.8084u^{111} + \cdots + 151.028u + 1.84444 \\ 13.5515u^{112} - 89.8960u^{111} + \cdots + 2439.20u + 726.982 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 47.0830u^{112} - 316.127u^{111} + \cdots + 9059.41u + 2671.49 \\ -22.4658u^{112} + 148.377u^{111} + \cdots - 3832.59u - 1156.94 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 100.962u^{112} - 690.513u^{111} + \cdots + 21787.1u + 6280.51$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{113} + 47u^{112} + \cdots + 10403u + 169$
c_2, c_5	$u^{113} + 3u^{112} + \cdots - 69u + 13$
c_3, c_7	$u^{113} + 2u^{112} + \cdots + 12910u + 3551$
c_4, c_{10}	$u^{113} - u^{112} + \cdots + 14u + 1$
c_6	$u^{113} + 8u^{112} + \cdots - 3489u + 907$
c_8, c_9, c_{12}	$u^{113} + 8u^{112} + \cdots - 191u + 73$
c_{11}	$u^{113} - 2u^{112} + \cdots + 277357u + 17593$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{113} + 49y^{112} + \cdots + 6847759y - 28561$
c_2, c_5	$y^{113} - 47y^{112} + \cdots + 10403y - 169$
c_3, c_7	$y^{113} + 80y^{112} + \cdots + 236395536y - 12609601$
c_4, c_{10}	$y^{113} + 95y^{112} + \cdots - 80y - 1$
c_6	$y^{113} + 18y^{112} + \cdots - 6476613y - 822649$
c_8, c_9, c_{12}	$y^{113} - 114y^{112} + \cdots + 78383y - 5329$
c_{11}	$y^{113} + 26y^{112} + \cdots - 9594272227y - 309513649$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.975525 + 0.343770I$ $a = -0.014156 - 0.379417I$ $b = -0.365622 + 0.526024I$	$-2.11411 + 1.42439I$	0
$u = 0.975525 - 0.343770I$ $a = -0.014156 + 0.379417I$ $b = -0.365622 - 0.526024I$	$-2.11411 - 1.42439I$	0
$u = -0.373774 + 0.872219I$ $a = -0.26773 - 1.92598I$ $b = -0.42020 + 1.35322I$	$8.67189 + 7.43141I$	0
$u = -0.373774 - 0.872219I$ $a = -0.26773 + 1.92598I$ $b = -0.42020 - 1.35322I$	$8.67189 - 7.43141I$	0
$u = -0.485419 + 0.943283I$ $a = 0.36391 + 1.70023I$ $b = 0.46917 - 1.37400I$	$7.1075 + 13.2548I$	0
$u = -0.485419 - 0.943283I$ $a = 0.36391 - 1.70023I$ $b = 0.46917 + 1.37400I$	$7.1075 - 13.2548I$	0
$u = 0.156511 + 0.903103I$ $a = -0.00785 - 1.68319I$ $b = 0.271493 + 1.096840I$	$2.61440 - 2.49523I$	0
$u = 0.156511 - 0.903103I$ $a = -0.00785 + 1.68319I$ $b = 0.271493 - 1.096840I$	$2.61440 + 2.49523I$	0
$u = 0.968058 + 0.543641I$ $a = -0.85420 + 1.31106I$ $b = -0.292289 - 0.886916I$	$-1.31892 - 1.43456I$	0
$u = 0.968058 - 0.543641I$ $a = -0.85420 - 1.31106I$ $b = -0.292289 + 0.886916I$	$-1.31892 + 1.43456I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.113700+0.087974I$ $a=\ \ 1.149820+0.422809I$ $b=\ \ 0.86338-1.17671I$	$0.97417+5.88587I$	0
$u=-1.113700-0.087974I$ $a=\ \ 1.149820-0.422809I$ $b=\ \ 0.86338+1.17671I$	$0.97417-5.88587I$	0
$u=\ \ 0.333656+1.095240I$ $a=-0.18854+1.49901I$ $b=-0.348286-1.040250I$	$1.09765-7.03753I$	0
$u=\ \ 0.333656-1.095240I$ $a=-0.18854-1.49901I$ $b=-0.348286+1.040250I$	$1.09765+7.03753I$	0
$u=-0.864544+0.773774I$ $a=\ \ 0.794215+1.007200I$ $b=-0.230925-1.207430I$	$7.29213-1.91889I$	0
$u=-0.864544-0.773774I$ $a=\ \ 0.794215-1.007200I$ $b=-0.230925+1.207430I$	$7.29213+1.91889I$	0
$u=-0.207224+0.808964I$ $a=-0.41108-1.57012I$ $b=\ \ 0.330697+1.230060I$	$3.15474-2.44549I$	0
$u=-0.207224-0.808964I$ $a=-0.41108+1.57012I$ $b=\ \ 0.330697-1.230060I$	$3.15474+2.44549I$	0
$u=\ \ 1.223500+0.011288I$ $a=-0.022574+0.318563I$ $b=-0.17684-2.01220I$	$4.49179-3.00890I$	0
$u=\ \ 1.223500-0.011288I$ $a=-0.022574-0.318563I$ $b=-0.17684+2.01220I$	$4.49179+3.00890I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.778711+0.951012I$ $a=-0.625337-1.042850I$ $b=\ \ 0.270860+1.248840I$	$6.35326-7.05913I$	0
$u=-0.778711-0.951012I$ $a=-0.625337+1.042850I$ $b=\ \ 0.270860-1.248840I$	$6.35326+7.05913I$	0
$u=-1.248140+0.059474I$ $a=\ \ 0.234772+1.097040I$ $b=\ \ 0.17298-1.50301I$	$0.52000+3.23792I$	0
$u=-1.248140-0.059474I$ $a=\ \ 0.234772-1.097040I$ $b=\ \ 0.17298+1.50301I$	$0.52000-3.23792I$	0
$u=\ \ 0.433114+0.608112I$ $a=\ \ 0.028879-0.629520I$ $b=-0.609339+0.178091I$	$-1.27678-3.46304I$	0
$u=\ \ 0.433114-0.608112I$ $a=\ \ 0.028879+0.629520I$ $b=-0.609339-0.178091I$	$-1.27678+3.46304I$	0
$u=\ \ 0.656590+0.313091I$ $a=-1.38222+1.74805I$ $b=-0.244826-0.839883I$	$-1.37943-1.39614I$	0
$u=\ \ 0.656590-0.313091I$ $a=-1.38222-1.74805I$ $b=-0.244826+0.839883I$	$-1.37943+1.39614I$	0
$u=-1.286140+0.038835I$ $a=-1.65307+1.17796I$ $b=-0.065458-0.916646I$	$-0.76391+6.11009I$	0
$u=-1.286140-0.038835I$ $a=-1.65307-1.17796I$ $b=-0.065458+0.916646I$	$-0.76391-6.11009I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.284900 + 0.078456I$ $a = -0.70832 + 2.15278I$ $b = -0.157497 - 1.404070I$	$4.08065 - 4.21507I$	0
$u = 1.284900 - 0.078456I$ $a = -0.70832 - 2.15278I$ $b = -0.157497 + 1.404070I$	$4.08065 + 4.21507I$	0
$u = 1.260290 + 0.295141I$ $a = -0.740145 + 0.650307I$ $b = -0.318857 - 1.008720I$	$-1.06984 - 1.80120I$	0
$u = 1.260290 - 0.295141I$ $a = -0.740145 - 0.650307I$ $b = -0.318857 + 1.008720I$	$-1.06984 + 1.80120I$	0
$u = 1.296470 + 0.038259I$ $a = 1.35156 + 0.46060I$ $b = 0.535281 - 0.867776I$	$-3.88087 - 1.65713I$	0
$u = 1.296470 - 0.038259I$ $a = 1.35156 - 0.46060I$ $b = 0.535281 + 0.867776I$	$-3.88087 + 1.65713I$	0
$u = -1.307720 + 0.013959I$ $a = -0.972701 + 0.271024I$ $b = -1.01921 - 1.20757I$	$0.89650 - 2.18592I$	0
$u = -1.307720 - 0.013959I$ $a = -0.972701 - 0.271024I$ $b = -1.01921 + 1.20757I$	$0.89650 + 2.18592I$	0
$u = 1.290090 + 0.230697I$ $a = -0.979250 + 0.508289I$ $b = -0.427447 - 0.996014I$	$-1.12305 - 1.91262I$	0
$u = 1.290090 - 0.230697I$ $a = -0.979250 - 0.508289I$ $b = -0.427447 + 0.996014I$	$-1.12305 + 1.91262I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.305330+0.149159I$ $a=\ 1.78259+0.55086I$ $b=\ 0.010684-0.999271I$	$3.25522+0.04146I$	0
$u=-1.305330-0.149159I$ $a=\ 1.78259-0.55086I$ $b=\ 0.010684+0.999271I$	$3.25522-0.04146I$	0
$u=-0.347724+0.586819I$ $a=-0.333304+0.035629I$ $b=\ 1.122950-0.208901I$	$2.20924+7.86227I$	0
$u=-0.347724-0.586819I$ $a=-0.333304-0.035629I$ $b=\ 1.122950+0.208901I$	$2.20924-7.86227I$	0
$u=\ 0.247843+0.629558I$ $a=\ 0.25253-1.62717I$ $b=\ 0.48616+1.53859I$	$6.58164+0.99842I$	$-12.00000+0.I$
$u=\ 0.247843-0.629558I$ $a=\ 0.25253+1.62717I$ $b=\ 0.48616-1.53859I$	$6.58164-0.99842I$	$-12.00000+0.I$
$u=\ 0.437621+0.466675I$ $a=-2.33498+0.42775I$ $b=\ 0.041597-1.270910I$	$5.73774-4.28699I$	$-7.05414+7.47196I$
$u=\ 0.437621-0.466675I$ $a=-2.33498-0.42775I$ $b=\ 0.041597+1.270910I$	$5.73774+4.28699I$	$-7.05414-7.47196I$
$u=-0.487973+0.412211I$ $a=-0.077880+0.628379I$ $b=\ 0.859901+0.154819I$	$-1.41996+1.43991I$	$-14.1213-4.7302I$
$u=-0.487973-0.412211I$ $a=-0.077880-0.628379I$ $b=\ 0.859901-0.154819I$	$-1.41996-1.43991I$	$-14.1213+4.7302I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.369370 + 0.020352I$ $a = -0.172640 - 0.430954I$ $b = -0.543471 + 0.516438I$	$-1.93217 + 1.98337I$	0
$u = 1.369370 - 0.020352I$ $a = -0.172640 + 0.430954I$ $b = -0.543471 - 0.516438I$	$-1.93217 - 1.98337I$	0
$u = -0.474494 + 0.403935I$ $a = 1.86778 + 2.26063I$ $b = 0.458372 - 1.138950I$	$1.58848 + 6.19220I$	$-12.6737 - 8.9348I$
$u = -0.474494 - 0.403935I$ $a = 1.86778 - 2.26063I$ $b = 0.458372 + 1.138950I$	$1.58848 - 6.19220I$	$-12.6737 + 8.9348I$
$u = -0.374258 + 0.493118I$ $a = 0.95129 - 1.21092I$ $b = -0.378161 + 0.034177I$	$3.77539 + 0.34718I$	$-7.42485 - 3.96458I$
$u = -0.374258 - 0.493118I$ $a = 0.95129 + 1.21092I$ $b = -0.378161 - 0.034177I$	$3.77539 - 0.34718I$	$-7.42485 + 3.96458I$
$u = -0.159935 + 0.594286I$ $a = -0.93341 - 1.71005I$ $b = -0.079665 + 1.194920I$	$3.39551 - 1.15967I$	$-5.79218 + 3.05199I$
$u = -0.159935 - 0.594286I$ $a = -0.93341 + 1.71005I$ $b = -0.079665 - 1.194920I$	$3.39551 + 1.15967I$	$-5.79218 - 3.05199I$
$u = -1.373130 + 0.259161I$ $a = 0.831528 + 0.432014I$ $b = 0.95042 - 1.39994I$	$1.45927 + 2.27600I$	0
$u = -1.373130 - 0.259161I$ $a = 0.831528 - 0.432014I$ $b = 0.95042 + 1.39994I$	$1.45927 - 2.27600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.404600+0.140162I$ $a=\ 0.260271+0.025626I$ $b=\ 1.005960+0.221517I$	$-5.62291+1.41549I$	0
$u=-1.404600-0.140162I$ $a=\ 0.260271-0.025626I$ $b=\ 1.005960-0.221517I$	$-5.62291-1.41549I$	0
$u=-0.383749+0.445783I$ $a=\ 1.38035+1.04092I$ $b=\ 0.335426-1.162020I$	$2.45026+3.90445I$	$-6.44576-2.61691I$
$u=-0.383749-0.445783I$ $a=\ 1.38035-1.04092I$ $b=\ 0.335426+1.162020I$	$2.45026-3.90445I$	$-6.44576+2.61691I$
$u=-0.239713+0.535309I$ $a=-1.22212+1.64034I$ $b=\ 0.213848+0.120182I$	$2.18768-4.74508I$	$-10.37642+0.76774I$
$u=-0.239713-0.535309I$ $a=-1.22212-1.64034I$ $b=\ 0.213848-0.120182I$	$2.18768+4.74508I$	$-10.37642-0.76774I$
$u=-0.337117+0.471029I$ $a=\ 0.661155-0.131613I$ $b=-0.928411+0.301402I$	$3.71740+2.72095I$	$-7.71498-4.87286I$
$u=-0.337117-0.471029I$ $a=\ 0.661155+0.131613I$ $b=-0.928411-0.301402I$	$3.71740-2.72095I$	$-7.71498+4.87286I$
$u=\ 1.41197+0.18152I$ $a=-0.346112+0.294720I$ $b=-1.352470-0.058009I$	$-1.83782-5.16732I$	0
$u=\ 1.41197-0.18152I$ $a=-0.346112-0.294720I$ $b=-1.352470+0.058009I$	$-1.83782+5.16732I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.44030+0.16888I$ $a=-0.836059-0.359382I$ $b=-1.02401+1.36719I$	$1.25755+6.47322I$	0
$u=-1.44030-0.16888I$ $a=-0.836059+0.359382I$ $b=-1.02401-1.36719I$	$1.25755-6.47322I$	0
$u=1.44234+0.22727I$ $a=0.370654-0.260708I$ $b=1.45383-0.10554I$	$-3.56727-10.87880I$	0
$u=1.44234-0.22727I$ $a=0.370654+0.260708I$ $b=1.45383+0.10554I$	$-3.56727+10.87880I$	0
$u=-1.42088+0.34291I$ $a=0.810308+1.010290I$ $b=0.549077-1.209210I$	$-2.53431+6.92079I$	0
$u=-1.42088-0.34291I$ $a=0.810308-1.010290I$ $b=0.549077+1.209210I$	$-2.53431-6.92079I$	0
$u=1.45964+0.18053I$ $a=1.041130-0.183211I$ $b=0.569702+0.993657I$	$-3.55249-6.29900I$	0
$u=1.45964-0.18053I$ $a=1.041130+0.183211I$ $b=0.569702-0.993657I$	$-3.55249+6.29900I$	0
$u=1.46531+0.18133I$ $a=1.30433-1.03874I$ $b=0.507458+1.266340I$	$-4.63950-8.54288I$	0
$u=1.46531-0.18133I$ $a=1.30433+1.03874I$ $b=0.507458-1.266340I$	$-4.63950+8.54288I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.46819+0.18027I$ $a=-1.45890+0.23517I$ $b=-0.070028+1.011290I$	$-0.43130+6.73555I$	0
$u=-1.46819-0.18027I$ $a=-1.45890-0.23517I$ $b=-0.070028-1.011290I$	$-0.43130-6.73555I$	0
$u=0.289781+0.429902I$ $a=-0.64968+1.76717I$ $b=-0.62464-1.51753I$	$6.92171-4.22400I$	$-4.15858+8.77688I$
$u=0.289781-0.429902I$ $a=-0.64968-1.76717I$ $b=-0.62464+1.51753I$	$6.92171+4.22400I$	$-4.15858-8.77688I$
$u=-1.46562+0.23557I$ $a=-0.259206-0.035445I$ $b=-0.992562-0.369481I$	$-7.38904+6.61296I$	0
$u=-1.46562-0.23557I$ $a=-0.259206+0.035445I$ $b=-0.992562+0.369481I$	$-7.38904-6.61296I$	0
$u=-1.47432+0.19366I$ $a=-0.846841-1.117710I$ $b=-0.440021+1.145260I$	$-7.94835+3.87685I$	0
$u=-1.47432-0.19366I$ $a=-0.846841+1.117710I$ $b=-0.440021-1.145260I$	$-7.94835-3.87685I$	0
$u=0.095068+0.501846I$ $a=2.34187-3.16314I$ $b=-0.175916+1.238840I$	$7.57611+2.36095I$	$1.28578-1.07524I$
$u=0.095068-0.501846I$ $a=2.34187+3.16314I$ $b=-0.175916-1.238840I$	$7.57611-2.36095I$	$1.28578+1.07524I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.49752 + 0.09934I$ $a = 0.460213 - 0.381643I$ $b = 0.979596 - 0.220843I$	$-8.01183 - 3.20810I$	0
$u = 1.49752 - 0.09934I$ $a = 0.460213 + 0.381643I$ $b = 0.979596 + 0.220843I$	$-8.01183 + 3.20810I$	0
$u = 1.46984 + 0.32887I$ $a = -0.964403 + 1.011600I$ $b = -0.59155 - 1.41586I$	$2.76721 - 11.75190I$	0
$u = 1.46984 - 0.32887I$ $a = -0.964403 - 1.011600I$ $b = -0.59155 + 1.41586I$	$2.76721 + 11.75190I$	0
$u = 1.40529 + 0.63509I$ $a = 0.530354 - 1.153880I$ $b = 0.244714 + 0.870612I$	$-2.54902 - 4.87687I$	0
$u = 1.40529 - 0.63509I$ $a = 0.530354 + 1.153880I$ $b = 0.244714 - 0.870612I$	$-2.54902 + 4.87687I$	0
$u = -1.50400 + 0.39257I$ $a = -0.839195 - 0.995514I$ $b = -0.583955 + 1.164530I$	$-4.85144 + 12.24700I$	0
$u = -1.50400 - 0.39257I$ $a = -0.839195 + 0.995514I$ $b = -0.583955 - 1.164530I$	$-4.85144 - 12.24700I$	0
$u = 1.54260 + 0.27953I$ $a = 0.290487 - 0.954752I$ $b = 0.140916 + 0.940361I$	$-3.00503 + 1.08144I$	0
$u = 1.54260 - 0.27953I$ $a = 0.290487 + 0.954752I$ $b = 0.140916 - 0.940361I$	$-3.00503 - 1.08144I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52947 + 0.35191I$ $a = 0.945790 - 0.924476I$ $b = 0.64869 + 1.40966I$	$0.6370 - 17.9551I$	0
$u = 1.52947 - 0.35191I$ $a = 0.945790 + 0.924476I$ $b = 0.64869 - 1.40966I$	$0.6370 + 17.9551I$	0
$u = 0.116869 + 0.408252I$ $a = -0.182161 + 1.077640I$ $b = 0.532481 + 0.072693I$	$-0.543296 + 0.399156I$	$-13.17949 + 1.12118I$
$u = 0.116869 - 0.408252I$ $a = -0.182161 - 1.077640I$ $b = 0.532481 - 0.072693I$	$-0.543296 - 0.399156I$	$-13.17949 - 1.12118I$
$u = 1.57011 + 0.25302I$ $a = 0.050722 + 0.414703I$ $b = 0.270653 - 0.751807I$	$-2.83313 - 2.36688I$	0
$u = 1.57011 - 0.25302I$ $a = 0.050722 - 0.414703I$ $b = 0.270653 + 0.751807I$	$-2.83313 + 2.36688I$	0
$u = -1.60463 + 0.04728I$ $a = -0.193464 - 0.069815I$ $b = -0.497661 - 0.282158I$	$-10.67240 - 0.12814I$	0
$u = -1.60463 - 0.04728I$ $a = -0.193464 + 0.069815I$ $b = -0.497661 + 0.282158I$	$-10.67240 + 0.12814I$	0
$u = -0.330981 + 0.091771I$ $a = 2.26299 + 1.65780I$ $b = -0.556933 - 0.972649I$	$4.26850 - 2.16570I$	$-14.8529 + 5.8248I$
$u = -0.330981 - 0.091771I$ $a = 2.26299 - 1.65780I$ $b = -0.556933 + 0.972649I$	$4.26850 + 2.16570I$	$-14.8529 - 5.8248I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.295478$ $a = -0.892558$ $b = \ 0.325774$	-0.572509	-17.2100
$u = \ 1.88523 + 0.07373I$ $a = \ 0.008429 + 0.394780I$ $b = \ 0.057063 - 0.952589I$	$-3.21447 + 1.94404I$	0
$u = \ 1.88523 - 0.07373I$ $a = \ 0.008429 - 0.394780I$ $b = \ 0.057063 + 0.952589I$	$-3.21447 - 1.94404I$	0

II. $I_2^u =$
$\langle -9u^{21}+23u^{20}+\cdots+b+5,\ 10u^{21}-23u^{20}+\cdots+a-8,\ u^{22}-u^{21}+\cdots-5u-1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -10u^{21}+23u^{20}+\cdots+38u+8 \\ 9u^{21}-23u^{20}+\cdots-27u-5 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2+1 \\ -u^4+2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{21}+17u^{19}+\cdots+11u+3 \\ 9u^{21}-23u^{20}+\cdots-27u-5 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -5u^{21}+9u^{20}+\cdots+27u+10 \\ -3u^{21}+6u^{20}+\cdots+6u+3 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -5u^{21}+9u^{20}+\cdots+25u+10 \\ -2u^{21}+4u^{20}+\cdots+2u+2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 14u^{21}-31u^{20}+\cdots-54u-17 \\ -u^{21}+3u^{20}+\cdots-u-2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -10u^{21}+28u^{20}+\cdots+36u^2+19u \\ 3u^{21}-7u^{20}+\cdots-9u-5 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 5u^{21}-9u^{20}+\cdots-22u-4 \\ -16u^{21}+38u^{20}+\cdots+41u+8 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 3u^{21}-10u^{20}-27u^{19}+118u^{18}+77u^{17}-585u^{16}+9u^{15}+1570u^{14}-503u^{13}-2443u^{12}+1076u^{11}+2194u^{10}-810u^9-1096u^8-74u^7+324u^6+327u^5-51u^4-49u^3-42u^2-11u-5$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 10u^{21} + \cdots - 13u + 1$
c_2	$u^{22} + 2u^{21} + \cdots + 3u + 1$
c_3	$u^{22} + u^{21} + \cdots - 10u + 1$
c_4	$u^{22} + 12u^{20} + \cdots - 2u - 1$
c_5	$u^{22} - 2u^{21} + \cdots - 3u + 1$
c_6	$u^{22} - u^{21} + \cdots + 7u - 1$
c_7	$u^{22} - u^{21} + \cdots + 10u + 1$
c_8, c_9	$u^{22} - u^{21} + \cdots - 5u - 1$
c_{10}	$u^{22} + 12u^{20} + \cdots + 2u - 1$
c_{11}	$u^{22} + u^{21} + \cdots - u - 1$
c_{12}	$u^{22} + u^{21} + \cdots + 5u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} + 14y^{21} + \cdots + 15y + 1$
c_2, c_5	$y^{22} - 10y^{21} + \cdots - 13y + 1$
c_3, c_7	$y^{22} + 21y^{21} + \cdots - 46y + 1$
c_4, c_{10}	$y^{22} + 24y^{21} + \cdots - 26y + 1$
c_6	$y^{22} + 7y^{21} + \cdots - 13y + 1$
c_8, c_9, c_{12}	$y^{22} - 29y^{21} + \cdots - 9y + 1$
c_{11}	$y^{22} + 3y^{21} + \cdots - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.149520 + 0.062207I$ $a = -0.278979 + 0.910972I$ $b = -0.219305 - 1.389230I$	$1.02423 - 3.01439I$	$-6.90565 - 0.06936I$
$u = 1.149520 - 0.062207I$ $a = -0.278979 - 0.910972I$ $b = -0.219305 + 1.389230I$	$1.02423 + 3.01439I$	$-6.90565 + 0.06936I$
$u = 1.177240 + 0.457260I$ $a = -0.914545 + 0.796912I$ $b = -0.343723 - 0.851346I$	$-1.45659 - 0.80644I$	$-14.8509 - 4.8732I$
$u = 1.177240 - 0.457260I$ $a = -0.914545 - 0.796912I$ $b = -0.343723 + 0.851346I$	$-1.45659 + 0.80644I$	$-14.8509 + 4.8732I$
$u = -1.305800 + 0.040691I$ $a = 0.584110 + 1.235290I$ $b = 0.32249 - 1.62994I$	$3.29715 + 3.65180I$	$-12.37780 - 2.47312I$
$u = -1.305800 - 0.040691I$ $a = 0.584110 - 1.235290I$ $b = 0.32249 + 1.62994I$	$3.29715 - 3.65180I$	$-12.37780 + 2.47312I$
$u = -1.303680 + 0.159108I$ $a = 0.928091 + 0.289110I$ $b = 1.03135 - 1.19976I$	$1.10246 + 3.82076I$	$-10.96058 - 4.95574I$
$u = -1.303680 - 0.159108I$ $a = 0.928091 - 0.289110I$ $b = 1.03135 + 1.19976I$	$1.10246 - 3.82076I$	$-10.96058 + 4.95574I$
$u = 0.684734$ $a = -0.627896$ $b = -0.414303$	-2.24643	-18.0350
$u = -1.41340 + 0.14323I$ $a = -1.45130 + 0.08737I$ $b = -0.620478 + 0.845096I$	$-2.12308 + 7.66217I$	$-13.2891 - 7.4894I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.41340-0.14323I$ $a=-1.45130-0.08737I$ $b=-0.620478-0.845096I$	$-2.12308-7.66217I$	$-13.2891+7.4894I$
$u=-0.280875+0.463479I$ $a=-0.38070-2.08313I$ $b=\ \ 0.542735+1.068170I$	$4.66239-1.74942I$	$-4.28943-3.46067I$
$u=-0.280875-0.463479I$ $a=-0.38070+2.08313I$ $b=\ \ 0.542735-1.068170I$	$4.66239+1.74942I$	$-4.28943+3.46067I$
$u=\ \ 1.45683+0.41933I$ $a=\ \ 0.814307-0.787584I$ $b=\ \ 0.207288+0.844118I$	$-2.55416-4.23935I$	$-13.94164+1.24804I$
$u=\ \ 1.45683-0.41933I$ $a=\ \ 0.814307+0.787584I$ $b=\ \ 0.207288-0.844118I$	$-2.55416+4.23935I$	$-13.94164-1.24804I$
$u=\ \ 0.004334+0.470963I$ $a=-1.43048+3.24123I$ $b=-0.385633-0.903070I$	$2.78296-5.65128I$	$-5.51832+7.12489I$
$u=\ \ 0.004334-0.470963I$ $a=-1.43048-3.24123I$ $b=-0.385633+0.903070I$	$2.78296+5.65128I$	$-5.51832-7.12489I$
$u=-0.356680+0.113620I$ $a=-1.56768+0.90684I$ $b=\ \ 0.21297+1.44694I$	$6.70926-3.12755I$	$-4.88224+2.73129I$
$u=-0.356680-0.113620I$ $a=-1.56768-0.90684I$ $b=\ \ 0.21297-1.44694I$	$6.70926+3.12755I$	$-4.88224-2.73129I$
$u=-1.62672$ $a=-0.271509$ $b=-0.137497$	-10.3897	1.24590

	Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.84351+0.09179I$		
$a=$	$0.146873-0.648648I$	$-3.83666+1.58772I$	$-24.5899+0.1635I$
$b=$	$0.028198+0.786662I$		
$u=$	$1.84351-0.09179I$		
$a=$	$0.146873+0.648648I$	$-3.83666-1.58772I$	$-24.5899-0.1635I$
$b=$	$0.028198-0.786662I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{22}-10u^{21}+\cdots-13u+1)(u^{113}+47u^{112}+\cdots+10403u+169)$
c_2	$(u^{22}+2u^{21}+\cdots+3u+1)(u^{113}+3u^{112}+\cdots-69u+13)$
c_3	$(u^{22}+u^{21}+\cdots-10u+1)(u^{113}+2u^{112}+\cdots+12910u+3551)$
c_4	$(u^{22}+12u^{20}+\cdots-2u-1)(u^{113}-u^{112}+\cdots+14u+1)$
c_5	$(u^{22}-2u^{21}+\cdots-3u+1)(u^{113}+3u^{112}+\cdots-69u+13)$
c_6	$(u^{22}-u^{21}+\cdots+7u-1)(u^{113}+8u^{112}+\cdots-3489u+907)$
c_7	$(u^{22}-u^{21}+\cdots+10u+1)(u^{113}+2u^{112}+\cdots+12910u+3551)$
c_8, c_9	$(u^{22}-u^{21}+\cdots-5u-1)(u^{113}+8u^{112}+\cdots-191u+73)$
c_{10}	$(u^{22}+12u^{20}+\cdots+2u-1)(u^{113}-u^{112}+\cdots+14u+1)$
c_{11}	$(u^{22}+u^{21}+\cdots-u-1)(u^{113}-2u^{112}+\cdots+277357u+17593)$
c_{12}	$(u^{22}+u^{21}+\cdots+5u-1)(u^{113}+8u^{112}+\cdots-191u+73)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{22}+14y^{21}+\cdots+15y+1)$ $\cdot(y^{113}+49y^{112}+\cdots+6847759y-28561)$
c_2, c_5	$(y^{22}-10y^{21}+\cdots-13y+1)(y^{113}-47y^{112}+\cdots+10403y-169)$
c_3, c_7	$(y^{22}+21y^{21}+\cdots-46y+1)$ $\cdot(y^{113}+80y^{112}+\cdots+236395536y-12609601)$
c_4, c_{10}	$(y^{22}+24y^{21}+\cdots-26y+1)(y^{113}+95y^{112}+\cdots-80y-1)$
c_6	$(y^{22}+7y^{21}+\cdots-13y+1)$ $\cdot(y^{113}+18y^{112}+\cdots-6476613y-822649)$
c_8, c_9, c_{12}	$(y^{22}-29y^{21}+\cdots-9y+1)(y^{113}-114y^{112}+\cdots+78383y-5329)$
c_{11}	$(y^{22}+3y^{21}+\cdots-3y+1)$ $\cdot(y^{113}+26y^{112}+\cdots-9594272227y-309513649)$