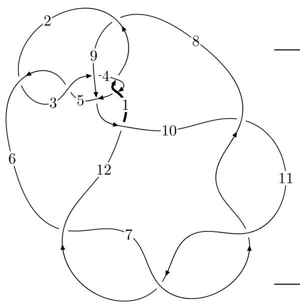
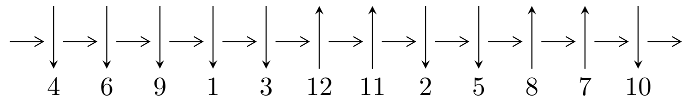
$12a_{0939}$ ($K12a_{0939}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 8191u^{30} - 26107u^{29} + \cdots + 32768b - 33535,\ 263u^{30} - 1185u^{29} + \cdots + 512a - 233,$$
$$u^{31} - 4u^{30} + \cdots - 6u - 1\rangle$$
$$I_2^u = \langle -2.55785 \times 10^{49}u^{51} - 2.68690 \times 10^{50}u^{50} + \cdots + 5.56688 \times 10^{49}b - 6.70004 \times 10^{48},$$
$$-8.26170 \times 10^{49}u^{51} - 6.92304 \times 10^{50}u^{50} + \cdots + 5.56688 \times 10^{49}a - 1.67397 \times 10^{49},\ u^{52} + 9u^{51} + \cdots + 2u -$$
$$I_3^u = \langle 16b^4 - 8b^3 + 4b^2 + 1,\ a,\ u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 87 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. $I_1^u = \langle 8191u^{30} - 26107u^{29} + \cdots + 32768b - 33535,\ 263u^{30} - 1185u^{29} + \cdots + 512a - 233,\ u^{31} - 4u^{30} + \cdots - 6u - 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.513672u^{30} + 2.31445u^{29} + \cdots + 9.14648u + 0.455078 \\ -0.249969u^{30} + 0.796722u^{29} + \cdots + 4.14828u + 1.02341 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.531281u^{30} + 2.21890u^{29} + \cdots + 9.57047u + 0.398468 \\ -0.232361u^{30} + 0.892273u^{29} + \cdots + 3.72430u + 1.08002 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{1}{4}u^{30} + \frac{3}{4}u^{29} + \cdots + \frac{7}{4}u + \frac{5}{4} \\ \frac{1}{4}u^{30} - \frac{3}{4}u^{29} + \cdots - \frac{7}{4}u - \frac{1}{4} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{4}u^{30} - \frac{5}{4}u^{29} + \cdots - \frac{3}{4}u + \frac{1}{4} \\ -\frac{1}{4}u^{30} + \frac{5}{4}u^{29} + \cdots - \frac{1}{4}u - \frac{1}{4} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.570282u^{30} + 2.52328u^{29} + \cdots + 12.2498u + 1.21872 \\ -0.415955u^{30} + 1.69305u^{29} + \cdots + 3.98602u + 1.00580 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.207794u^{30} + 1.06973u^{29} + \cdots + 1.39249u - 2.33078 \\ 0.0252075u^{30} - 0.209045u^{29} + \cdots + 3.75287u + 0.573425 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.253632u^{30} - 1.26767u^{29} + \cdots + 3.22989u + 0.245880 \\ -0.258606u^{30} + 1.29205u^{29} + \cdots - 0.203064u - 0.240417 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.249969u^{30} - 1.24985u^{29} + \cdots - 1.74985u + 2.25003 \\ -0.249939u^{30} + 1.24969u^{29} + \cdots - 2.25031u - 0.250061 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{77823}{65536}u^{30} + \frac{372731}{65536}u^{29} + \cdots + \frac{1036283}{65536}u + \frac{151551}{65536}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4 c_5	$u^{31} + 4u^{30} + \cdots - 6u + 1$
c_3	$u^{31} + 3u^{30} + \cdots + 1408u + 512$
c_6, c_7, c_{10} c_{11}	$u^{31} + 17u^{29} + \cdots + 21u + 4$
c_8, c_9	$16(16u^{31} - 8u^{30} + \cdots + 2u + 1)$
c_{12}	$u^{31} - 6u^{30} + \cdots + 27315u - 4448$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$y^{31} + 16y^{30} + \cdots + 12y - 1$
c_3	$y^{31} + 9y^{30} + \cdots - 4407296y - 262144$
c_6, c_7, c_{10} c_{11}	$y^{31} + 34y^{30} + \cdots + 113y - 16$
c_8, c_9	$256(256y^{31} + 3136y^{30} + \cdots - 8y - 1)$
c_{12}	$y^{31} + 14y^{30} + \cdots + 1208087401y - 19784704$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.800565 + 0.436099I$ $a = 0.467719 - 0.621707I$ $b = 0.042876 + 0.178508I$	$-2.45428 - 1.56605I$	$-13.61992 + 2.18672I$
$u = 0.800565 - 0.436099I$ $a = 0.467719 + 0.621707I$ $b = 0.042876 - 0.178508I$	$-2.45428 + 1.56605I$	$-13.61992 - 2.18672I$
$u = 0.939744 + 0.617749I$ $a = -0.276998 + 0.717790I$ $b = -0.195037 - 0.177639I$	$-9.79482 - 2.45438I$	$-10.97758 + 0.07663I$
$u = 0.939744 - 0.617749I$ $a = -0.276998 - 0.717790I$ $b = -0.195037 + 0.177639I$	$-9.79482 + 2.45438I$	$-10.97758 - 0.07663I$
$u = -0.402521 + 1.052770I$ $a = 1.48918 - 0.01324I$ $b = -2.36845 - 0.55108I$	$-6.57575 + 7.07387I$	$-5.61246 - 7.92227I$
$u = -0.402521 - 1.052770I$ $a = 1.48918 + 0.01324I$ $b = -2.36845 + 0.55108I$	$-6.57575 - 7.07387I$	$-5.61246 + 7.92227I$
$u = 0.107232 + 1.154900I$ $a = -0.99728 - 1.98978I$ $b = 1.52737 + 1.79295I$	$5.77342 - 3.85223I$	$6.43651 + 8.75740I$
$u = 0.107232 - 1.154900I$ $a = -0.99728 + 1.98978I$ $b = 1.52737 - 1.79295I$	$5.77342 + 3.85223I$	$6.43651 - 8.75740I$
$u = -0.031472 + 1.171320I$ $a = 1.78512 + 1.47159I$ $b = -2.36086 - 1.47488I$	$7.04254 + 1.37301I$	$10.49996 - 3.37928I$
$u = -0.031472 - 1.171320I$ $a = 1.78512 - 1.47159I$ $b = -2.36086 + 1.47488I$	$7.04254 - 1.37301I$	$10.49996 + 3.37928I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.239386 + 1.151830I$ $a = 0.43439 + 1.74523I$ $b = -0.99450 - 1.41076I$	$-1.64522 - 7.50176I$	$-1.21134 + 8.53156I$
$u = 0.239386 - 1.151830I$ $a = 0.43439 - 1.74523I$ $b = -0.99450 + 1.41076I$	$-1.64522 + 7.50176I$	$-1.21134 - 8.53156I$
$u = -0.220760 + 1.161050I$ $a = -1.76111 - 0.50636I$ $b = 2.49381 + 0.76768I$	$2.81930 + 5.65791I$	$0.15142 - 9.03827I$
$u = -0.220760 - 1.161050I$ $a = -1.76111 + 0.50636I$ $b = 2.49381 - 0.76768I$	$2.81930 - 5.65791I$	$0.15142 + 9.03827I$
$u = 1.288550 + 0.093987I$ $a = 0.043092 - 0.447446I$ $b = 0.0329599 - 0.0695309I$	$-1.04564 + 1.63981I$	$6.17963 - 7.92782I$
$u = 1.288550 - 0.093987I$ $a = 0.043092 + 0.447446I$ $b = 0.0329599 + 0.0695309I$	$-1.04564 - 1.63981I$	$6.17963 + 7.92782I$
$u = -0.374044 + 1.323230I$ $a = -1.254180 - 0.415556I$ $b = 2.28135 + 0.63320I$	$3.67791 + 5.94522I$	$-1.46633 - 3.99996I$
$u = -0.374044 - 1.323230I$ $a = -1.254180 + 0.415556I$ $b = 2.28135 - 0.63320I$	$3.67791 - 5.94522I$	$-1.46633 + 3.99996I$
$u = 1.362480 + 0.213737I$ $a = -0.065860 + 0.497813I$ $b = -0.0818984 + 0.0915721I$	$-7.91870 + 3.73515I$	$-1.51291 - 6.54236I$
$u = 1.362480 - 0.213737I$ $a = -0.065860 - 0.497813I$ $b = -0.0818984 - 0.0915721I$	$-7.91870 - 3.73515I$	$-1.51291 + 6.54236I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.587473$ $a = -0.910340$ $b = 0.138975$	-0.937510	-9.83160
$u = -0.46571 + 1.36110I$ $a = 1.146720 + 0.344361I$ $b = -2.28464 - 0.57619I$	$8.82124 + 9.22714I$	$0. - 4.14697I$
$u = -0.46571 - 1.36110I$ $a = 1.146720 - 0.344361I$ $b = -2.28464 + 0.57619I$	$8.82124 - 9.22714I$	$0. + 4.14697I$
$u = -0.51997 + 1.36983I$ $a = -1.102860 - 0.305056I$ $b = 2.29782 + 0.55309I$	$7.8389 + 13.6494I$	$0. - 9.33794I$
$u = -0.51997 - 1.36983I$ $a = -1.102860 + 0.305056I$ $b = 2.29782 - 0.55309I$	$7.8389 - 13.6494I$	$0. + 9.33794I$
$u = -0.56513 + 1.37037I$ $a = 1.072670 + 0.273505I$ $b = -2.31235 - 0.53883I$	$0.3710 + 16.6633I$	$-4.00000 - 8.48351I$
$u = -0.56513 - 1.37037I$ $a = 1.072670 - 0.273505I$ $b = -2.31235 + 0.53883I$	$0.3710 - 16.6633I$	$-4.00000 + 8.48351I$
$u = -0.289932 + 0.249849I$ $a = 0.75811 - 1.38910I$ $b = -0.713923 - 0.779751I$	$-7.22830 - 2.70173I$	$-3.88344 + 0.84995I$
$u = -0.289932 - 0.249849I$ $a = 0.75811 + 1.38910I$ $b = -0.713923 + 0.779751I$	$-7.22830 + 2.70173I$	$-3.88344 - 0.84995I$
$u = -0.162159 + 0.123669I$ $a = -0.78355 + 2.04524I$ $b = 0.315969 + 0.529227I$	$-0.035297 - 1.217330I$	$-0.51919 + 5.04787I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.162159 - 0.123669I$ $a = -0.78355 - 2.04524I$ $b = \quad 0.315969 - 0.529227I$	$-0.035297 + 1.217330I$	$-0.51919 - 5.04787I$

II.

$$\boldsymbol{I_2^u = \langle -2.56\times10^{49}u^{51} - 2.69\times10^{50}u^{50} + \cdots + 5.57\times10^{49}b - 6.70\times10^{48},\ -8.26\times10^{49}u^{51} - 6.92\times10^{50}u^{50} + \cdots + 5.57\times10^{49}a - 1.67\times10^{49},\ u^{52} + 9u^{51} + \cdots + 2u + 1\rangle}$$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1.48408u^{51} + 12.4361u^{50} + \cdots + 0.432390u + 0.300702\\0.459476u^{51} + 4.82658u^{50} + \cdots + 1.54387u + 0.120355\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2.14845u^{51} + 18.8762u^{50} + \cdots + 1.91732u + 0.0713913\\-0.204897u^{51} - 1.61347u^{50} + \cdots + 0.0589368u + 0.349666\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.454836u^{51} - 3.70365u^{50} + \cdots + 0.118831u - 2.10367\\-1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u^{51} - 9u^{50} + \cdots - 2u - 2\\0.389875u^{51} + 3.14977u^{50} + \cdots - 1.19399u + 0.454836\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1.71919u^{51} + 15.1586u^{50} + \cdots + 1.61912u - 0.499551\\-0.581045u^{51} - 4.87305u^{50} + \cdots + 0.0957750u - 0.486136\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}2.21012u^{51} + 19.1322u^{50} + \cdots + 1.52373u + 0.737565\\0.0271207u^{51} + 0.332337u^{50} + \cdots - 0.0316556u + 0.591378\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0.374845u^{51} + 3.05555u^{50} + \cdots - 0.280563u - 1.56949\\0.163327u^{51} + 1.34419u^{50} + \cdots + 0.258641u + 0.309612\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-1.73325u^{51} - 14.9638u^{50} + \cdots - 1.02224u - 0.206327\\0.0199941u^{51} - 0.206960u^{50} + \cdots - 0.299254u - 0.214321\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.177316u^{51} - 0.0575527u^{50} + \cdots - 3.07266u - 2.10781$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4 c_5	$u^{52} - 9u^{51} + \cdots - 2u + 1$
c_3	$(u^{26} - u^{25} + \cdots - u + 1)^2$
c_6, c_7, c_{10} c_{11}	$(u^{26} + u^{25} + \cdots - u + 1)^2$
c_8, c_9	$u^{52} - u^{51} + \cdots + 307498u + 234119$
c_{12}	$(u^{26} - 5u^{25} + \cdots - 5u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$y^{52} + 35y^{51} + \cdots - 22y^2 + 1$
c_3	$(y^{26} + 9y^{25} + \cdots + 5y + 1)^2$
c_6, c_7, c_{10} c_{11}	$(y^{26} + 29y^{25} + \cdots + 5y + 1)^2$
c_8, c_9	$y^{52} + 27y^{51} + \cdots + 786128549344y + 54811706161$
c_{12}	$(y^{26} + 13y^{25} + \cdots + 161y + 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.918656 + 0.362726I$ $a = 0.880173 - 0.718377I$ $b = -0.246680 + 0.221124I$	$-1.37714 + 1.77746I$	0
$u = -0.918656 - 0.362726I$ $a = 0.880173 + 0.718377I$ $b = -0.246680 - 0.221124I$	$-1.37714 - 1.77746I$	0
$u = -1.019230 + 0.119379I$ $a = -0.732005 + 0.889313I$ $b = 0.0937238 - 0.0409991I$	$4.21235 + 4.00629I$	0
$u = -1.019230 - 0.119379I$ $a = -0.732005 - 0.889313I$ $b = 0.0937238 + 0.0409991I$	$4.21235 - 4.00629I$	0
$u = 0.529993 + 0.937993I$ $a = 1.051030 - 0.221738I$ $b = -1.48213 + 0.45619I$	$-8.60065 - 2.88146I$	0
$u = 0.529993 - 0.937993I$ $a = 1.051030 + 0.221738I$ $b = -1.48213 - 0.45619I$	$-8.60065 + 2.88146I$	0
$u = -0.098395 + 1.086290I$ $a = -0.518587 + 0.731973I$ $b = 1.42167 + 0.24596I$	$2.31474 + 2.50037I$	0
$u = -0.098395 - 1.086290I$ $a = -0.518587 - 0.731973I$ $b = 1.42167 - 0.24596I$	$2.31474 - 2.50037I$	0
$u = -0.200224 + 1.087680I$ $a = 0.444964 - 0.821616I$ $b = -1.263110 - 0.333811I$	$-4.97071 + 4.90123I$	0
$u = -0.200224 - 1.087680I$ $a = 0.444964 + 0.821616I$ $b = -1.263110 + 0.333811I$	$-4.97071 - 4.90123I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.107950 + 0.028133I$ $a = 0.633285 - 0.899169I$ $b = -0.0683414 - 0.0608682I$	$3.43843 + 7.92757I$	0
$u = -1.107950 - 0.028133I$ $a = 0.633285 + 0.899169I$ $b = -0.0683414 + 0.0608682I$	$3.43843 - 7.92757I$	0
$u = 0.335074 + 1.062310I$ $a = -0.914403 + 0.360247I$ $b = 1.52164 - 0.33683I$	$-0.43348 - 2.64715I$	0
$u = 0.335074 - 1.062310I$ $a = -0.914403 - 0.360247I$ $b = 1.52164 + 0.33683I$	$-0.43348 + 2.64715I$	0
$u = -0.023027 + 1.115250I$ $a = 0.385985 - 0.303188I$ $b = -2.70055 + 0.20079I$	$3.35189 - 0.99254I$	0
$u = -0.023027 - 1.115250I$ $a = 0.385985 + 0.303188I$ $b = -2.70055 - 0.20079I$	$3.35189 + 0.99254I$	0
$u = 0.015623 + 1.126090I$ $a = 0.584075 - 0.533445I$ $b = -1.70190 - 0.03427I$	$3.17562 - 1.00551I$	0
$u = 0.015623 - 1.126090I$ $a = 0.584075 + 0.533445I$ $b = -1.70190 + 0.03427I$	$3.17562 + 1.00551I$	0
$u = 0.242499 + 0.805416I$ $a = 0.116576 + 0.817043I$ $b = 1.13571 + 1.80548I$	$-3.13796 + 2.46970I$	$-7.58807 - 2.77943I$
$u = 0.242499 - 0.805416I$ $a = 0.116576 - 0.817043I$ $b = 1.13571 - 1.80548I$	$-3.13796 - 2.46970I$	$-7.58807 + 2.77943I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.059936 + 0.827194I$ $a = -0.554765 - 0.357827I$ $b = 0.17463 - 2.28039I$	$3.35189 + 0.99254I$	$-2.96284 - 6.67512I$
$u = -0.059936 - 0.827194I$ $a = -0.554765 + 0.357827I$ $b = 0.17463 + 2.28039I$	$3.35189 - 0.99254I$	$-2.96284 + 6.67512I$
$u = -1.170810 + 0.041488I$ $a = -0.568970 - 0.897264I$ $b = 0.0500480 - 0.1320520I$	$-3.82921 - 10.57850I$	0
$u = -1.170810 - 0.041488I$ $a = -0.568970 + 0.897264I$ $b = 0.0500480 + 0.1320520I$	$-3.82921 + 10.57850I$	0
$u = 0.068858 + 1.173240I$ $a = -0.279445 + 0.520393I$ $b = 2.10779 + 0.88556I$	$-3.13796 - 2.46970I$	0
$u = 0.068858 - 1.173240I$ $a = -0.279445 - 0.520393I$ $b = 2.10779 - 0.88556I$	$-3.13796 + 2.46970I$	0
$u = -0.698738 + 0.390612I$ $a = -0.30488 - 1.41316I$ $b = -0.425347 - 0.027800I$	$-8.60065 - 2.88146I$	$-9.60306 + 2.87824I$
$u = -0.698738 - 0.390612I$ $a = -0.30488 + 1.41316I$ $b = -0.425347 + 0.027800I$	$-8.60065 + 2.88146I$	$-9.60306 - 2.87824I$
$u = -0.583877 + 0.110063I$ $a = 0.87448 + 1.62178I$ $b = 0.317378 - 0.232077I$	$-0.43348 - 2.64715I$	$-8.54618 + 3.67555I$
$u = -0.583877 - 0.110063I$ $a = 0.87448 - 1.62178I$ $b = 0.317378 + 0.232077I$	$-0.43348 + 2.64715I$	$-8.54618 - 3.67555I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.26012 + 1.43593I$ $a = -0.727197 + 0.249900I$ $b = 1.66512 - 0.35502I$	$-1.37714 - 1.77746I$	0
$u = 0.26012 - 1.43593I$ $a = -0.727197 - 0.249900I$ $b = 1.66512 + 0.35502I$	$-1.37714 + 1.77746I$	0
$u = 0.44108 + 1.39128I$ $a = 0.781571 - 0.212164I$ $b = -1.64968 + 0.38783I$	$4.21235 - 4.00629I$	0
$u = 0.44108 - 1.39128I$ $a = 0.781571 + 0.212164I$ $b = -1.64968 - 0.38783I$	$4.21235 + 4.00629I$	0
$u = -0.70545 + 1.30058I$ $a = 0.671732 - 0.288948I$ $b = -1.172470 + 0.380087I$	$1.26907 + 4.47678I$	0
$u = -0.70545 - 1.30058I$ $a = 0.671732 + 0.288948I$ $b = -1.172470 - 0.380087I$	$1.26907 - 4.47678I$	0
$u = -0.60226 + 1.35652I$ $a = -0.660919 + 0.268780I$ $b = 1.268500 - 0.415860I$	$7.87691 + 1.94179I$	0
$u = -0.60226 - 1.35652I$ $a = -0.660919 - 0.268780I$ $b = 1.268500 + 0.415860I$	$7.87691 - 1.94179I$	0
$u = 0.53710 + 1.39983I$ $a = -0.793041 + 0.178882I$ $b = 1.65515 - 0.41186I$	$3.43843 - 7.92757I$	0
$u = 0.53710 - 1.39983I$ $a = -0.793041 - 0.178882I$ $b = 1.65515 + 0.41186I$	$3.43843 + 7.92757I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.51689 + 1.42731I$ $a = 0.648075 - 0.258123I$ $b = -1.36159 + 0.41343I$	$7.87691 - 1.94179I$	0
$u = -0.51689 - 1.42731I$ $a = 0.648075 + 0.258123I$ $b = -1.36159 - 0.41343I$	$7.87691 + 1.94179I$	0
$u = 0.61099 + 1.40315I$ $a = 0.798709 - 0.153496I$ $b = -1.66142 + 0.43078I$	$-3.82921 - 10.57850I$	0
$u = 0.61099 - 1.40315I$ $a = 0.798709 + 0.153496I$ $b = -1.66142 - 0.43078I$	$-3.82921 + 10.57850I$	0
$u = 0.427010 + 0.044189I$ $a = 1.70872 - 1.69549I$ $b = -1.048330 - 0.899889I$	$-4.97071 - 4.90123I$	$-7.70149 + 2.20839I$
$u = 0.427010 - 0.044189I$ $a = 1.70872 + 1.69549I$ $b = -1.048330 + 0.899889I$	$-4.97071 + 4.90123I$	$-7.70149 - 2.20839I$
$u = -0.44590 + 1.51192I$ $a = -0.638031 + 0.253035I$ $b = 1.43809 - 0.38336I$	$1.26907 - 4.47678I$	0
$u = -0.44590 - 1.51192I$ $a = -0.638031 - 0.253035I$ $b = 1.43809 + 0.38336I$	$1.26907 + 4.47678I$	0
$u = -0.065431 + 0.334054I$ $a = -2.21650 - 1.39141I$ $b = -0.444808 - 1.021440I$	$3.17562 + 1.00551I$	$-1.57769 - 3.62739I$
$u = -0.065431 - 0.334054I$ $a = -2.21650 + 1.39141I$ $b = -0.444808 + 1.021440I$	$3.17562 - 1.00551I$	$-1.57769 + 3.62739I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.248411 + 0.140739I$ $a = -1.17063 + 3.22092I$ $b = 0.876909 + 0.937890I$	$2.31474 - 2.50037I$	$-4.62782 + 3.68649I$
$u = 0.248411 - 0.140739I$ $a = -1.17063 - 3.22092I$ $b = 0.876909 - 0.937890I$	$2.31474 + 2.50037I$	$-4.62782 - 3.68649I$

III. $I_3^u = \langle 16b^4 - 8b^3 + 4b^2 + 1,\ a,\ u - 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -b \\ 2b \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} b \\ 2b \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 4b^3 - b \\ 8b^3 + 2b \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -4b^3 - 2b^2 - \frac{1}{2} \\ 8b^3 - 4b^2 - 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2b^2 + 1 \\ -4b^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= b^2 - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^4$
c_3	u^4
c_4, c_5	$(u+1)^4$
c_6, c_7	$u^4 + u^3 + 3u^2 + 2u + 1$
c_8	$16(16u^4 + 8u^3 + 4u^2 + 1)$
c_9	$16(16u^4 - 8u^3 + 4u^2 + 1)$
c_{10}, c_{11}	$u^4 - u^3 + 3u^2 - 2u + 1$
c_{12}	$u^4 - u^3 + u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$(y-1)^4$
c_3	y^4
c_6, c_7, c_{10} c_{11}	$y^4 + 5y^3 + 7y^2 + 2y + 1$
c_8, c_9	$256(256y^4 + 64y^3 + 48y^2 + 8y + 1)$
c_{12}	$y^4 + y^3 + 3y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0$ $b = 0.425904 + 0.455646I$	$-8.43568 - 3.16396I$	$-10.02622 + 0.38812I$
$u = 1.00000$ $a = 0$ $b = 0.425904 - 0.455646I$	$-8.43568 + 3.16396I$	$-10.02622 - 0.38812I$
$u = 1.00000$ $a = 0$ $b = -0.175904 + 0.360171I$	$-1.43393 + 1.41510I$	$-10.09878 - 0.12671I$
$u = 1.00000$ $a = 0$ $b = -0.175904 - 0.360171I$	$-1.43393 - 1.41510I$	$-10.09878 + 0.12671I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^4)(u^{31}+4u^{30}+\cdots-6u+1)(u^{52}-9u^{51}+\cdots-2u+1)$
c_3	$u^4(u^{26}-u^{25}+\cdots-u+1)^2(u^{31}+3u^{30}+\cdots+1408u+512)$
c_4, c_5	$((u+1)^4)(u^{31}+4u^{30}+\cdots-6u+1)(u^{52}-9u^{51}+\cdots-2u+1)$
c_6, c_7	$(u^4+u^3+3u^2+2u+1)(u^{26}+u^{25}+\cdots-u+1)^2$ $\cdot(u^{31}+17u^{29}+\cdots+21u+4)$
c_8	$256(16u^4+8u^3+4u^2+1)(16u^{31}-8u^{30}+\cdots+2u+1)$ $\cdot(u^{52}-u^{51}+\cdots+307498u+234119)$
c_9	$256(16u^4-8u^3+4u^2+1)(16u^{31}-8u^{30}+\cdots+2u+1)$ $\cdot(u^{52}-u^{51}+\cdots+307498u+234119)$
c_{10}, c_{11}	$(u^4-u^3+3u^2-2u+1)(u^{26}+u^{25}+\cdots-u+1)^2$ $\cdot(u^{31}+17u^{29}+\cdots+21u+4)$
c_{12}	$(u^4-u^3+u^2+1)(u^{26}-5u^{25}+\cdots-5u+3)^2$ $\cdot(u^{31}-6u^{30}+\cdots+27315u-4448)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$((y-1)^4)(y^{31}+16y^{30}+\cdots+12y-1)(y^{52}+35y^{51}+\cdots-22y^2+1)$
c_3	$y^4(y^{26}+9y^{25}+\cdots+5y+1)^2$ $\cdot(y^{31}+9y^{30}+\cdots-4407296y-262144)$
c_6, c_7, c_{10} c_{11}	$(y^4+5y^3+7y^2+2y+1)(y^{26}+29y^{25}+\cdots+5y+1)^2$ $\cdot(y^{31}+34y^{30}+\cdots+113y-16)$
c_8, c_9	$65536(256y^4+64y^3+48y^2+8y+1)$ $\cdot(256y^{31}+3136y^{30}+\cdots-8y-1)$ $\cdot(y^{52}+27y^{51}+\cdots+786128549344y+54811706161)$
c_{12}	$(y^4+y^3+3y^2+2y+1)(y^{26}+13y^{25}+\cdots+161y+9)^2$ $\cdot(y^{31}+14y^{30}+\cdots+1208087401y-19784704)$