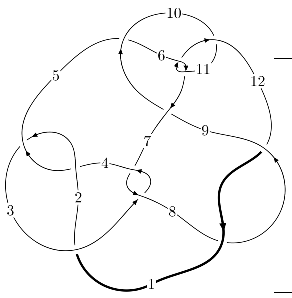
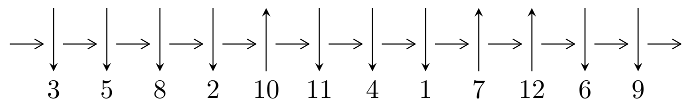
$12a_{0095}$ ($K12a_{0095}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 1.10803 \times 10^{416} u^{106} - 1.09715 \times 10^{417} u^{105} + \cdots + 5.32892 \times 10^{419} b + 1.96754 \times 10^{419}, \\
& 3.86181 \times 10^{419} u^{106} - 3.10040 \times 10^{420} u^{105} + \cdots + 2.82433 \times 10^{421} a + 1.15704 \times 10^{423}, \\
& u^{107} - 8u^{106} + \cdots + 3774u - 53 \rangle \\
I_2^u = \langle & b,\ -u^3 + a - u + 1,\ u^4 + u^2 - u + 1 \rangle \\
I_3^u = \langle & b,\ -u^5 - u^4 - 2u^3 - 2u^2 + a - 2u - 2,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 117 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. $\boldsymbol{I_1^u = \langle 1.11 \times 10^{416} u^{106} - 1.10 \times 10^{417} u^{105} + \cdots + 5.33 \times 10^{419} b + 1.97 \times 10^{419},\ 3.86 \times 10^{419} u^{106} - 3.10 \times 10^{420} u^{105} + \cdots + 2.82 \times 10^{421} a + 1.16 \times 10^{423},\ u^{107} - 8u^{106} + \cdots + 3774u - 53\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.0136734u^{106} + 0.109775u^{105} + \cdots - 1.84820u - 40.9669 \\ -0.000207928u^{106} + 0.00205885u^{105} + \cdots - 14.7641u - 0.369218 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.0138813u^{106} + 0.111834u^{105} + \cdots - 16.6123u - 41.3361 \\ -0.000207928u^{106} + 0.00205885u^{105} + \cdots - 14.7641u - 0.369218 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00866897u^{106} + 0.0691354u^{105} + \cdots + 28.1372u - 24.9369 \\ -0.000596204u^{106} + 0.00486010u^{105} + \cdots + 3.21655u - 0.369377 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.00815307u^{106} + 0.0646793u^{105} + \cdots + 32.1684u - 22.5508 \\ -0.000596204u^{106} + 0.00486010u^{105} + \cdots + 3.21655u - 0.369377 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.00642410u^{106} + 0.0508524u^{105} + \cdots + 49.7193u - 22.6538 \\ -0.000545278u^{106} + 0.00430644u^{105} + \cdots + 8.21892u - 0.432113 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00313420u^{106} + 0.0257724u^{105} + \cdots - 48.1889u - 5.16381 \\ -0.000447025u^{106} + 0.00376175u^{105} + \cdots - 13.7999u + 0.0889698 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -0.00309075u^{106} + 0.0255452u^{105} + \cdots - 44.8549u - 5.20870 \\ -0.000405615u^{106} + 0.00336633u^{105} + \cdots - 10.9176u + 0.0504615 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00211014u^{106} + 0.0160755u^{105} + \cdots + 111.322u - 21.7904 \\ 0.000434043u^{106} - 0.00378194u^{105} + \cdots + 20.5546u - 0.562495 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00735456u^{106} + 0.0589369u^{105} + \cdots - 56.4719u - 8.55387$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{107}+47u^{106}+\cdots-u+1$
c_2, c_4	$u^{107}-11u^{106}+\cdots-11u+1$
c_3, c_7	$u^{107}+u^{106}+\cdots+2048u+1024$
c_5	$u^{107}-2u^{106}+\cdots+33648u+4360$
c_6, c_{11}	$u^{107}+2u^{106}+\cdots+4u+1$
c_8, c_{12}	$u^{107}-8u^{106}+\cdots+3774u-53$
c_9	$u^{107}+10u^{106}+\cdots+976u+64$
c_{10}	$u^{107}-52u^{106}+\cdots+8u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{107} + 37y^{106} + \cdots + 155y - 1$
c_2, c_4	$y^{107} - 47y^{106} + \cdots - y - 1$
c_3, c_7	$y^{107} + 63y^{106} + \cdots - 30932992y - 1048576$
c_5	$y^{107} - 36y^{106} + \cdots + 1065366544y - 19009600$
c_6, c_{11}	$y^{107} + 52y^{106} + \cdots + 8y - 1$
c_8, c_{12}	$y^{107} + 88y^{106} + \cdots + 13858296y - 2809$
c_9	$y^{107} - 4y^{106} + \cdots + 53376y - 4096$
c_{10}	$y^{107} + 8y^{106} + \cdots + 132y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.244278 + 0.967291I$ $a = 0.15439 + 2.43118I$ $b = 0.110417 - 0.860774I$	$-1.63198 + 2.05257I$	0
$u = -0.244278 - 0.967291I$ $a = 0.15439 - 2.43118I$ $b = 0.110417 + 0.860774I$	$-1.63198 - 2.05257I$	0
$u = 0.717600 + 0.714940I$ $a = -0.044492 - 0.756078I$ $b = 0.395055 + 0.774024I$	$1.89343 - 6.93711I$	0
$u = 0.717600 - 0.714940I$ $a = -0.044492 + 0.756078I$ $b = 0.395055 - 0.774024I$	$1.89343 + 6.93711I$	0
$u = 0.558306 + 0.801140I$ $a = 0.377242 - 0.625630I$ $b = 0.138099 + 0.946607I$	$3.73567 + 0.13008I$	0
$u = 0.558306 - 0.801140I$ $a = 0.377242 + 0.625630I$ $b = 0.138099 - 0.946607I$	$3.73567 - 0.13008I$	0
$u = 0.106700 + 0.961946I$ $a = 0.067239 + 0.134211I$ $b = -0.969199 + 0.200550I$	$-0.0780580 + 0.0329782I$	0
$u = 0.106700 - 0.961946I$ $a = 0.067239 - 0.134211I$ $b = -0.969199 - 0.200550I$	$-0.0780580 - 0.0329782I$	0
$u = 0.795488 + 0.531373I$ $a = -0.818911 + 0.454003I$ $b = -0.438711 - 1.131220I$	$2.45043 - 4.63695I$	0
$u = 0.795488 - 0.531373I$ $a = -0.818911 - 0.454003I$ $b = -0.438711 + 1.131220I$	$2.45043 + 4.63695I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.378376 + 0.979346I$ $a = 0.055561 - 0.405278I$ $b = 0.043777 + 0.657390I$	$3.73900 + 0.24041I$	0
$u = 0.378376 - 0.979346I$ $a = 0.055561 + 0.405278I$ $b = 0.043777 - 0.657390I$	$3.73900 - 0.24041I$	0
$u = 0.843285 + 0.392565I$ $a = -0.538159 - 0.841495I$ $b = -0.767046 + 0.528555I$	$-1.74871 - 6.44193I$	0
$u = 0.843285 - 0.392565I$ $a = -0.538159 + 0.841495I$ $b = -0.767046 - 0.528555I$	$-1.74871 + 6.44193I$	0
$u = -0.619548 + 0.633428I$ $a = 0.069724 - 0.636140I$ $b = -0.339848 + 0.674275I$	$-0.26443 + 2.25224I$	0
$u = -0.619548 - 0.633428I$ $a = 0.069724 + 0.636140I$ $b = -0.339848 - 0.674275I$	$-0.26443 - 2.25224I$	0
$u = 0.824445 + 0.189026I$ $a = -0.75491 + 1.63349I$ $b = -0.534754 - 0.657037I$	$-2.06068 - 4.19793I$	0
$u = 0.824445 - 0.189026I$ $a = -0.75491 - 1.63349I$ $b = -0.534754 + 0.657037I$	$-2.06068 + 4.19793I$	0
$u = 1.029330 + 0.531564I$ $a = 0.121699 - 0.141240I$ $b = -0.206401 + 0.885382I$	$-0.39437 + 4.15714I$	0
$u = 1.029330 - 0.531564I$ $a = 0.121699 + 0.141240I$ $b = -0.206401 - 0.885382I$	$-0.39437 - 4.15714I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.933441 + 0.702521I$ $a = -0.183881 - 0.207962I$ $b = 0.141803 + 0.854176I$	$-1.52785 + 0.45819I$	0
$u = -0.933441 - 0.702521I$ $a = -0.183881 + 0.207962I$ $b = 0.141803 - 0.854176I$	$-1.52785 - 0.45819I$	0
$u = -0.782378 + 0.261649I$ $a = 0.724726 - 0.937397I$ $b = 0.703522 + 0.525334I$	$-3.66184 + 1.83985I$	0
$u = -0.782378 - 0.261649I$ $a = 0.724726 + 0.937397I$ $b = 0.703522 - 0.525334I$	$-3.66184 - 1.83985I$	0
$u = -1.177060 + 0.290474I$ $a = 0.338803 + 0.320303I$ $b = 0.430656 - 1.007280I$	$-2.48557 + 4.37342I$	0
$u = -1.177060 - 0.290474I$ $a = 0.338803 - 0.320303I$ $b = 0.430656 + 1.007280I$	$-2.48557 - 4.37342I$	0
$u = -0.328686 + 1.168570I$ $a = -0.148668 - 0.117283I$ $b = 1.038800 + 0.287656I$	$-0.35619 + 4.34573I$	0
$u = -0.328686 - 1.168570I$ $a = -0.148668 + 0.117283I$ $b = 1.038800 - 0.287656I$	$-0.35619 - 4.34573I$	0
$u = 1.221280 + 0.130481I$ $a = -0.239161 + 0.249668I$ $b = -0.400063 - 0.972833I$	$-1.027490 + 0.372205I$	0
$u = 1.221280 - 0.130481I$ $a = -0.239161 - 0.249668I$ $b = -0.400063 + 0.972833I$	$-1.027490 - 0.372205I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.768164 + 0.030095I$ $a = 0.88462 + 1.39992I$ $b = 0.578075 - 0.587317I$	$-3.83121 - 0.30767I$	$-13.13167 + 0.I$
$u = -0.768164 - 0.030095I$ $a = 0.88462 - 1.39992I$ $b = 0.578075 + 0.587317I$	$-3.83121 + 0.30767I$	$-13.13167 + 0.I$
$u = -0.763131 + 0.968657I$ $a = -0.156194 - 0.327440I$ $b = 0.050991 + 0.764285I$	$-0.43303 + 2.32507I$	0
$u = -0.763131 - 0.968657I$ $a = -0.156194 + 0.327440I$ $b = 0.050991 - 0.764285I$	$-0.43303 - 2.32507I$	0
$u = -0.091985 + 1.240100I$ $a = 0.77646 + 1.78490I$ $b = 0.54374 - 1.36147I$	$8.61264 - 0.05840I$	0
$u = -0.091985 - 1.240100I$ $a = 0.77646 - 1.78490I$ $b = 0.54374 + 1.36147I$	$8.61264 + 0.05840I$	0
$u = 0.178080 + 1.246850I$ $a = -0.76240 + 1.69178I$ $b = -0.55134 - 1.34274I$	$5.90630 - 4.72731I$	0
$u = 0.178080 - 1.246850I$ $a = -0.76240 - 1.69178I$ $b = -0.55134 + 1.34274I$	$5.90630 + 4.72731I$	0
$u = -0.145556 + 1.253260I$ $a = 0.364469 + 0.147648I$ $b = -1.089070 + 0.127073I$	$1.99962 + 1.17025I$	0
$u = -0.145556 - 1.253260I$ $a = 0.364469 - 0.147648I$ $b = -1.089070 - 0.127073I$	$1.99962 - 1.17025I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.135400 + 0.570705I$ $a = 0.443382 + 0.526000I$ $b = 0.489972 - 1.055080I$	$-1.97155 + 6.45339I$	0
$u = -1.135400 - 0.570705I$ $a = 0.443382 - 0.526000I$ $b = 0.489972 + 1.055080I$	$-1.97155 - 6.45339I$	0
$u = 0.468996 + 0.530095I$ $a = -0.68912 + 2.39644I$ $b = -0.280440 - 0.684314I$	$-0.98884 + 1.84483I$	$-3.82797 + 1.28640I$
$u = 0.468996 - 0.530095I$ $a = -0.68912 - 2.39644I$ $b = -0.280440 + 0.684314I$	$-0.98884 - 1.84483I$	$-3.82797 - 1.28640I$
$u = 0.405837 + 0.572578I$ $a = -0.570749 - 0.083950I$ $b = -0.802591 + 0.320828I$	$-0.174410 - 0.127515I$	$-5.50445 + 1.13479I$
$u = 0.405837 - 0.572578I$ $a = -0.570749 + 0.083950I$ $b = -0.802591 - 0.320828I$	$-0.174410 + 0.127515I$	$-5.50445 - 1.13479I$
$u = -0.291545 + 1.287990I$ $a = 0.07916 + 2.30407I$ $b = 0.110803 - 0.993595I$	$0.23928 + 3.46090I$	0
$u = -0.291545 - 1.287990I$ $a = 0.07916 - 2.30407I$ $b = 0.110803 + 0.993595I$	$0.23928 - 3.46090I$	0
$u = 0.209184 + 1.304430I$ $a = -0.412576 + 0.156149I$ $b = 1.111000 + 0.109634I$	$4.56308 - 6.01047I$	0
$u = 0.209184 - 1.304430I$ $a = -0.412576 - 0.156149I$ $b = 1.111000 - 0.109634I$	$4.56308 + 6.01047I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.265083 + 1.299270I$ $a = 0.42759 - 1.54289I$ $b = 0.327691 + 1.304980I$	$4.98675 + 0.12143I$	0
$u = 0.265083 - 1.299270I$ $a = 0.42759 + 1.54289I$ $b = 0.327691 - 1.304980I$	$4.98675 - 0.12143I$	0
$u = 0.744053 + 1.104860I$ $a = 0.118395 - 0.327376I$ $b = -0.054853 + 0.717685I$	$1.82231 - 7.19731I$	0
$u = 0.744053 - 1.104860I$ $a = 0.118395 + 0.327376I$ $b = -0.054853 - 0.717685I$	$1.82231 + 7.19731I$	0
$u = 1.149480 + 0.694236I$ $a = -0.434365 + 0.627438I$ $b = -0.519863 - 1.067400I$	$-0.01179 - 11.33370I$	0
$u = 1.149480 - 0.694236I$ $a = -0.434365 - 0.627438I$ $b = -0.519863 + 1.067400I$	$-0.01179 + 11.33370I$	0
$u = 0.067332 + 1.356370I$ $a = -0.385316 + 0.071591I$ $b = 1.118240 + 0.160068I$	$6.21427 + 2.01067I$	0
$u = 0.067332 - 1.356370I$ $a = -0.385316 - 0.071591I$ $b = 1.118240 - 0.160068I$	$6.21427 - 2.01067I$	0
$u = 0.043841 + 1.358030I$ $a = 0.49776 - 1.75459I$ $b = 0.29145 + 1.39069I$	$7.49723 + 1.30975I$	0
$u = 0.043841 - 1.358030I$ $a = 0.49776 + 1.75459I$ $b = 0.29145 - 1.39069I$	$7.49723 - 1.30975I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.016598 + 1.368280I$ $a = -0.51049 - 1.80982I$ $b = -0.28157 + 1.41137I$	$10.15850 - 6.16266I$	0
$u = 0.016598 - 1.368280I$ $a = -0.51049 + 1.80982I$ $b = -0.28157 - 1.41137I$	$10.15850 + 6.16266I$	0
$u = 0.177576 + 1.358930I$ $a = -0.04241 + 2.30582I$ $b = -0.065693 - 1.015390I$	$4.51674 - 0.36965I$	0
$u = 0.177576 - 1.358930I$ $a = -0.04241 - 2.30582I$ $b = -0.065693 + 1.015390I$	$4.51674 + 0.36965I$	0
$u = 0.500396 + 1.282940I$ $a = -0.62879 + 1.39268I$ $b = -0.584855 - 1.274260I$	$3.20733 - 5.65218I$	0
$u = 0.500396 - 1.282940I$ $a = -0.62879 - 1.39268I$ $b = -0.584855 + 1.274260I$	$3.20733 + 5.65218I$	0
$u = -0.170784 + 1.367340I$ $a = 0.64277 + 1.71294I$ $b = 0.57737 - 1.35306I$	$10.04680 + 8.11877I$	0
$u = -0.170784 - 1.367340I$ $a = 0.64277 - 1.71294I$ $b = 0.57737 + 1.35306I$	$10.04680 - 8.11877I$	0
$u = 0.331508 + 1.355170I$ $a = -0.07380 + 2.28294I$ $b = -0.121993 - 1.020340I$	$2.75081 - 8.34322I$	0
$u = 0.331508 - 1.355170I$ $a = -0.07380 - 2.28294I$ $b = -0.121993 + 1.020340I$	$2.75081 + 8.34322I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.599443 + 0.047851I$ $a = -0.467004 - 0.519575I$ $b = 0.580248 + 0.294112I$	$0.59909 + 3.23248I$	$-3.54970 - 2.02366I$
$u = 0.599443 - 0.047851I$ $a = -0.467004 + 0.519575I$ $b = 0.580248 - 0.294112I$	$0.59909 - 3.23248I$	$-3.54970 + 2.02366I$
$u = -0.523910 + 0.283236I$ $a = 0.283886 - 0.479371I$ $b = -0.413442 + 0.397977I$	$-1.003830 + 0.947083I$	$-6.72670 - 4.41292I$
$u = -0.523910 - 0.283236I$ $a = 0.283886 + 0.479371I$ $b = -0.413442 - 0.397977I$	$-1.003830 - 0.947083I$	$-6.72670 + 4.41292I$
$u = -0.33909 + 1.40174I$ $a = -0.31003 - 1.55968I$ $b = -0.381510 + 1.311700I$	$4.72927 + 4.53808I$	0
$u = -0.33909 - 1.40174I$ $a = -0.31003 + 1.55968I$ $b = -0.381510 - 1.311700I$	$4.72927 - 4.53808I$	0
$u = -0.34118 + 1.40161I$ $a = -0.304334 - 0.170972I$ $b = 1.117030 + 0.295556I$	$1.60903 + 5.96407I$	0
$u = -0.34118 - 1.40161I$ $a = -0.304334 + 0.170972I$ $b = 1.117030 - 0.295556I$	$1.60903 - 5.96407I$	0
$u = -0.06354 + 1.44683I$ $a = -0.41932 - 1.77311I$ $b = -0.32247 + 1.40483I$	$11.73440 + 2.01740I$	0
$u = -0.06354 - 1.44683I$ $a = -0.41932 + 1.77311I$ $b = -0.32247 - 1.40483I$	$11.73440 - 2.01740I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.23844 + 1.43773I$ $a = 0.345146 - 0.116560I$ $b = -1.131050 + 0.263267I$	$5.97945 - 2.87063I$	0
$u = 0.23844 - 1.43773I$ $a = 0.345146 + 0.116560I$ $b = -1.131050 - 0.263267I$	$5.97945 + 2.87063I$	0
$u = 0.36411 + 1.45966I$ $a = 0.335672 - 0.193945I$ $b = -1.135240 + 0.303887I$	$4.12324 - 10.89930I$	0
$u = 0.36411 - 1.45966I$ $a = 0.335672 + 0.193945I$ $b = -1.135240 - 0.303887I$	$4.12324 + 10.89930I$	0
$u = 0.355328 + 0.327509I$ $a = -0.535333 + 0.829714I$ $b = 0.741715 - 0.054497I$	$0.97038 + 3.14809I$	$-2.61784 - 5.19860I$
$u = 0.355328 - 0.327509I$ $a = -0.535333 - 0.829714I$ $b = 0.741715 + 0.054497I$	$0.97038 - 3.14809I$	$-2.61784 + 5.19860I$
$u = -0.52030 + 1.42675I$ $a = 0.50897 + 1.43324I$ $b = 0.61769 - 1.28222I$	$2.79707 + 10.37630I$	0
$u = -0.52030 - 1.42675I$ $a = 0.50897 - 1.43324I$ $b = 0.61769 + 1.28222I$	$2.79707 - 10.37630I$	0
$u = 0.385481 + 0.157711I$ $a = 0.57690 + 1.52323I$ $b = -0.191599 + 1.167350I$	$2.53797 + 2.54179I$	$-2.10720 - 3.38961I$
$u = 0.385481 - 0.157711I$ $a = 0.57690 - 1.52323I$ $b = -0.191599 - 1.167350I$	$2.53797 - 2.54179I$	$-2.10720 + 3.38961I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.26127 + 1.56618I$ $a = 0.25567 - 1.69472I$ $b = 0.40497 + 1.37995I$	$11.33560 - 3.17947I$	0
$u = 0.26127 - 1.56618I$ $a = 0.25567 + 1.69472I$ $b = 0.40497 - 1.37995I$	$11.33560 + 3.17947I$	0
$u = -0.33545 + 1.55553I$ $a = -0.22516 - 1.64887I$ $b = -0.42278 + 1.35777I$	$6.87012 + 6.32881I$	0
$u = -0.33545 - 1.55553I$ $a = -0.22516 + 1.64887I$ $b = -0.42278 - 1.35777I$	$6.87012 - 6.32881I$	0
$u = -0.191098 + 0.331866I$ $a = -2.48353 + 0.52436I$ $b = 0.110517 + 1.223940I$	$5.65239 + 1.11140I$	$2.39761 - 0.78708I$
$u = -0.191098 - 0.331866I$ $a = -2.48353 - 0.52436I$ $b = 0.110517 - 1.223940I$	$5.65239 - 1.11140I$	$2.39761 + 0.78708I$
$u = 0.37243 + 1.57605I$ $a = -0.44058 + 1.58113I$ $b = -0.63720 - 1.32574I$	$9.36952 - 9.23755I$	0
$u = 0.37243 - 1.57605I$ $a = -0.44058 - 1.58113I$ $b = -0.63720 + 1.32574I$	$9.36952 + 9.23755I$	0
$u = 0.34589 + 1.59767I$ $a = 0.19820 - 1.66460I$ $b = 0.43639 + 1.36713I$	$9.4139 - 11.3192I$	0
$u = 0.34589 - 1.59767I$ $a = 0.19820 + 1.66460I$ $b = 0.43639 - 1.36713I$	$9.4139 + 11.3192I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.46077+1.59233I$ $a=\ \ 0.40978+1.52343I$ $b=\ \ 0.64769-1.30858I$	$4.83717+12.32680I$	0
$u=-0.46077-1.59233I$ $a=\ \ 0.40978-1.52343I$ $b=\ \ 0.64769+1.30858I$	$4.83717-12.32680I$	0
$u=\ \ 0.45699+1.64231I$ $a=-0.37754+1.53751I$ $b=-0.65776-1.31344I$	$7.3438-17.3524I$	0
$u=\ \ 0.45699-1.64231I$ $a=-0.37754-1.53751I$ $b=-0.65776+1.31344I$	$7.3438+17.3524I$	0
$u=-0.192027+0.008415I$ $a=\ \ 0.89307+5.19596I$ $b=\ \ 0.224018+1.245620I$	$5.41652-6.50120I$	$1.62481+7.00024I$
$u=-0.192027-0.008415I$ $a=\ \ 0.89307-5.19596I$ $b=\ \ 0.224018-1.245620I$	$5.41652+6.50120I$	$1.62481-7.00024I$
$u=\ \ 0.0143062$ $a=-40.7428$ $b=-0.560782$	-1.12189	-9.23230

II. $I_2^u = \langle b,\ -u^3 + a - u + 1,\ u^4 + u^2 - u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^3 + 4u^2 - u - 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.547424 + 0.585652I$ $a = -0.851808 + 0.911292I$ $b = 0$	$-2.62503 - 1.39709I$	$-11.91838 + 2.95607I$
$u = 0.547424 - 0.585652I$ $a = -0.851808 - 0.911292I$ $b = 0$	$-2.62503 + 1.39709I$	$-11.91838 - 2.95607I$
$u = -0.547424 + 1.120870I$ $a = 0.351808 + 0.720342I$ $b = 0$	$0.98010 + 7.64338I$	$-7.58162 - 7.23121I$
$u = -0.547424 - 1.120870I$ $a = 0.351808 - 0.720342I$ $b = 0$	$0.98010 - 7.64338I$	$-7.58162 + 7.23121I$

III.

$\boldsymbol{I_3^u = \langle b,\ -u^5-u^4-2u^3-2u^2+a-2u-2,\ u^6+u^5+2u^4+2u^3+2u^2+2u+1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^5+u^4+2u^3+2u^2+2u+2 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^5+u^4+2u^3+2u^2+2u+2 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5+u^4+2u^3+2u^2+2u+2 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^5+u^4+2u^3+2u^2+2u+2 \\ u^5+2u^3+u^2+u+1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^5-2u^3-u \\ -u^5-u^3-u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^5+u^4+7u^3+3u^2+6u-4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.498832 + 1.001300I$ $a = -0.398606 + 0.800120I$ $b = 0$	$-1.37919 - 2.82812I$	$-10.74483 + 3.34054I$
$u = 0.498832 - 1.001300I$ $a = -0.398606 - 0.800120I$ $b = 0$	$-1.37919 + 2.82812I$	$-10.74483 - 3.34054I$
$u = -0.284920 + 1.115140I$ $a = 0.215080 + 0.841795I$ $b = 0$	2.75839	$-4.80521 - 0.27335I$
$u = -0.284920 - 1.115140I$ $a = 0.215080 - 0.841795I$ $b = 0$	2.75839	$-4.80521 + 0.27335I$
$u = -0.713912 + 0.305839I$ $a = 1.183530 + 0.507021I$ $b = 0$	$-1.37919 - 2.82812I$	$-7.94996 + 3.74291I$
$u = -0.713912 - 0.305839I$ $a = 1.183530 - 0.507021I$ $b = 0$	$-1.37919 + 2.82812I$	$-7.94996 - 3.74291I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^{10})(u^{107}+47u^{106}+\cdots-u+1)$
c_2	$((u-1)^{10})(u^{107}-11u^{106}+\cdots-11u+1)$
c_3, c_7	$u^{10}(u^{107}+u^{106}+\cdots+2048u+1024)$
c_4	$((u+1)^{10})(u^{107}-11u^{106}+\cdots-11u+1)$
c_5	$(u^3+u^2-1)^2(u^4-3u^3+4u^2-3u+2)$ $\cdot(u^{107}-2u^{106}+\cdots+33648u+4360)$
c_6	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{107}+2u^{106}+\cdots+4u+1)$
c_8	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{107}-8u^{106}+\cdots+3774u-53)$
c_9	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{107}+10u^{106}+\cdots+976u+64)$
c_{10}	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{107}-52u^{106}+\cdots+8u+1)$
c_{11}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{107}+2u^{106}+\cdots+4u+1)$
c_{12}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{107}-8u^{106}+\cdots+3774u-53)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^{10})(y^{107}+37y^{106}+\cdots+155y-1)$
c_2, c_4	$((y-1)^{10})(y^{107}-47y^{106}+\cdots-y-1)$
c_3, c_7	$y^{10}(y^{107}+63y^{106}+\cdots-3.09330\times 10^7 y-1048576)$
c_5	$(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot(y^{107}-36y^{106}+\cdots+1065366544y-19009600)$
c_6, c_{11}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{107}+52y^{106}+\cdots+8y-1)$
c_8, c_{12}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{107}+88y^{106}+\cdots+13858296y-2809)$
c_9	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{107}-4y^{106}+\cdots+53376y-4096)$
c_{10}	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{107}+8y^{106}+\cdots+132y-1)$