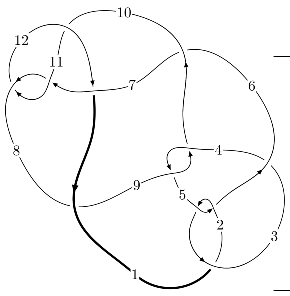
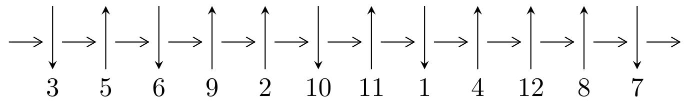
$12a_{0020}$ $(K12a_{0020})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 10u^{107} + 12u^{106} + \cdots + 2b + 3u,\ -2u^{107} + 4u^{106} + \cdots + 2a + 5,\ u^{108} + 3u^{107} + \cdots + 2u + 1\rangle$$
$$I_2^u = \langle -u^5a + 2u^3a - 2au + b,\ u^4a + u^5 - u^4 - u^2a - u^3 + a^2 + au + u^2 - u,\ u^6 - u^5 - u^4 + 2u^3 - u + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 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. $\boldsymbol{I_1^u = \langle 10u^{107} + 12u^{106} + \cdots + 2b + 3u,\ -2u^{107} + 4u^{106} + \cdots + 2a + 5,\ u^{108} + 3u^{107} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} u^{107} - 2u^{106} + \cdots - 2u - \frac{5}{2} \\ -5u^{107} - 6u^{106} + \cdots - 2u^2 - \frac{3}{2}u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^8 - u^6 + u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{107} + 3u^{106} + \cdots - u^2 + \frac{1}{2} \\ -u^{107} - 3u^{106} + \cdots - \frac{1}{2}u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^8 - u^6 + u^4 + 1 \\ -u^{10} + 2u^8 - 3u^6 + 2u^4 - u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{2}u^{107} - \frac{5}{2}u^{106} + \cdots - 2u - \frac{3}{2} \\ -\frac{5}{2}u^{107} - \frac{7}{2}u^{106} + \cdots - \frac{1}{2}u^2 - \frac{1}{2}u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{2}u^{107} + \frac{3}{2}u^{106} + \cdots - u + \frac{3}{2} \\ \frac{1}{2}u^{107} + \frac{1}{2}u^{106} + \cdots + \frac{3}{2}u^2 + \frac{1}{2}u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 9u^{107} + \frac{41}{2}u^{106} + \cdots + \frac{29}{2}u + 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{108} + 55u^{107} + \cdots + 6u + 1$
c_2, c_5	$u^{108} + 7u^{107} + \cdots + 6u + 1$
c_3	$u^{108} - 7u^{107} + \cdots - 83686u + 9881$
c_4, c_9	$u^{108} + u^{107} + \cdots - 4096u + 4096$
c_6, c_8	$u^{108} + 3u^{107} + \cdots + 5128u + 937$
c_7, c_{11}	$u^{108} - 3u^{107} + \cdots - 2u + 1$
c_{10}	$u^{108} - 49u^{107} + \cdots + 2u + 1$
c_{12}	$u^{108} - 9u^{107} + \cdots - 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{108} + 3y^{107} + \cdots - 10y + 1$
c_2, c_5	$y^{108} + 55y^{107} + \cdots + 6y + 1$
c_3	$y^{108} - 49y^{107} + \cdots + 4881460918y + 97634161$
c_4, c_9	$y^{108} + 65y^{107} + \cdots + 385875968y + 16777216$
c_6, c_8	$y^{108} - 89y^{107} + \cdots + 14791066y + 877969$
c_7, c_{11}	$y^{108} - 49y^{107} + \cdots + 2y + 1$
c_{10}	$y^{108} + 23y^{107} + \cdots - 26y + 1$
c_{12}	$y^{108} + 3y^{107} + \cdots + 94y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.988339 + 0.107184I$ $a = 0.20534 - 3.12417I$ $b = -0.24956 + 2.07122I$	$1.31506 - 2.48598I$	0
$u = 0.988339 - 0.107184I$ $a = 0.20534 + 3.12417I$ $b = -0.24956 - 2.07122I$	$1.31506 + 2.48598I$	0
$u = -0.967418 + 0.159869I$ $a = -0.859819 + 0.010363I$ $b = -0.031401 - 0.140629I$	$1.66899 - 0.19592I$	0
$u = -0.967418 - 0.159869I$ $a = -0.859819 - 0.010363I$ $b = -0.031401 + 0.140629I$	$1.66899 + 0.19592I$	0
$u = 0.834620 + 0.590673I$ $a = 0.995057 - 0.653328I$ $b = -0.837578 + 0.240181I$	$-5.60803 + 6.51271I$	0
$u = 0.834620 - 0.590673I$ $a = 0.995057 + 0.653328I$ $b = -0.837578 - 0.240181I$	$-5.60803 - 6.51271I$	0
$u = 0.797793 + 0.543102I$ $a = -1.000890 + 0.764090I$ $b = 0.838772 - 0.300099I$	$-2.40675 + 2.20833I$	0
$u = 0.797793 - 0.543102I$ $a = -1.000890 - 0.764090I$ $b = 0.838772 + 0.300099I$	$-2.40675 - 2.20833I$	0
$u = -0.937647 + 0.442291I$ $a = -0.915958 - 0.979918I$ $b = 0.485712 - 0.557097I$	$-0.059953 - 0.675856I$	0
$u = -0.937647 - 0.442291I$ $a = -0.915958 + 0.979918I$ $b = 0.485712 + 0.557097I$	$-0.059953 + 0.675856I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.752108 + 0.599057I$ $a = 0.881626 - 0.698045I$ $b = -0.769955 + 0.256180I$	$-5.84312 - 1.80068I$	0
$u = 0.752108 - 0.599057I$ $a = 0.881626 + 0.698045I$ $b = -0.769955 - 0.256180I$	$-5.84312 + 1.80068I$	0
$u = -1.048630 + 0.065579I$ $a = 1.014810 - 0.064670I$ $b = -0.0456004 + 0.0695150I$	$-0.80156 + 3.69498I$	0
$u = -1.048630 - 0.065579I$ $a = 1.014810 + 0.064670I$ $b = -0.0456004 - 0.0695150I$	$-0.80156 - 3.69498I$	0
$u = -0.551942 + 0.764427I$ $a = -0.366870 - 0.394614I$ $b = -0.51126 - 2.36364I$	$-10.22170 - 8.99067I$	0
$u = -0.551942 - 0.764427I$ $a = -0.366870 + 0.394614I$ $b = -0.51126 + 2.36364I$	$-10.22170 + 8.99067I$	0
$u = -0.524067 + 0.778480I$ $a = -0.197190 - 0.391437I$ $b = -0.42329 - 2.47740I$	$-12.01040 - 0.00877I$	0
$u = -0.524067 - 0.778480I$ $a = -0.197190 + 0.391437I$ $b = -0.42329 + 2.47740I$	$-12.01040 + 0.00877I$	0
$u = -0.536878 + 0.758750I$ $a = 0.311119 + 0.462328I$ $b = 0.53558 + 2.43939I$	$-7.31333 - 3.79136I$	0
$u = -0.536878 - 0.758750I$ $a = 0.311119 - 0.462328I$ $b = 0.53558 - 2.43939I$	$-7.31333 + 3.79136I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.044580+0.241783I$ $a=-0.655670+0.285020I$ $b=-0.035666-0.180815I$	$2.10315-0.31022I$	0
$u=-1.044580-0.241783I$ $a=-0.655670-0.285020I$ $b=-0.035666+0.180815I$	$2.10315+0.31022I$	0
$u=-0.452511+0.800257I$ $a=-0.239198+0.312900I$ $b=\ \ 0.07676+2.59514I$	$-11.60770+3.17330I$	0
$u=-0.452511-0.800257I$ $a=-0.239198-0.312900I$ $b=\ \ 0.07676-2.59514I$	$-11.60770-3.17330I$	0
$u=-0.426624+0.803472I$ $a=-0.381367+0.257467I$ $b=-0.06243+2.56356I$	$-9.5204+12.0780I$	0
$u=-0.426624-0.803472I$ $a=-0.381367-0.257467I$ $b=-0.06243-2.56356I$	$-9.5204-12.0780I$	0
$u=-0.433605+0.793273I$ $a=\ \ 0.361449-0.328654I$ $b=\ \ 0.03502-2.63170I$	$-6.73934+6.79720I$	0
$u=-0.433605-0.793273I$ $a=\ \ 0.361449+0.328654I$ $b=\ \ 0.03502+2.63170I$	$-6.73934-6.79720I$	0
$u=\ \ 0.497033+0.754891I$ $a=\ \ 0.614359-0.156153I$ $b=-0.480925-0.147891I$	$-6.16699+2.54092I$	0
$u=\ \ 0.497033-0.754891I$ $a=\ \ 0.614359+0.156153I$ $b=-0.480925+0.147891I$	$-6.16699-2.54092I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.457000 + 0.770798I$ $a = 0.615967 - 0.040560I$ $b = -0.435430 - 0.245808I$	$-5.94478 - 5.41063I$	0
$u = 0.457000 - 0.770798I$ $a = 0.615967 + 0.040560I$ $b = -0.435430 + 0.245808I$	$-5.94478 + 5.41063I$	0
$u = 1.026670 + 0.410086I$ $a = -2.00347 - 0.66989I$ $b = 1.33945 + 0.72536I$	$2.30803 + 0.05509I$	0
$u = 1.026670 - 0.410086I$ $a = -2.00347 + 0.66989I$ $b = 1.33945 - 0.72536I$	$2.30803 - 0.05509I$	0
$u = 0.869165 + 0.189560I$ $a = -0.85733 + 2.63181I$ $b = 0.73493 - 1.59061I$	$1.06021 + 2.51609I$	0
$u = 0.869165 - 0.189560I$ $a = -0.85733 - 2.63181I$ $b = 0.73493 + 1.59061I$	$1.06021 - 2.51609I$	0
$u = 1.108960 + 0.099543I$ $a = -0.09536 - 3.10102I$ $b = -0.02184 + 2.18073I$	$-1.51543 - 4.71449I$	0
$u = 1.108960 - 0.099543I$ $a = -0.09536 + 3.10102I$ $b = -0.02184 - 2.18073I$	$-1.51543 + 4.71449I$	0
$u = -0.478822 + 0.740548I$ $a = -0.022517 + 0.755190I$ $b = 0.48035 + 2.91161I$	$-3.69289 - 1.39830I$	0
$u = -0.478822 - 0.740548I$ $a = -0.022517 - 0.755190I$ $b = 0.48035 - 2.91161I$	$-3.69289 + 1.39830I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.116760 + 0.064140I$ $a = 0.05616 + 3.05434I$ $b = 0.01639 - 2.14974I$	$-6.19982 - 1.21253I$	0
$u = 1.116760 - 0.064140I$ $a = 0.05616 - 3.05434I$ $b = 0.01639 + 2.14974I$	$-6.19982 + 1.21253I$	0
$u = -0.457550 + 0.751409I$ $a = 0.236739 - 0.678641I$ $b = -0.21064 - 2.95573I$	$-3.57274 + 4.07736I$	0
$u = -0.457550 - 0.751409I$ $a = 0.236739 + 0.678641I$ $b = -0.21064 + 2.95573I$	$-3.57274 - 4.07736I$	0
$u = 0.462710 + 0.738208I$ $a = -0.530312 + 0.083449I$ $b = 0.384425 + 0.173480I$	$-3.01039 - 1.29247I$	0
$u = 0.462710 - 0.738208I$ $a = -0.530312 - 0.083449I$ $b = 0.384425 - 0.173480I$	$-3.01039 + 1.29247I$	0
$u = 1.128480 + 0.105840I$ $a = 0.12861 + 3.07346I$ $b = 0.00014 - 2.18012I$	$-4.24611 - 9.87631I$	0
$u = 1.128480 - 0.105840I$ $a = 0.12861 - 3.07346I$ $b = 0.00014 + 2.18012I$	$-4.24611 + 9.87631I$	0
$u = -1.054520 + 0.425286I$ $a = 0.02547 + 1.55678I$ $b = -0.743927 - 0.167461I$	$3.44403 - 1.96877I$	0
$u = -1.054520 - 0.425286I$ $a = 0.02547 - 1.55678I$ $b = -0.743927 + 0.167461I$	$3.44403 + 1.96877I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.082350 + 0.361078I$ $a = -0.406048 + 1.061330I$ $b = -0.356347 - 0.288763I$	$3.04102 - 0.79102I$	0
$u = -1.082350 - 0.361078I$ $a = -0.406048 - 1.061330I$ $b = -0.356347 + 0.288763I$	$3.04102 + 0.79102I$	0
$u = 1.055980 + 0.435500I$ $a = 1.48474 + 0.83408I$ $b = -0.966630 - 0.789840I$	$3.37664 + 4.82818I$	0
$u = 1.055980 - 0.435500I$ $a = 1.48474 - 0.83408I$ $b = -0.966630 + 0.789840I$	$3.37664 - 4.82818I$	0
$u = -1.107020 + 0.288464I$ $a = 0.730521 - 0.673979I$ $b = 0.100273 + 0.303998I$	$0.18939 - 3.61311I$	0
$u = -1.107020 - 0.288464I$ $a = 0.730521 + 0.673979I$ $b = 0.100273 - 0.303998I$	$0.18939 + 3.61311I$	0
$u = -1.049990 + 0.462991I$ $a = -0.28819 - 1.98702I$ $b = 1.089180 + 0.102951I$	$1.90914 - 6.50178I$	0
$u = -1.049990 - 0.462991I$ $a = -0.28819 + 1.98702I$ $b = 1.089180 - 0.102951I$	$1.90914 + 6.50178I$	0
$u = 1.023410 + 0.546186I$ $a = -0.804419 + 0.096562I$ $b = 0.606488 + 0.057072I$	$-1.18178 + 4.66447I$	0
$u = 1.023410 - 0.546186I$ $a = -0.804419 - 0.096562I$ $b = 0.606488 - 0.057072I$	$-1.18178 - 4.66447I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.117090 + 0.347714I$ $a = 0.675053 - 1.029150I$ $b = 0.257952 + 0.406551I$	$0.80958 + 3.52182I$	0
$u = -1.117090 - 0.347714I$ $a = 0.675053 + 1.029150I$ $b = 0.257952 - 0.406551I$	$0.80958 - 3.52182I$	0
$u = 0.511663 + 0.629009I$ $a = -0.362759 + 0.473363I$ $b = 0.391931 - 0.156748I$	$-2.68687 - 0.04189I$	$-5.54547 + 0.84190I$
$u = 0.511663 - 0.629009I$ $a = -0.362759 - 0.473363I$ $b = 0.391931 + 0.156748I$	$-2.68687 + 0.04189I$	$-5.54547 - 0.84190I$
$u = 0.389256 + 0.701926I$ $a = -0.397271 - 0.182434I$ $b = 0.154841 + 0.297132I$	$-2.11119 - 1.85406I$	$-3.33744 - 1.25523I$
$u = 0.389256 - 0.701926I$ $a = -0.397271 + 0.182434I$ $b = 0.154841 - 0.297132I$	$-2.11119 + 1.85406I$	$-3.33744 + 1.25523I$
$u = 1.099150 + 0.476941I$ $a = 0.830949 + 0.926063I$ $b = -0.494700 - 0.791915I$	$2.25735 + 6.50648I$	0
$u = 1.099150 - 0.476941I$ $a = 0.830949 - 0.926063I$ $b = -0.494700 + 0.791915I$	$2.25735 - 6.50648I$	0
$u = -1.032600 + 0.634454I$ $a = 2.81115 - 0.01355I$ $b = -0.72549 + 2.22542I$	$-8.78937 + 3.70138I$	0
$u = -1.032600 - 0.634454I$ $a = 2.81115 + 0.01355I$ $b = -0.72549 - 2.22542I$	$-8.78937 - 3.70138I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.040190+0.625894I$ $a=-3.00802+0.00968I$ $b=\ \ 0.77809-2.31439I$	$-5.81437-1.45353I$	0
$u=-1.040190-0.625894I$ $a=-3.00802-0.00968I$ $b=\ \ 0.77809+2.31439I$	$-5.81437+1.45353I$	0
$u=-0.698347+0.358237I$ $a=\ \ 1.127800+0.430881I$ $b=\ \ 0.369052+0.542782I$	$-0.81865-2.91747I$	$-1.24476+5.59463I$
$u=-0.698347-0.358237I$ $a=\ \ 1.127800-0.430881I$ $b=\ \ 0.369052-0.542782I$	$-0.81865+2.91747I$	$-1.24476-5.59463I$
$u=\ \ 1.120410+0.482009I$ $a=-0.669711-1.057560I$ $b=\ \ 0.364772+0.872661I$	$-0.08336+11.18210I$	0
$u=\ \ 1.120410-0.482009I$ $a=-0.669711+1.057560I$ $b=\ \ 0.364772-0.872661I$	$-0.08336-11.18210I$	0
$u=-1.068110+0.600311I$ $a=-4.01284+0.40577I$ $b=\ \ 0.78950-2.92246I$	$-1.94413-3.70964I$	0
$u=-1.068110-0.600311I$ $a=-4.01284-0.40577I$ $b=\ \ 0.78950+2.92246I$	$-1.94413+3.70964I$	0
$u=\ \ 1.061890+0.611912I$ $a=\ \ 0.531543-0.542681I$ $b=-0.491899+0.322984I$	$-4.48699+2.64493I$	0
$u=\ \ 1.061890-0.611912I$ $a=\ \ 0.531543+0.542681I$ $b=-0.491899-0.322984I$	$-4.48699-2.64493I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.107430 + 0.525741I$ $a = -0.378155 - 0.742703I$ $b = 0.180566 + 0.609014I$	$-1.37622 + 3.88574I$	0
$u = 1.107430 - 0.525741I$ $a = -0.378155 + 0.742703I$ $b = 0.180566 - 0.609014I$	$-1.37622 - 3.88574I$	0
$u = -1.053790 + 0.633254I$ $a = 3.02840 - 0.29418I$ $b = -0.65056 + 2.38910I$	$-10.43010 - 5.31401I$	0
$u = -1.053790 - 0.633254I$ $a = 3.02840 + 0.29418I$ $b = -0.65056 - 2.38910I$	$-10.43010 + 5.31401I$	0
$u = 1.075240 + 0.596163I$ $a = -0.397157 + 0.515456I$ $b = 0.382403 - 0.326592I$	$-1.19587 + 6.37964I$	0
$u = 1.075240 - 0.596163I$ $a = -0.397157 - 0.515456I$ $b = 0.382403 + 0.326592I$	$-1.19587 - 6.37964I$	0
$u = 1.091960 + 0.564968I$ $a = -0.032708 + 0.491605I$ $b = 0.098167 - 0.365521I$	$-0.06187 + 6.72615I$	0
$u = 1.091960 - 0.564968I$ $a = -0.032708 - 0.491605I$ $b = 0.098167 + 0.365521I$	$-0.06187 - 6.72615I$	0
$u = -1.080130 + 0.600513I$ $a = 3.97930 - 0.92607I$ $b = -0.48877 + 3.00058I$	$-1.72700 - 9.21242I$	0
$u = -1.080130 - 0.600513I$ $a = 3.97930 + 0.92607I$ $b = -0.48877 - 3.00058I$	$-1.72700 + 9.21242I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.085240 + 0.608507I$ $a = 0.413916 - 0.625299I$ $b = -0.414662 + 0.409632I$	$-4.07755 + 10.62320I$	0
$u = 1.085240 - 0.608507I$ $a = 0.413916 + 0.625299I$ $b = -0.414662 - 0.409632I$	$-4.07755 - 10.62320I$	0
$u = -1.095970 + 0.619592I$ $a = -3.26100 + 1.13443I$ $b = 0.26764 - 2.62651I$	$-9.68717 - 8.50119I$	0
$u = -1.095970 - 0.619592I$ $a = -3.26100 - 1.13443I$ $b = 0.26764 + 2.62651I$	$-9.68717 + 8.50119I$	0
$u = -1.101570 + 0.610511I$ $a = 3.34675 - 1.36341I$ $b = -0.14641 + 2.69917I$	$-4.75007 - 12.07200I$	0
$u = -1.101570 - 0.610511I$ $a = 3.34675 + 1.36341I$ $b = -0.14641 - 2.69917I$	$-4.75007 + 12.07200I$	0
$u = -1.107590 + 0.612193I$ $a = -3.21768 + 1.42770I$ $b = 0.09604 - 2.62944I$	$-7.4896 - 17.3843I$	0
$u = -1.107590 - 0.612193I$ $a = -3.21768 - 1.42770I$ $b = 0.09604 + 2.62944I$	$-7.4896 + 17.3843I$	0
$u = 0.257089 + 0.683772I$ $a = 0.583247 + 0.481691I$ $b = -0.030182 - 0.587958I$	$-3.78122 + 0.71131I$	$-5.20307 - 0.83911I$
$u = 0.257089 - 0.683772I$ $a = 0.583247 - 0.481691I$ $b = -0.030182 + 0.587958I$	$-3.78122 - 0.71131I$	$-5.20307 + 0.83911I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.153738 + 0.674862I$ $a = 0.723502 + 0.567742I$ $b = 0.063780 - 0.743560I$	$-2.80986 - 6.85600I$	$-2.41598 + 6.59324I$
$u = 0.153738 - 0.674862I$ $a = 0.723502 - 0.567742I$ $b = 0.063780 + 0.743560I$	$-2.80986 + 6.85600I$	$-2.41598 - 6.59324I$
$u = 0.166199 + 0.612098I$ $a = -0.685708 - 0.657129I$ $b = -0.135776 + 0.672803I$	$-0.30433 - 2.34199I$	$1.24572 + 3.48957I$
$u = 0.166199 - 0.612098I$ $a = -0.685708 + 0.657129I$ $b = -0.135776 - 0.672803I$	$-0.30433 + 2.34199I$	$1.24572 - 3.48957I$
$u = -0.201548 + 0.404834I$ $a = 1.36434 + 0.67991I$ $b = 0.746393 - 0.428336I$	$-0.21644 + 2.77389I$	$2.22668 - 2.59702I$
$u = -0.201548 - 0.404834I$ $a = 1.36434 - 0.67991I$ $b = 0.746393 + 0.428336I$	$-0.21644 - 2.77389I$	$2.22668 + 2.59702I$
$u = 0.012805 + 0.441107I$ $a = -1.030300 - 0.907888I$ $b = -0.403676 + 0.591229I$	$0.90929 - 1.38472I$	$4.15458 + 4.07736I$
$u = 0.012805 - 0.441107I$ $a = -1.030300 + 0.907888I$ $b = -0.403676 - 0.591229I$	$0.90929 + 1.38472I$	$4.15458 - 4.07736I$

II. $\boldsymbol{I^u_2 = \langle -u^5a + 2u^3a - 2au + b,\ u^4a + u^5 - u^4 - u^2a - u^3 + a^2 + au + u^2 - u,\ u^6 - u^5 - u^4 + 2u^3 - u + 1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^5a + 2u^4a + 10u^3a - 4u^4 - 3u^2a + u^3 - 9au + 3u^2 + 2a - 4u - 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.002190 + 0.295542I$ $a = 0.54263 + 1.33698I$ $b = -0.500000 - 0.866025I$	$1.89061 + 1.10558I$	$3.50232 - 2.57477I$
$u = -1.002190 + 0.295542I$ $a = 0.88654 - 1.13843I$ $b = -0.500000 + 0.866025I$	$1.89061 - 2.95419I$	$7.01188 + 5.05114I$
$u = -1.002190 - 0.295542I$ $a = 0.54263 - 1.33698I$ $b = -0.500000 + 0.866025I$	$1.89061 - 1.10558I$	$3.50232 + 2.57477I$
$u = -1.002190 - 0.295542I$ $a = 0.88654 + 1.13843I$ $b = -0.500000 - 0.866025I$	$1.89061 + 2.95419I$	$7.01188 - 5.05114I$
$u = 0.428243 + 0.664531I$ $a = -0.386545 - 0.272402I$ $b = -0.500000 - 0.866025I$	$-1.89061 - 2.95419I$	$-1.81693 + 4.43387I$
$u = 0.428243 + 0.664531I$ $a = -0.042635 + 0.470959I$ $b = -0.500000 + 0.866025I$	$-1.89061 + 1.10558I$	$0.06995 - 2.75005I$
$u = 0.428243 - 0.664531I$ $a = -0.386545 + 0.272402I$ $b = -0.500000 + 0.866025I$	$-1.89061 + 2.95419I$	$-1.81693 - 4.43387I$
$u = 0.428243 - 0.664531I$ $a = -0.042635 - 0.470959I$ $b = -0.500000 - 0.866025I$	$-1.89061 - 1.10558I$	$0.06995 + 2.75005I$
$u = 1.073950 + 0.558752I$ $a = 1.44307 - 0.25581I$ $b = -0.500000 - 0.866025I$	$7.72290I$	$1.09315 - 9.68468I$
$u = 1.073950 + 0.558752I$ $a = -0.94307 - 1.12183I$ $b = -0.500000 + 0.866025I$	$3.66314I$	$4.13964 - 1.97785I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$ $a = 1.44307 + 0.25581I$ $b = -0.500000 + 0.866025I$	$-7.72290I$	$1.09315 + 9.68468I$
$u = 1.073950 - 0.558752I$ $a = -0.94307 + 1.12183I$ $b = -0.500000 - 0.866025I$	$-3.66314I$	$4.13964 + 1.97785I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^6)(u^{108}+55u^{107}+\cdots+6u+1)$
c_2	$((u^2+u+1)^6)(u^{108}+7u^{107}+\cdots+6u+1)$
c_3	$((u^2-u+1)^6)(u^{108}-7u^{107}+\cdots-83686u+9881)$
c_4, c_9	$u^{12}(u^{108}+u^{107}+\cdots-4096u+4096)$
c_5	$((u^2-u+1)^6)(u^{108}+7u^{107}+\cdots+6u+1)$
c_6, c_8	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{108}+3u^{107}+\cdots+5128u+937)$
c_7	$((u^6-u^5-u^4+2u^3-u+1)^2)(u^{108}-3u^{107}+\cdots-2u+1)$
c_{10}	$((u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2)(u^{108}-49u^{107}+\cdots+2u+1)$
c_{11}	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{108}-3u^{107}+\cdots-2u+1)$
c_{12}	$((u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2)(u^{108}-9u^{107}+\cdots-6u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^6)(y^{108}+3y^{107}+\cdots-10y+1)$
c_2, c_5	$((y^2+y+1)^6)(y^{108}+55y^{107}+\cdots+6y+1)$
c_3	$((y^2+y+1)^6)(y^{108}-49y^{107}+\cdots+4.88146\times10^9y+9.76342\times10^7)$
c_4, c_9	$y^{12}(y^{108}+65y^{107}+\cdots+3.85876\times10^8y+1.67772\times10^7)$
c_6, c_8	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot\,(y^{108}-89y^{107}+\cdots+14791066y+877969)$
c_7, c_{11}	$((y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2)(y^{108}-49y^{107}+\cdots+2y+1)$
c_{10}	$((y^6+y^5+5y^4+6y^2+3y+1)^2)(y^{108}+23y^{107}+\cdots-26y+1)$
c_{12}	$((y^6+y^5+5y^4+6y^2+3y+1)^2)(y^{108}+3y^{107}+\cdots+94y+1)$