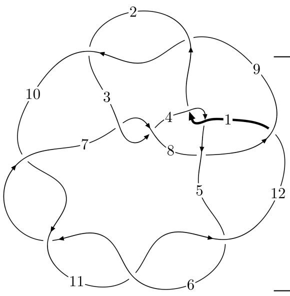
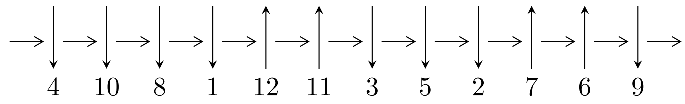
$12a_{1183}$ ($K12a_{1183}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 7u^{26} - 128u^{25} + \cdots + 8b + 328,\ -41u^{26} + 628u^{25} + \cdots + 32a + 816,\ u^{27} - 16u^{26} + \cdots + 448u - 32\rangle$$

$$\begin{aligned} I_2^u = \langle & 3830888122431a^9u^4 - 2857501004595a^8u^4 + \cdots + 8963993636290a - 1366272633452, \\ & -a^9u^4 - 4a^8u^4 + \cdots - 5a - 10,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle \end{aligned}$$

$$I_3^u = \langle 4u^{16} + 12u^{15} + \cdots + b - 2,\ 2u^{16} + 18u^{15} + \cdots + 3a + 32,\ u^{17} + 3u^{16} + \cdots + 7u + 3\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 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. $I_1^u = \langle 7u^{26} - 128u^{25} + \cdots + 8b + 328,\ -41u^{26} + 628u^{25} + \cdots + 32a + 816,\ u^{27} - 16u^{26} + \cdots + 448u - 32\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.28125u^{26} - 19.6250u^{25} + \cdots + 254.500u - 25.5000 \\ -\frac{7}{8}u^{26} + 16u^{25} + \cdots + \frac{1199}{2}u - 41 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.46875u^{26} + 22.1250u^{25} + \cdots + 361.500u - 29.5000 \\ -\frac{9}{8}u^{26} + \frac{57}{4}u^{25} + \cdots - \frac{855}{2}u + 35 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{13}{32}u^{26} - \frac{29}{8}u^{25} + \cdots + 854u - \frac{133}{2} \\ -\frac{7}{8}u^{26} + 16u^{25} + \cdots + \frac{1199}{2}u - 41 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{1}{32}u^{26} - \frac{5}{16}u^{25} + \cdots + 33u - 2 \\ -\frac{9}{16}u^{26} + \frac{69}{8}u^{25} + \cdots + 250u - 19 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2.68750u^{26} + 44.4375u^{25} + \cdots + 1475.75u - 109.500 \\ -\frac{61}{16}u^{26} + \frac{449}{8}u^{25} + \cdots + \frac{777}{2}u - 24 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{45}{32}u^{26} - \frac{337}{16}u^{25} + \cdots - 233u + 15 \\ -\frac{23}{16}u^{26} + \frac{179}{8}u^{25} + \cdots + 616u - 45 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{53}{32}u^{26} - \frac{213}{8}u^{25} + \cdots - \frac{821}{2}u + 25 \\ \frac{3}{4}u^{26} - \frac{81}{8}u^{25} + \cdots + 119u - 7 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{11}{4}u^{26} + \frac{309}{8}u^{25} + \cdots - 967u + 82 \\ \frac{33}{8}u^{26} - \frac{519}{8}u^{25} + \cdots - 1569u + 110 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{9}{4}u^{26} + 37u^{25} + \cdots + 348u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{27} - 16u^{26} + \cdots + 448u - 32$
c_2, c_3, c_7 c_9	$u^{27} - u^{26} + \cdots + 4u^2 + 1$
c_5, c_6, c_{10} c_{11}	$u^{27} - 11u^{26} + \cdots + 416u - 32$
c_8, c_{12}	$u^{27} + u^{26} + \cdots + 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{27} + 16y^{26} + \cdots - 9728y - 1024$
c_2, c_3, c_7 c_9	$y^{27} - 27y^{26} + \cdots - 8y - 1$
c_5, c_6, c_{10} c_{11}	$y^{27} + 31y^{26} + \cdots - 3584y - 1024$
c_8, c_{12}	$y^{27} - 5y^{26} + \cdots + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.326738 + 0.973251I$ $a = 1.36638 - 0.75273I$ $b = -1.17904 - 1.08389I$	$-5.90216 - 5.12959I$	$-5.71356 - 0.71345I$
$u = 0.326738 - 0.973251I$ $a = 1.36638 + 0.75273I$ $b = -1.17904 + 1.08389I$	$-5.90216 + 5.12959I$	$-5.71356 + 0.71345I$
$u = 0.257668 + 1.013350I$ $a = -1.094370 + 0.580330I$ $b = 0.870061 + 0.959444I$	$1.67867 - 3.20907I$	$-3.00867 + 3.20014I$
$u = 0.257668 - 1.013350I$ $a = -1.094370 - 0.580330I$ $b = 0.870061 - 0.959444I$	$1.67867 + 3.20907I$	$-3.00867 - 3.20014I$
$u = 0.156189 + 1.077390I$ $a = 0.815391 - 0.397247I$ $b = -0.555344 - 0.816446I$	$3.09390 + 0.00363I$	$1.18580 - 2.67864I$
$u = 0.156189 - 1.077390I$ $a = 0.815391 + 0.397247I$ $b = -0.555344 + 0.816446I$	$3.09390 - 0.00363I$	$1.18580 + 2.67864I$
$u = 1.165660 + 0.184416I$ $a = -0.911038 + 0.705453I$ $b = 1.192060 - 0.654307I$	$-19.4453 + 9.1728I$	$-13.26883 - 4.48783I$
$u = 1.165660 - 0.184416I$ $a = -0.911038 - 0.705453I$ $b = 1.192060 + 0.654307I$	$-19.4453 - 9.1728I$	$-13.26883 + 4.48783I$
$u = -0.135256 + 1.225450I$ $a = -0.369172 + 0.209810I$ $b = 0.207180 + 0.480781I$	$-0.53153 + 2.11620I$	$-4.00000 - 3.37376I$
$u = -0.135256 - 1.225450I$ $a = -0.369172 - 0.209810I$ $b = 0.207180 - 0.480781I$	$-0.53153 - 2.11620I$	$-4.00000 + 3.37376I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.296730 + 0.234088I$ $a = 0.629855 - 0.468322I$ $b = -0.926383 + 0.459847I$	$-9.64040 + 5.83308I$	$-13.1962 - 6.2251I$
$u = 1.296730 - 0.234088I$ $a = 0.629855 + 0.468322I$ $b = -0.926383 - 0.459847I$	$-9.64040 - 5.83308I$	$-13.1962 + 6.2251I$
$u = 0.401898 + 0.513270I$ $a = 0.05616 - 1.60013I$ $b = -0.843872 + 0.614264I$	$-7.16168 + 2.04670I$	$-4.62828 - 4.92551I$
$u = 0.401898 - 0.513270I$ $a = 0.05616 + 1.60013I$ $b = -0.843872 - 0.614264I$	$-7.16168 - 2.04670I$	$-4.62828 + 4.92551I$
$u = 0.63266 + 1.30092I$ $a = -1.110240 + 0.483598I$ $b = 1.33153 + 1.13838I$	$-15.9655 - 15.4642I$	0
$u = 0.63266 - 1.30092I$ $a = -1.110240 - 0.483598I$ $b = 1.33153 - 1.13838I$	$-15.9655 + 15.4642I$	0
$u = 0.67380 + 1.29759I$ $a = 0.990312 - 0.341657I$ $b = -1.11060 - 1.05481I$	$-6.30603 - 12.55790I$	0
$u = 0.67380 - 1.29759I$ $a = 0.990312 + 0.341657I$ $b = -1.11060 + 1.05481I$	$-6.30603 + 12.55790I$	0
$u = 0.75681 + 1.30765I$ $a = -0.790458 + 0.172262I$ $b = 0.823487 + 0.903270I$	$-2.55975 - 7.75483I$	0
$u = 0.75681 - 1.30765I$ $a = -0.790458 - 0.172262I$ $b = 0.823487 - 0.903270I$	$-2.55975 + 7.75483I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.58357$ $a = -0.438551$ $b = 0.694476$	-6.13943	0
$u = 0.202392 + 0.231714I$ $a = 0.26309 + 1.63520I$ $b = 0.325651 - 0.391913I$	$-0.150445 + 0.974739I$	$-2.92263 - 7.14002I$
$u = 0.202392 - 0.231714I$ $a = 0.26309 - 1.63520I$ $b = 0.325651 + 0.391913I$	$-0.150445 - 0.974739I$	$-2.92263 + 7.14002I$
$u = 0.89228 + 1.45430I$ $a = 0.440805 - 0.117681I$ $b = -0.564466 - 0.536060I$	$-4.37833 - 2.08868I$	0
$u = 0.89228 - 1.45430I$ $a = 0.440805 + 0.117681I$ $b = -0.564466 + 0.536060I$	$-4.37833 + 2.08868I$	0
$u = 0.58063 + 1.74046I$ $a = -0.067440 + 0.312189I$ $b = 0.582509 - 0.063892I$	$-13.55330 + 2.79514I$	0
$u = 0.58063 - 1.74046I$ $a = -0.067440 - 0.312189I$ $b = 0.582509 + 0.063892I$	$-13.55330 - 2.79514I$	0

II. $\boldsymbol{I_2^u = \langle 3.83\times 10^{12}a^9u^4 - 2.86\times 10^{12}a^8u^4 + \cdots + 8.96\times 10^{12}a - 1.37\times 10^{12},\ -a^9u^4 - 4a^8u^4 + \cdots - 5a - 10,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle}$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a \\ -1.30396a^9u^4 + 0.972636a^8u^4 + \cdots - 3.05116a + 0.465052 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.34977a^9u^4 + 2.51833a^8u^4 + \cdots + 0.382620a + 0.196848 \\ 0.275845a^9u^4 + 1.98098a^8u^4 + \cdots - 0.891259a + 0.748114 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.30396a^9u^4 + 0.972636a^8u^4 + \cdots - 2.05116a + 0.465052 \\ -1.30396a^9u^4 + 0.972636a^8u^4 + \cdots - 3.05116a + 0.465052 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.978965a^9u^4 - 1.44213a^8u^4 + \cdots - 0.0881825a + 0.194750 \\ -0.311779a^9u^4 - 0.827493a^8u^4 + \cdots - 0.104852a - 0.728899 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.32778a^9u^4 + 0.504526a^8u^4 + \cdots - 0.111225a - 0.415918 \\ -3.49328a^9u^4 + 0.486696a^8u^4 + \cdots + 1.37737a - 1.28533 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} a^2u \\ 1.16482a^9u^4 - 0.841308a^8u^4 + \cdots - 0.639242a + 0.155880 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.598958a^9u^4 - 0.536641a^8u^4 + \cdots - 0.100841a + 0.898935 \\ 2.00856a^9u^4 - 0.391347a^8u^4 + \cdots - 0.420272a + 1.38748 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.269881a^9u^4 - 0.151648a^8u^4 + \cdots + 0.391092a - 0.370194 \\ -2.37370a^9u^4 + 2.91763a^8u^4 + \cdots + 0.705077a - 0.305615 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$$= -\frac{3336817308298}{1468946744399}a^9u^4 + \frac{8995916260558}{1468946744399}a^8u^4 + \cdots - \frac{6523463258754}{1468946744399}a - \frac{5778728076718}{1468946744399}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^5 + u^4 + 2u^3 + u^2 + u + 1)^{10}$
c_2, c_3, c_7 c_9	$u^{50} - u^{49} + \cdots + 3504u - 928$
c_5, c_6, c_{10} c_{11}	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^{10}$
c_8, c_{12}	$u^{50} + 5u^{49} + \cdots - 80u - 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^{10}$
c_2, c_3, c_7 c_9	$y^{50} - 45y^{49} + \cdots - 84632320y + 861184$
c_5, c_6, c_{10} c_{11}	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^{10}$
c_8, c_{12}	$y^{50} - 9y^{49} + \cdots - 40704y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.339110 + 0.822375I$ $a = -0.941072 - 0.102065I$ $b = 1.188350 - 0.588608I$	$-3.72352 - 1.53058I$	$-3.87605 + 4.43065I$
$u = 0.339110 + 0.822375I$ $a = 0.368837 - 1.146040I$ $b = -0.40610 - 1.63231I$	$-6.42551 + 0.68339I$	$-12.37057 + 0.20776I$
$u = 0.339110 + 0.822375I$ $a = -0.630435 + 1.098070I$ $b = 0.63922 + 2.16713I$	$-15.5640 + 1.8012I$	$-13.40362 + 2.06837I$
$u = 0.339110 + 0.822375I$ $a = 0.10246 + 1.48727I$ $b = 0.235191 + 0.808525I$	$-3.72352 - 1.53058I$	$-3.87605 + 4.43065I$
$u = 0.339110 + 0.822375I$ $a = 0.051054 + 0.421661I$ $b = 2.04277 - 1.49049I$	$-15.5640 - 4.8623I$	$-13.4036 + 6.7929I$
$u = 0.339110 + 0.822375I$ $a = 0.255094 - 0.199412I$ $b = -1.62129 + 1.17233I$	$-6.42551 - 3.74455I$	$-12.3706 + 8.6535I$
$u = 0.339110 + 0.822375I$ $a = 1.87045 + 0.27748I$ $b = -1.067550 + 0.085312I$	$-6.42551 + 0.68339I$	$-12.37057 + 0.20776I$
$u = 0.339110 + 0.822375I$ $a = -0.52357 - 2.18737I$ $b = -0.250496 - 0.142160I$	$-6.42551 - 3.74455I$	$-12.3706 + 8.6535I$
$u = 0.339110 + 0.822375I$ $a = -2.52618 - 0.26440I$ $b = 1.116810 + 0.146089I$	$-15.5640 + 1.8012I$	$-13.40362 + 2.06837I$
$u = 0.339110 + 0.822375I$ $a = 0.67360 + 2.76175I$ $b = 0.329451 - 0.184975I$	$-15.5640 - 4.8623I$	$-13.4036 + 6.7929I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.339110 - 0.822375I$ $a = -0.941072 + 0.102065I$ $b = 1.188350 + 0.588608I$	$-3.72352 + 1.53058I$	$-3.87605 - 4.43065I$
$u = 0.339110 - 0.822375I$ $a = 0.368837 + 1.146040I$ $b = -0.40610 + 1.63231I$	$-6.42551 - 0.68339I$	$-12.37057 - 0.20776I$
$u = 0.339110 - 0.822375I$ $a = -0.630435 - 1.098070I$ $b = 0.63922 - 2.16713I$	$-15.5640 - 1.8012I$	$-13.40362 - 2.06837I$
$u = 0.339110 - 0.822375I$ $a = 0.10246 - 1.48727I$ $b = 0.235191 - 0.808525I$	$-3.72352 + 1.53058I$	$-3.87605 - 4.43065I$
$u = 0.339110 - 0.822375I$ $a = 0.051054 - 0.421661I$ $b = 2.04277 + 1.49049I$	$-15.5640 + 4.8623I$	$-13.4036 - 6.7929I$
$u = 0.339110 - 0.822375I$ $a = 0.255094 + 0.199412I$ $b = -1.62129 - 1.17233I$	$-6.42551 + 3.74455I$	$-12.3706 - 8.6535I$
$u = 0.339110 - 0.822375I$ $a = 1.87045 - 0.27748I$ $b = -1.067550 - 0.085312I$	$-6.42551 - 0.68339I$	$-12.37057 - 0.20776I$
$u = 0.339110 - 0.822375I$ $a = -0.52357 + 2.18737I$ $b = -0.250496 + 0.142160I$	$-6.42551 + 3.74455I$	$-12.3706 - 8.6535I$
$u = 0.339110 - 0.822375I$ $a = -2.52618 + 0.26440I$ $b = 1.116810 - 0.146089I$	$-15.5640 - 1.8012I$	$-13.40362 - 2.06837I$
$u = 0.339110 - 0.822375I$ $a = 0.67360 - 2.76175I$ $b = 0.329451 + 0.184975I$	$-15.5640 + 4.8623I$	$-13.4036 - 6.7929I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.766826$ $a = 1.01971$ $b = -0.448297$	-1.65154	-2.91000
$u = -0.766826$ $a = 0.888970 + 0.810814I$ $b = -1.073730 - 0.319738I$	$-4.35353 - 2.21397I$	$-11.40454 + 4.22289I$
$u = -0.766826$ $a = 0.888970 - 0.810814I$ $b = -1.073730 + 0.319738I$	$-4.35353 + 2.21397I$	$-11.40454 - 4.22289I$
$u = -0.766826$ $a = -0.584614$ $b = 0.781942$	-1.65154	-2.91000
$u = -0.766826$ $a = -1.40023 + 0.41696I$ $b = 0.681685 - 0.621753I$	$-4.35353 + 2.21397I$	$-11.40454 - 4.22289I$
$u = -0.766826$ $a = -1.40023 - 0.41696I$ $b = 0.681685 + 0.621753I$	$-4.35353 - 2.21397I$	$-11.40454 + 4.22289I$
$u = -0.766826$ $a = -1.12618 + 1.23565I$ $b = 1.34736 - 0.48010I$	$-13.49200 + 3.33174I$	$-12.43759 - 2.36228I$
$u = -0.766826$ $a = -1.12618 - 1.23565I$ $b = 1.34736 + 0.48010I$	$-13.49200 - 3.33174I$	$-12.43759 + 2.36228I$
$u = -0.766826$ $a = 1.75707 + 0.62609I$ $b = -0.863581 - 0.947532I$	$-13.49200 - 3.33174I$	$-12.43759 + 2.36228I$
$u = -0.766826$ $a = 1.75707 - 0.62609I$ $b = -0.863581 + 0.947532I$	$-13.49200 + 3.33174I$	$-12.43759 - 2.36228I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.455697 + 1.200150I$ $a = 0.259834 - 0.944414I$ $b = 0.485723 + 0.128685I$	$-10.02050 + 1.06909I$	$-9.17442 - 1.13631I$
$u = -0.455697 + 1.200150I$ $a = 0.929129 + 0.303128I$ $b = -0.764563 + 0.575714I$	$1.81994 + 4.40083I$	$0.35315 - 3.49859I$
$u = -0.455697 + 1.200150I$ $a = -0.924621 - 0.502186I$ $b = 1.61901 - 1.43093I$	$-10.02050 + 7.73258I$	$-9.17442 - 5.86086I$
$u = -0.455697 + 1.200150I$ $a = 0.807918 + 0.442221I$ $b = -1.28871 + 1.21910I$	$-0.88204 + 6.61480I$	$-8.14137 - 7.72148I$
$u = -0.455697 + 1.200150I$ $a = -0.630666 - 0.397591I$ $b = 0.787201 - 0.976962I$	$1.81994 + 4.40083I$	$0.35315 - 3.49859I$
$u = -0.455697 + 1.200150I$ $a = -1.244130 - 0.601390I$ $b = 0.898898 - 0.768106I$	$-0.88204 + 6.61480I$	$-8.14137 - 7.72148I$
$u = -0.455697 + 1.200150I$ $a = 0.174801 + 0.486058I$ $b = -0.326391 + 0.480267I$	$-0.88204 + 2.18686I$	$-8.14137 + 0.72431I$
$u = -0.455697 + 1.200150I$ $a = -0.439999 - 0.104891I$ $b = 0.663000 + 0.011708I$	$-0.88204 + 2.18686I$	$-8.14137 + 0.72431I$
$u = -0.455697 + 1.200150I$ $a = 0.040595 + 0.389304I$ $b = -1.015040 - 0.742207I$	$-10.02050 + 1.06909I$	$-9.17442 - 1.13631I$
$u = -0.455697 + 1.200150I$ $a = 1.48973 + 0.78335I$ $b = -1.024050 + 0.880841I$	$-10.02050 + 7.73258I$	$-9.17442 - 5.86086I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.455697 - 1.200150I$ $a = 0.259834 + 0.944414I$ $b = 0.485723 - 0.128685I$	$-10.02050 - 1.06909I$	$-9.17442 + 1.13631I$
$u = -0.455697 - 1.200150I$ $a = 0.929129 - 0.303128I$ $b = -0.764563 - 0.575714I$	$1.81994 - 4.40083I$	$0.35315 + 3.49859I$
$u = -0.455697 - 1.200150I$ $a = -0.924621 + 0.502186I$ $b = 1.61901 + 1.43093I$	$-10.02050 - 7.73258I$	$-9.17442 + 5.86086I$
$u = -0.455697 - 1.200150I$ $a = 0.807918 - 0.442221I$ $b = -1.28871 - 1.21910I$	$-0.88204 - 6.61480I$	$-8.14137 + 7.72148I$
$u = -0.455697 - 1.200150I$ $a = -0.630666 + 0.397591I$ $b = 0.787201 + 0.976962I$	$1.81994 - 4.40083I$	$0.35315 + 3.49859I$
$u = -0.455697 - 1.200150I$ $a = -1.244130 + 0.601390I$ $b = 0.898898 + 0.768106I$	$-0.88204 - 6.61480I$	$-8.14137 + 7.72148I$
$u = -0.455697 - 1.200150I$ $a = 0.174801 - 0.486058I$ $b = -0.326391 - 0.480267I$	$-0.88204 - 2.18686I$	$-8.14137 - 0.72431I$
$u = -0.455697 - 1.200150I$ $a = -0.439999 + 0.104891I$ $b = 0.663000 - 0.011708I$	$-0.88204 - 2.18686I$	$-8.14137 - 0.72431I$
$u = -0.455697 - 1.200150I$ $a = 0.040595 - 0.389304I$ $b = -1.015040 + 0.742207I$	$-10.02050 - 1.06909I$	$-9.17442 + 1.13631I$
$u = -0.455697 - 1.200150I$ $a = 1.48973 - 0.78335I$ $b = -1.024050 - 0.880841I$	$-10.02050 - 7.73258I$	$-9.17442 + 5.86086I$

III. $\boldsymbol{I^u_3 =}$
$\boldsymbol{\langle 4u^{16}+12u^{15}+\cdots+b-2,\ 2u^{16}+18u^{15}+\cdots+3a+32,\ u^{17}+3u^{16}+\cdots+7u+3\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{2}{3}u^{16} - 6u^{15} + \cdots - \frac{103}{3}u - \frac{32}{3} \\ -4u^{16} - 12u^{15} + \cdots - 6u + 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{11}{3}u^{16} - 15u^{15} + \cdots - \frac{145}{3}u - \frac{32}{3} \\ -2u^{16} - 6u^{15} + \cdots - u + 2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{14}{3}u^{16} - 18u^{15} + \cdots - \frac{121}{3}u - \frac{26}{3} \\ -4u^{16} - 12u^{15} + \cdots - 6u + 2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{4}{3}u^{16} + 5u^{15} + \cdots + \frac{53}{3}u + \frac{16}{3} \\ u^{16} + 3u^{15} + \cdots + 3u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 8u^{16} + 23u^{15} + \cdots + 8u - 12 \\ -3u^{15} - 9u^{14} + \cdots - 37u - 15 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{2}{3}u^{16} + u^{15} + \cdots - \frac{26}{3}u - \frac{19}{3} \\ -u^{16} - 3u^{15} + \cdots - 10u - 2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{14}{3}u^{16} - 14u^{15} + \cdots - \frac{109}{3}u - \frac{14}{3} \\ u^{15} + 3u^{14} + \cdots + 22u + 11 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{1}{3}u^{16} + 6u^{15} + \cdots + \frac{230}{3}u + \frac{94}{3} \\ 4u^{16} + 12u^{15} + \cdots + 24u + 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^{16} - 2u^{15} - 11u^{14} - 6u^{13} - 21u^{12} - u^{11} - 8u^{10} + 21u^9 + 25u^8 + 41u^7 + 51u^6 + 51u^5 + 47u^4 + 35u^3 + 25u^2 + 10u - 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{17} - 3u^{16} + \cdots + 7u - 3$
c_2, c_7	$u^{17} + u^{16} + \cdots - 5u^2 + 1$
c_3, c_9	$u^{17} - u^{16} + \cdots + 5u^2 - 1$
c_4	$u^{17} + 3u^{16} + \cdots + 7u + 3$
c_5, c_6	$u^{17} + 12u^{15} + \cdots + 3u + 1$
c_8, c_{12}	$u^{17} - u^{16} + \cdots + u + 1$
c_{10}, c_{11}	$u^{17} + 12u^{15} + \cdots + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{17} + 13y^{16} + \cdots - 71y - 9$
c_2, c_3, c_7 c_9	$y^{17} - 17y^{16} + \cdots + 10y - 1$
c_5, c_6, c_{10} c_{11}	$y^{17} + 24y^{16} + \cdots - y - 1$
c_8, c_{12}	$y^{17} - 3y^{16} + \cdots + y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.593894 + 0.802495I$ $a = -0.180639 - 0.594767I$ $b = 0.370017 - 0.498191I$	$-4.67950 - 0.64322I$	$-10.55963 - 0.15588I$
$u = 0.593894 - 0.802495I$ $a = -0.180639 + 0.594767I$ $b = 0.370017 + 0.498191I$	$-4.67950 + 0.64322I$	$-10.55963 + 0.15588I$
$u = -0.906544$ $a = -0.854243$ $b = 0.774409$	-2.37375	-16.8760
$u = -0.735692 + 0.527270I$ $a = 0.520506 + 1.068180I$ $b = -0.946153 - 0.511408I$	$-7.87303 - 1.51903I$	$-13.64272 - 0.09514I$
$u = -0.735692 - 0.527270I$ $a = 0.520506 - 1.068180I$ $b = -0.946153 + 0.511408I$	$-7.87303 + 1.51903I$	$-13.64272 + 0.09514I$
$u = -0.458344 + 1.062210I$ $a = 1.265050 + 0.613512I$ $b = -1.23151 + 1.06256I$	$-6.20697 + 5.92549I$	$-9.60300 - 7.59115I$
$u = -0.458344 - 1.062210I$ $a = 1.265050 - 0.613512I$ $b = -1.23151 - 1.06256I$	$-6.20697 - 5.92549I$	$-9.60300 + 7.59115I$
$u = 0.096850 + 0.818804I$ $a = -1.20033 - 1.49411I$ $b = 1.10713 - 1.12754I$	$-14.9635 - 3.6269I$	$-8.98825 + 1.04806I$
$u = 0.096850 - 0.818804I$ $a = -1.20033 + 1.49411I$ $b = 1.10713 + 1.12754I$	$-14.9635 + 3.6269I$	$-8.98825 - 1.04806I$
$u = 0.177512 + 0.760501I$ $a = 0.83863 + 1.36734I$ $b = -0.890995 + 0.880497I$	$-6.11660 - 2.68617I$	$-9.52611 + 0.92826I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.177512 - 0.760501I$ $a = 0.83863 - 1.36734I$ $b = -0.890995 - 0.880497I$	$-6.11660 + 2.68617I$	$-9.52611 - 0.92826I$
$u = -0.479649 + 1.148250I$ $a = -0.902382 - 0.459289I$ $b = 0.960206 - 0.815864I$	$0.69293 + 4.86005I$	$-8.33294 - 6.22017I$
$u = -0.479649 - 1.148250I$ $a = -0.902382 + 0.459289I$ $b = 0.960206 + 0.815864I$	$0.69293 - 4.86005I$	$-8.33294 + 6.22017I$
$u = 0.27357 + 1.41350I$ $a = 0.387595 - 0.159279I$ $b = 0.331176 + 0.504291I$	$-12.89620 + 2.38711I$	$-8.51735 + 0.78017I$
$u = 0.27357 - 1.41350I$ $a = 0.387595 + 0.159279I$ $b = 0.331176 - 0.504291I$	$-12.89620 - 2.38711I$	$-8.51735 - 0.78017I$
$u = -0.51487 + 1.41784I$ $a = 0.365354 + 0.281395I$ $b = -0.587082 + 0.373130I$	$-1.05312 + 3.04104I$	$-10.39187 - 9.53113I$
$u = -0.51487 - 1.41784I$ $a = 0.365354 - 0.281395I$ $b = -0.587082 - 0.373130I$	$-1.05312 - 3.04104I$	$-10.39187 + 9.53113I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^5+u^4+2u^3+u^2+u+1)^{10})(u^{17}-3u^{16}+\cdots+7u-3)$ $\cdot(u^{27}-16u^{26}+\cdots+448u-32)$
c_2, c_7	$(u^{17}+u^{16}+\cdots-5u^2+1)(u^{27}-u^{26}+\cdots+4u^2+1)$ $\cdot(u^{50}-u^{49}+\cdots+3504u-928)$
c_3, c_9	$(u^{17}-u^{16}+\cdots+5u^2-1)(u^{27}-u^{26}+\cdots+4u^2+1)$ $\cdot(u^{50}-u^{49}+\cdots+3504u-928)$
c_4	$((u^5+u^4+2u^3+u^2+u+1)^{10})(u^{17}+3u^{16}+\cdots+7u+3)$ $\cdot(u^{27}-16u^{26}+\cdots+448u-32)$
c_5, c_6	$((u^5+u^4+4u^3+3u^2+3u+1)^{10})(u^{17}+12u^{15}+\cdots+3u+1)$ $\cdot(u^{27}-11u^{26}+\cdots+416u-32)$
c_8, c_{12}	$(u^{17}-u^{16}+\cdots+u+1)(u^{27}+u^{26}+\cdots+5u+1)$ $\cdot(u^{50}+5u^{49}+\cdots-80u-32)$
c_{10}, c_{11}	$((u^5+u^4+4u^3+3u^2+3u+1)^{10})(u^{17}+12u^{15}+\cdots+3u-1)$ $\cdot(u^{27}-11u^{26}+\cdots+416u-32)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^5+3y^4+4y^3+y^2-y-1)^{10})(y^{17}+13y^{16}+\cdots-71y-9)$ $\cdot(y^{27}+16y^{26}+\cdots-9728y-1024)$
c_2, c_3, c_7 c_9	$(y^{17}-17y^{16}+\cdots+10y-1)(y^{27}-27y^{26}+\cdots-8y-1)$ $\cdot(y^{50}-45y^{49}+\cdots-84632320y+861184)$
c_5, c_6, c_{10} c_{11}	$((y^5+7y^4+16y^3+13y^2+3y-1)^{10})(y^{17}+24y^{16}+\cdots-y-1)$ $\cdot(y^{27}+31y^{26}+\cdots-3584y-1024)$
c_8, c_{12}	$(y^{17}-3y^{16}+\cdots+y-1)(y^{27}-5y^{26}+\cdots+3y-1)$ $\cdot(y^{50}-9y^{49}+\cdots-40704y+1024)$