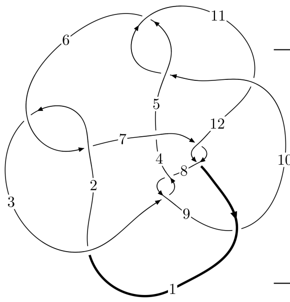
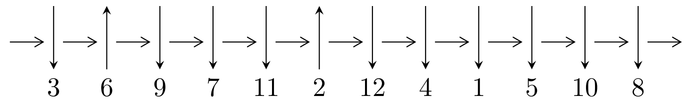
$12a_{0350}$ ($K12a_{0350}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1.64650 \times 10^{477} u^{119} - 2.04219 \times 10^{477} u^{118} + \cdots + 5.37967 \times 10^{477} b + 4.63499 \times 10^{477}, \\
&- 3.01914 \times 10^{477} u^{119} - 5.15986 \times 10^{477} u^{118} + \cdots + 1.39872 \times 10^{478} a - 8.49918 \times 10^{477}, \\
&u^{120} + u^{119} + \cdots + 20u - 4 \rangle \\
I_2^u = \langle &-3au + b - 6a - 2u - 5,\ 18a^2 - 3au + 30a - 4u + 15,\ u^2 - 2 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b - v,\ v^2 + v + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 126 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. $\boldsymbol{I_1^u = \langle -1.65 \times 10^{477} u^{119} - 2.04 \times 10^{477} u^{118} + \cdots + 5.38 \times 10^{477} b + 4.63 \times 10^{477},\ -3.02 \times 10^{477} u^{119} - 5.16 \times 10^{477} u^{118} + \cdots + 1.40 \times 10^{478} a - 8.50 \times 10^{477},\ u^{120} + u^{119} + \cdots + 20u - 4 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.215851u^{119} + 0.368900u^{118} + \cdots - 7.05008u + 0.607642 \\ 0.306060u^{119} + 0.379613u^{118} + \cdots + 5.50411u - 0.861574 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.332303u^{119} - 0.00324083u^{118} + \cdots + 13.9294u + 1.86986 \\ 0.0130671u^{119} - 0.181215u^{118} + \cdots - 8.87043u + 1.39199 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1.04132u^{119} + 1.06701u^{118} + \cdots - 15.4491u + 4.99065 \\ -0.237104u^{119} - 0.338198u^{118} + \cdots + 5.15503u - 0.569560 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.224721u^{119} + 0.373611u^{118} + \cdots + 35.9761u - 7.40116 \\ 0.00695986u^{119} + 0.265753u^{118} + \cdots + 10.9571u - 2.73290 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.319236u^{119} - 0.184456u^{118} + \cdots + 5.05899u + 3.26185 \\ 0.0130671u^{119} - 0.181215u^{118} + \cdots - 8.87043u + 1.39199 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.29087u^{119} - 0.889115u^{118} + \cdots + 28.2364u - 6.80811 \\ -0.0403642u^{119} + 0.0496315u^{118} + \cdots + 0.215259u + 0.360299 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.476243u^{119} - 0.238640u^{118} + \cdots + 10.5808u + 2.24891 \\ -0.0571666u^{119} - 0.190125u^{118} + \cdots - 6.03312u + 0.790341 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.281956u^{119} + 0.848688u^{118} + \cdots + 44.4292u - 6.63066 \\ 0.0206301u^{119} + 0.0726329u^{118} + \cdots - 0.388572u + 0.172894 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.797956u^{119} + 1.82037u^{118} + \cdots + 33.6708u - 21.8023$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{120} + 44u^{119} + \cdots - 3756u + 289$
c_2, c_6	$u^{120} - 2u^{119} + \cdots + 64u + 17$
c_3, c_8	$u^{120} + u^{119} + \cdots + 20u - 4$
c_4	$28561(28561u^{120} + 43940u^{119} + \cdots - 1.49875 \times 10^8 u + 1.98894 \times 10^7)$
c_5, c_{10}	$u^{120} + u^{119} + \cdots - 36u - 4$
c_7, c_{12}	$u^{120} + 3u^{119} + \cdots - 495u - 343$
c_9	$28561(28561u^{120} + 160381u^{119} + \cdots - 9126759u - 5810977)$
c_{11}	$u^{120} + 55u^{119} + \cdots + 208u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{120} + 68y^{119} + \cdots - 12388564y + 83521$
c_2, c_6	$y^{120} + 44y^{119} + \cdots - 3756y + 289$
c_3, c_8	$y^{120} + 65y^{119} + \cdots + 176y + 16$
c_4	815730721 $\cdot (8.16 \times 10^8 y^{120} + 3.97 \times 10^{10} y^{119} + \cdots - 1.14 \times 10^{16} y + 3.96 \times 10^{14})$
c_5, c_{10}	$y^{120} - 55y^{119} + \cdots - 208y + 16$
c_7, c_{12}	$y^{120} - 69y^{119} + \cdots - 633301y + 117649$
c_9	815730721 $\cdot (8.16 \times 10^8 y^{120} + 1.20 \times 10^{10} y^{119} + \cdots - 3.67 \times 10^{14} y + 3.38 \times 10^{13})$
c_{11}	$y^{120} + 25y^{119} + \cdots - 26880y + 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.202989 + 0.990498I$ $a = 1.83289 - 0.71222I$ $b = -0.954993 + 0.764552I$	$-0.32290 - 2.49959I$	0
$u = 0.202989 - 0.990498I$ $a = 1.83289 + 0.71222I$ $b = -0.954993 - 0.764552I$	$-0.32290 + 2.49959I$	0
$u = 0.125340 + 0.971618I$ $a = 2.29726 - 1.15154I$ $b = -0.720096 + 0.848381I$	$-0.16867 - 2.70921I$	0
$u = 0.125340 - 0.971618I$ $a = 2.29726 + 1.15154I$ $b = -0.720096 - 0.848381I$	$-0.16867 + 2.70921I$	0
$u = -0.215875 + 0.921340I$ $a = -2.05386 - 0.66138I$ $b = 0.97482 + 1.02658I$	$-1.27200 + 6.24574I$	0
$u = -0.215875 - 0.921340I$ $a = -2.05386 + 0.66138I$ $b = 0.97482 - 1.02658I$	$-1.27200 - 6.24574I$	0
$u = 1.067700 + 0.000614I$ $a = 0.699094 + 0.164069I$ $b = -0.790349 + 0.550536I$	$-0.94837 + 7.62370I$	0
$u = 1.067700 - 0.000614I$ $a = 0.699094 - 0.164069I$ $b = -0.790349 - 0.550536I$	$-0.94837 - 7.62370I$	0
$u = 0.147019 + 1.070360I$ $a = 1.49597 + 0.11383I$ $b = 0.387476 + 0.924439I$	$0.041800 + 0.517074I$	0
$u = 0.147019 - 1.070360I$ $a = 1.49597 - 0.11383I$ $b = 0.387476 - 0.924439I$	$0.041800 - 0.517074I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.852150 + 0.335345I$ $a = 0.862162 - 0.729618I$ $b = 0.007238 - 1.142000I$	$-6.79846 - 6.21229I$	0
$u = -0.852150 - 0.335345I$ $a = 0.862162 + 0.729618I$ $b = 0.007238 + 1.142000I$	$-6.79846 + 6.21229I$	0
$u = 0.914607$ $a = 0.851655$ $b = -0.435552$	-5.82465	0
$u = 0.780664 + 0.465076I$ $a = -1.096220 - 0.807047I$ $b = -0.008377 - 0.989825I$	$-4.16799 + 1.47675I$	0
$u = 0.780664 - 0.465076I$ $a = -1.096220 + 0.807047I$ $b = -0.008377 + 0.989825I$	$-4.16799 - 1.47675I$	0
$u = -0.887719 + 0.193758I$ $a = -0.588745 + 0.560769I$ $b = 0.650690 + 0.951781I$	$2.29091 + 2.82384I$	0
$u = -0.887719 - 0.193758I$ $a = -0.588745 - 0.560769I$ $b = 0.650690 - 0.951781I$	$2.29091 - 2.82384I$	0
$u = 0.240892 + 1.065480I$ $a = -0.498725 + 0.703933I$ $b = -0.317623 - 0.022486I$	$1.14757 + 2.11836I$	0
$u = 0.240892 - 1.065480I$ $a = -0.498725 - 0.703933I$ $b = -0.317623 + 0.022486I$	$1.14757 - 2.11836I$	0
$u = 0.290138 + 0.858508I$ $a = -0.03373 - 2.51112I$ $b = 0.281653 - 0.886609I$	$-0.31268 - 4.67708I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.290138 - 0.858508I$ $a = -0.03373 + 2.51112I$ $b = 0.281653 + 0.886609I$	$-0.31268 + 4.67708I$	0
$u = 0.258264 + 1.075510I$ $a = 1.50891 - 0.07679I$ $b = -1.143560 + 0.311585I$	$1.67115 - 7.31624I$	0
$u = 0.258264 - 1.075510I$ $a = 1.50891 + 0.07679I$ $b = -1.143560 - 0.311585I$	$1.67115 + 7.31624I$	0
$u = 0.764474 + 0.461851I$ $a = -0.298629 + 0.362400I$ $b = 0.670058 + 0.722219I$	$2.98659 + 2.31380I$	0
$u = 0.764474 - 0.461851I$ $a = -0.298629 - 0.362400I$ $b = 0.670058 - 0.722219I$	$2.98659 - 2.31380I$	0
$u = -0.160215 + 0.875406I$ $a = -0.178043 + 0.956426I$ $b = 0.237759 + 0.257881I$	$1.78046 + 2.19670I$	0
$u = -0.160215 - 0.875406I$ $a = -0.178043 - 0.956426I$ $b = 0.237759 - 0.257881I$	$1.78046 - 2.19670I$	0
$u = -1.115540 + 0.028792I$ $a = -0.719250 + 0.216715I$ $b = 0.717128 + 0.648150I$	$0.99396 - 1.73965I$	0
$u = -1.115540 - 0.028792I$ $a = -0.719250 - 0.216715I$ $b = 0.717128 - 0.648150I$	$0.99396 + 1.73965I$	0
$u = -0.240281 + 1.106510I$ $a = -1.232710 + 0.037129I$ $b = 0.996617 + 0.162947I$	$2.78737 + 2.78465I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.240281 - 1.106510I$ $a = -1.232710 - 0.037129I$ $b = 0.996617 - 0.162947I$	$2.78737 - 2.78465I$	0
$u = -0.185554 + 1.130230I$ $a = -0.482242 + 0.322174I$ $b = 0.564824 + 0.004451I$	$2.28964 + 2.10386I$	0
$u = -0.185554 - 1.130230I$ $a = -0.482242 - 0.322174I$ $b = 0.564824 - 0.004451I$	$2.28964 - 2.10386I$	0
$u = 0.845851 + 0.117669I$ $a = 0.432782 + 0.605481I$ $b = -0.643954 + 1.038350I$	$0.98227 - 8.35275I$	0
$u = 0.845851 - 0.117669I$ $a = 0.432782 - 0.605481I$ $b = -0.643954 - 1.038350I$	$0.98227 + 8.35275I$	0
$u = -0.171786 + 0.834696I$ $a = -1.92251 - 0.56569I$ $b = 0.729359 + 1.199970I$	$-2.12298 + 0.96742I$	0
$u = -0.171786 - 0.834696I$ $a = -1.92251 + 0.56569I$ $b = 0.729359 - 1.199970I$	$-2.12298 - 0.96742I$	0
$u = -1.034480 + 0.561437I$ $a = 1.085660 - 0.500482I$ $b = -0.207120 - 0.980921I$	$-8.61583 + 2.18923I$	0
$u = -1.034480 - 0.561437I$ $a = 1.085660 + 0.500482I$ $b = -0.207120 + 0.980921I$	$-8.61583 - 2.18923I$	0
$u = 0.509258 + 1.080060I$ $a = -0.693221 - 0.384489I$ $b = 0.161413 - 1.188380I$	$-2.20069 - 6.31530I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.509258 - 1.080060I$ $a = -0.693221 + 0.384489I$ $b = 0.161413 + 1.188380I$	$-2.20069 + 6.31530I$	0
$u = -1.200420 + 0.103729I$ $a = 0.773407 + 0.381234I$ $b = -0.665350 + 1.057800I$	$-2.44940 - 13.11410I$	0
$u = -1.200420 - 0.103729I$ $a = 0.773407 - 0.381234I$ $b = -0.665350 - 1.057800I$	$-2.44940 + 13.11410I$	0
$u = -0.616678 + 1.060240I$ $a = 0.185913 - 0.231296I$ $b = 0.017347 - 1.145710I$	$-6.86455 + 3.65797I$	0
$u = -0.616678 - 1.060240I$ $a = 0.185913 + 0.231296I$ $b = 0.017347 + 1.145710I$	$-6.86455 - 3.65797I$	0
$u = 0.071139 + 0.767821I$ $a = -0.766900 + 0.278980I$ $b = 0.414325 + 1.037240I$	$-0.71039 + 1.36487I$	$-6.45479 + 0.I$
$u = 0.071139 - 0.767821I$ $a = -0.766900 - 0.278980I$ $b = 0.414325 - 1.037240I$	$-0.71039 - 1.36487I$	$-6.45479 + 0.I$
$u = 1.225120 + 0.196206I$ $a = -0.734550 + 0.348848I$ $b = 0.663880 + 0.999341I$	$-0.04980 + 7.04998I$	0
$u = 1.225120 - 0.196206I$ $a = -0.734550 - 0.348848I$ $b = 0.663880 - 0.999341I$	$-0.04980 - 7.04998I$	0
$u = -0.527948 + 1.123740I$ $a = 0.720724 - 0.101032I$ $b = -0.139915 - 1.287900I$	$-4.36117 + 11.26390I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.527948 - 1.123740I$ $a = 0.720724 + 0.101032I$ $b = -0.139915 + 1.287900I$	$-4.36117 - 11.26390I$	0
$u = 0.040199 + 1.251880I$ $a = -0.974076 - 0.823210I$ $b = -0.177940 + 0.691389I$	$-0.72258 - 3.71661I$	0
$u = 0.040199 - 1.251880I$ $a = -0.974076 + 0.823210I$ $b = -0.177940 - 0.691389I$	$-0.72258 + 3.71661I$	0
$u = 0.151062 + 0.722891I$ $a = 1.43814 - 0.59435I$ $b = -0.484144 + 1.294440I$	$-2.51414 - 4.12934I$	$-16.4536 + 7.0812I$
$u = 0.151062 - 0.722891I$ $a = 1.43814 + 0.59435I$ $b = -0.484144 - 1.294440I$	$-2.51414 + 4.12934I$	$-16.4536 - 7.0812I$
$u = -0.641582 + 0.334485I$ $a = 0.157238 + 0.522437I$ $b = -0.703427 + 0.562473I$	$2.37369 + 3.13295I$	$-5.19542 - 2.99721I$
$u = -0.641582 - 0.334485I$ $a = 0.157238 - 0.522437I$ $b = -0.703427 - 0.562473I$	$2.37369 - 3.13295I$	$-5.19542 + 2.99721I$
$u = -0.092146 + 1.281900I$ $a = -1.13710 + 1.04294I$ $b = 0.542386 - 0.612790I$	$2.11803 + 1.48065I$	0
$u = -0.092146 - 1.281900I$ $a = -1.13710 - 1.04294I$ $b = 0.542386 + 0.612790I$	$2.11803 - 1.48065I$	0
$u = -0.301148 + 1.254700I$ $a = -1.19267 + 0.79638I$ $b = 1.046590 - 0.593449I$	$6.96547 + 6.35967I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.301148 - 1.254700I$ $a = -1.19267 - 0.79638I$ $b = 1.046590 + 0.593449I$	$6.96547 - 6.35967I$	0
$u = -0.066911 + 0.696541I$ $a = -2.64854 - 2.78771I$ $b = -0.335906 - 0.774807I$	$-0.521713 - 0.088016I$	$-14.1626 + 0.5129I$
$u = -0.066911 - 0.696541I$ $a = -2.64854 + 2.78771I$ $b = -0.335906 + 0.774807I$	$-0.521713 + 0.088016I$	$-14.1626 - 0.5129I$
$u = 0.294325 + 1.288810I$ $a = 1.145480 + 0.813247I$ $b = -0.966050 - 0.664872I$	$8.11911 - 1.05080I$	0
$u = 0.294325 - 1.288810I$ $a = 1.145480 - 0.813247I$ $b = -0.966050 + 0.664872I$	$8.11911 + 1.05080I$	0
$u = 0.341475 + 1.280630I$ $a = -1.90105 - 0.00872I$ $b = 0.602369 - 1.033590I$	$0.76201 - 6.19196I$	0
$u = 0.341475 - 1.280630I$ $a = -1.90105 + 0.00872I$ $b = 0.602369 + 1.033590I$	$0.76201 + 6.19196I$	0
$u = -0.796395 + 1.099760I$ $a = -1.39317 + 0.55781I$ $b = 0.680943 + 0.865093I$	$3.81397 + 2.16376I$	0
$u = -0.796395 - 1.099760I$ $a = -1.39317 - 0.55781I$ $b = 0.680943 - 0.865093I$	$3.81397 - 2.16376I$	0
$u = 0.423195 + 1.291600I$ $a = -1.82406 + 0.03051I$ $b = 0.763275 - 1.134570I$	$5.24553 - 12.87400I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.423195 - 1.291600I$ $a = -1.82406 - 0.03051I$ $b = 0.763275 + 1.134570I$	$5.24553 + 12.87400I$	0
$u = -0.414925 + 1.307140I$ $a = 1.82897 + 0.01688I$ $b = -0.763150 - 1.074800I$	$6.81555 + 7.35933I$	0
$u = -0.414925 - 1.307140I$ $a = 1.82897 - 0.01688I$ $b = -0.763150 + 1.074800I$	$6.81555 - 7.35933I$	0
$u = 0.193170 + 0.594552I$ $a = 0.740458 - 0.666529I$ $b = -0.098240 + 1.240000I$	$-2.62261 + 1.47478I$	$-15.3851 - 1.4664I$
$u = 0.193170 - 0.594552I$ $a = 0.740458 + 0.666529I$ $b = -0.098240 - 1.240000I$	$-2.62261 - 1.47478I$	$-15.3851 + 1.4664I$
$u = 0.655153 + 1.238030I$ $a = -0.453361 - 0.509072I$ $b = 0.676490 + 0.837280I$	$3.89800 + 3.07288I$	0
$u = 0.655153 - 1.238030I$ $a = -0.453361 + 0.509072I$ $b = 0.676490 - 0.837280I$	$3.89800 - 3.07288I$	0
$u = -0.287460 + 0.509167I$ $a = -1.030630 + 0.288101I$ $b = 0.294151 + 0.891432I$	$-0.56479 + 1.45174I$	$-5.69061 - 3.81457I$
$u = -0.287460 - 0.509167I$ $a = -1.030630 - 0.288101I$ $b = 0.294151 - 0.891432I$	$-0.56479 - 1.45174I$	$-5.69061 + 3.81457I$
$u = -0.150834 + 0.552483I$ $a = 0.224663 - 0.926766I$ $b = -0.284188 + 1.222330I$	$-2.60685 + 1.42151I$	$-15.3519 - 4.1761I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.150834 - 0.552483I$ $a = 0.224663 + 0.926766I$ $b = -0.284188 - 1.222330I$	$-2.60685 - 1.42151I$	$-15.3519 + 4.1761I$
$u = 0.52628 + 1.33490I$ $a = -0.952515 - 0.880427I$ $b = 0.959021 + 0.573110I$	$3.19983 - 13.23160I$	0
$u = 0.52628 - 1.33490I$ $a = -0.952515 + 0.880427I$ $b = 0.959021 - 0.573110I$	$3.19983 + 13.23160I$	0
$u = -0.53445 + 1.33597I$ $a = 0.888636 - 0.841711I$ $b = -0.909341 + 0.611982I$	$5.11042 + 7.48156I$	0
$u = -0.53445 - 1.33597I$ $a = 0.888636 + 0.841711I$ $b = -0.909341 - 0.611982I$	$5.11042 - 7.48156I$	0
$u = 0.74543 + 1.23902I$ $a = 1.57046 + 0.44108I$ $b = -0.703722 + 0.938834I$	$4.89450 - 8.45588I$	0
$u = 0.74543 - 1.23902I$ $a = 1.57046 - 0.44108I$ $b = -0.703722 - 0.938834I$	$4.89450 + 8.45588I$	0
$u = 0.551421 + 0.017870I$ $a = 0.19708 - 1.54303I$ $b = -0.397472 - 1.008780I$	$-3.11028 + 2.85114I$	$-15.0953 - 5.2463I$
$u = 0.551421 - 0.017870I$ $a = 0.19708 + 1.54303I$ $b = -0.397472 + 1.008780I$	$-3.11028 - 2.85114I$	$-15.0953 + 5.2463I$
$u = -0.39398 + 1.39456I$ $a = 1.74350 + 0.04414I$ $b = -0.712038 - 0.891443I$	$5.99648 + 3.81310I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.39398 - 1.39456I$ $a = 1.74350 - 0.04414I$ $b = -0.712038 + 0.891443I$	$5.99648 - 3.81310I$	0
$u = -0.60580 + 1.31894I$ $a = 0.637580 - 0.640539I$ $b = -0.739316 + 0.759070I$	$5.43801 + 2.96205I$	0
$u = -0.60580 - 1.31894I$ $a = 0.637580 + 0.640539I$ $b = -0.739316 - 0.759070I$	$5.43801 - 2.96205I$	0
$u = 0.52914 + 1.37088I$ $a = -0.941382 - 0.654409I$ $b = 0.754936 + 0.529073I$	$-1.28468 - 5.21244I$	0
$u = 0.52914 - 1.37088I$ $a = -0.941382 + 0.654409I$ $b = 0.754936 - 0.529073I$	$-1.28468 + 5.21244I$	0
$u = 0.24828 + 1.44950I$ $a = 1.118450 + 0.722661I$ $b = -0.731705 - 0.815881I$	$6.22710 + 1.68218I$	0
$u = 0.24828 - 1.44950I$ $a = 1.118450 - 0.722661I$ $b = -0.731705 + 0.815881I$	$6.22710 - 1.68218I$	0
$u = -0.59764 + 1.35597I$ $a = -1.89626 + 0.18431I$ $b = 0.727490 + 1.115030I$	$1.5129 + 19.3967I$	0
$u = -0.59764 - 1.35597I$ $a = -1.89626 - 0.18431I$ $b = 0.727490 - 1.115030I$	$1.5129 - 19.3967I$	0
$u = 0.62148 + 1.34536I$ $a = 1.84103 + 0.23572I$ $b = -0.725741 + 1.080140I$	$3.66188 - 13.51110I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.62148 - 1.34536I$ $a = 1.84103 - 0.23572I$ $b = -0.725741 - 1.080140I$	$3.66188 + 13.51110I$	0
$u = 0.45750 + 1.47072I$ $a = -1.59958 + 0.00596I$ $b = 0.683108 - 0.786787I$	$3.66093 + 1.77132I$	0
$u = 0.45750 - 1.47072I$ $a = -1.59958 - 0.00596I$ $b = 0.683108 + 0.786787I$	$3.66093 - 1.77132I$	0
$u = -0.427567 + 0.124510I$ $a = -1.27938 + 0.74577I$ $b = -0.520833 - 0.306625I$	$-0.410665 + 0.350990I$	$-9.14009 - 0.28858I$
$u = -0.427567 - 0.124510I$ $a = -1.27938 - 0.74577I$ $b = -0.520833 + 0.306625I$	$-0.410665 - 0.350990I$	$-9.14009 + 0.28858I$
$u = -0.67604 + 1.40424I$ $a = -1.68215 + 0.15655I$ $b = 0.650729 + 1.052630I$	$-2.80574 + 10.55840I$	0
$u = -0.67604 - 1.40424I$ $a = -1.68215 - 0.15655I$ $b = 0.650729 - 1.052630I$	$-2.80574 - 10.55840I$	0
$u = -1.54967 + 0.37438I$ $a = 0.769588 + 0.204123I$ $b = -0.577365 + 0.931964I$	$-6.61511 - 3.02974I$	0
$u = -1.54967 - 0.37438I$ $a = 0.769588 - 0.204123I$ $b = -0.577365 - 0.931964I$	$-6.61511 + 3.02974I$	0
$u = 1.60506 + 0.18152I$ $a = 0.884414 + 0.227938I$ $b = -0.545678 + 0.787014I$	$-6.11465 - 1.47265I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.60506 - 0.18152I$ $a = 0.884414 - 0.227938I$ $b = -0.545678 - 0.787014I$	$-6.11465 + 1.47265I$	0
$u = -0.33661 + 1.58852I$ $a = -1.030070 + 0.585576I$ $b = 0.672963 - 0.909232I$	$3.28785 - 7.00671I$	0
$u = -0.33661 - 1.58852I$ $a = -1.030070 - 0.585576I$ $b = 0.672963 + 0.909232I$	$3.28785 + 7.00671I$	0
$u = -0.373865$ $a = -0.539447$ $b = -0.335233$	-0.794733	-12.4810
$u = 0.336296 + 0.040421I$ $a = 1.66344 + 1.98608I$ $b = 0.711214 - 0.564146I$	$-1.12664 - 4.84437I$	$-10.81095 + 6.16099I$
$u = 0.336296 - 0.040421I$ $a = 1.66344 - 1.98608I$ $b = 0.711214 + 0.564146I$	$-1.12664 + 4.84437I$	$-10.81095 - 6.16099I$
$u = -0.108600 + 0.306225I$ $a = 1.42426 - 2.32937I$ $b = -0.564521 + 1.107430I$	$-2.48368 - 3.99664I$	$-14.3466 + 4.3294I$
$u = -0.108600 - 0.306225I$ $a = 1.42426 + 2.32937I$ $b = -0.564521 - 1.107430I$	$-2.48368 + 3.99664I$	$-14.3466 - 4.3294I$
$u = 0.171725 + 0.147653I$ $a = -0.47354 - 4.27439I$ $b = 0.677264 + 0.943220I$	$-2.15402 + 0.44006I$	$-13.51281 + 1.33837I$
$u = 0.171725 - 0.147653I$ $a = -0.47354 + 4.27439I$ $b = 0.677264 - 0.943220I$	$-2.15402 - 0.44006I$	$-13.51281 - 1.33837I$

II. $I_2^u = \langle -3au + b - 6a - 2u - 5,\ 18a^2 - 3au + 30a - 4u + 15,\ u^2 - 2\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a \\ 3au + 6a + 2u + 5 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2au - 4a - \frac{7}{6}u - \frac{8}{3} \\ 3au + 6a + 2u + 4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} au + 2a + \frac{5}{6}u + \frac{4}{3} \\ 3au + 6a + 2u + 4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{2}{3}au - a - \frac{4}{9}u + \frac{1}{9} \\ -3au - 4a - 2u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} au + 2a + \frac{5}{6}u + \frac{4}{3} \\ 3au + 6a + 2u + 4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{2}{3}a + \frac{1}{18}u - \frac{4}{9} \\ au + 2u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ 3u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} au + 2a - \frac{1}{6}u + \frac{4}{3} \\ 3au + 6a - u + 4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} au + \frac{2}{3}a - \frac{1}{18}u + \frac{4}{9} \\ 5au + 6a + 3u + 4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12au - 24a - 8u - 32$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u^2 - u + 1)^2$
c_3, c_5, c_8 c_{10}	$(u^2 - 2)^2$
c_4	$81(81u^4 + 54u^3 - 9u^2 - 6u + 7)$
c_6	$(u^2 + u + 1)^2$
c_7	$(u + 1)^4$
c_9	$81(81u^4 + 108u^3 + 72u^2 + 24u + 7)$
c_{11}	$(u + 2)^4$
c_{12}	$(u - 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6	$(y^2 + y + 1)^2$
c_3, c_5, c_8 c_{10}	$(y-2)^4$
c_4	$6561(6561y^4 - 4374y^3 + 1863y^2 - 162y + 49)$
c_7, c_{12}	$(y-1)^4$
c_9	$6561(6561y^4 + 1134y^2 + 432y + 49)$
c_{11}	$(y-4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.41421$ $a = -0.715482 + 0.084551I$ $b = 0.500000 + 0.866025I$	$-6.57974 + 2.02988I$	$-14.0000 - 3.4641I$
$u = 1.41421$ $a = -0.715482 - 0.084551I$ $b = 0.500000 - 0.866025I$	$-6.57974 - 2.02988I$	$-14.0000 + 3.4641I$
$u = -1.41421$ $a = -0.951184 + 0.492799I$ $b = 0.500000 + 0.866025I$	$-6.57974 + 2.02988I$	$-14.0000 - 3.4641I$
$u = -1.41421$ $a = -0.951184 - 0.492799I$ $b = 0.500000 - 0.866025I$	$-6.57974 - 2.02988I$	$-14.0000 + 3.4641I$

III. $I_1^v = \langle a,\ b - v,\ v^2 + v + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ v \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -v - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} v \\ v + 1 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -v \\ -v - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ -v - 1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0 \\ -v - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ -v - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4v - 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.500000 + 0.866025I$ $a = 0$ $b = -0.500000 + 0.866025I$	$-1.64493 - 2.02988I$	$-12.00000 + 3.46410I$
$v = -0.500000 - 0.866025I$ $a = 0$ $b = -0.500000 - 0.866025I$	$-1.64493 + 2.02988I$	$-12.00000 - 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^3)(u^{120}+44u^{119}+\cdots-3756u+289)$
c_2	$((u^2-u+1)^2)(u^2+u+1)(u^{120}-2u^{119}+\cdots+64u+17)$
c_3, c_8	$u^2(u^2-2)^2(u^{120}+u^{119}+\cdots+20u-4)$
c_4	$2313441(u^2-u+1)(81u^4+54u^3-9u^2-6u+7)$ $\cdot(28561u^{120}+43940u^{119}+\cdots-149875040u+19889425)$
c_5, c_{10}	$u^2(u^2-2)^2(u^{120}+u^{119}+\cdots-36u-4)$
c_6	$(u^2-u+1)(u^2+u+1)^2(u^{120}-2u^{119}+\cdots+64u+17)$
c_7	$((u-1)^2)(u+1)^4(u^{120}+3u^{119}+\cdots-495u-343)$
c_9	$2313441(u-1)^2(81u^4+108u^3+72u^2+24u+7)$ $\cdot(28561u^{120}+160381u^{119}+\cdots-9126759u-5810977)$
c_{11}	$u^2(u+2)^4(u^{120}+55u^{119}+\cdots+208u+16)$
c_{12}	$((u-1)^4)(u+1)^2(u^{120}+3u^{119}+\cdots-495u-343)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^3)(y^{120}+68y^{119}+\cdots-1.23886\times 10^7 y+83521)$
c_2, c_6	$((y^2+y+1)^3)(y^{120}+44y^{119}+\cdots-3756y+289)$
c_3, c_8	$y^2(y-2)^4(y^{120}+65y^{119}+\cdots+176y+16)$
c_4	$5352009260481(y^2+y+1)$ $\cdot(6561y^4-4374y^3+1863y^2-162y+49)$ $\cdot(8.16\times 10^8 y^{120}+3.97\times 10^{10}y^{119}+\cdots-1.14\times 10^{16}y+3.96\times 10^{14})$
c_5, c_{10}	$y^2(y-2)^4(y^{120}-55y^{119}+\cdots-208y+16)$
c_7, c_{12}	$((y-1)^6)(y^{120}-69y^{119}+\cdots-633301y+117649)$
c_9	$5352009260481(y-1)^2(6561y^4+1134y^2+432y+49)$ $\cdot(8.16\times 10^8 y^{120}+1.20\times 10^{10}y^{119}+\cdots-3.67\times 10^{14}y+3.38\times 10^{13})$
c_{11}	$y^2(y-4)^4(y^{120}+25y^{119}+\cdots-26880y+256)$