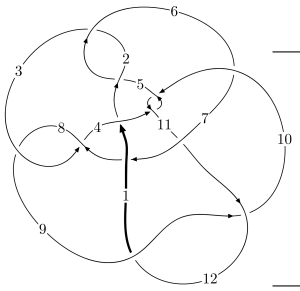
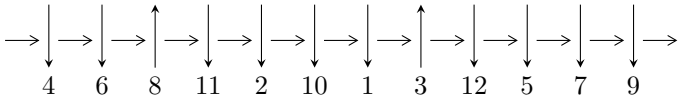
$12a_{0903}$ $(K12a_{0903})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 6.28945 \times 10^{1064} u^{172} + 1.31632 \times 10^{1064} u^{171} + \cdots + 1.81307 \times 10^{1066} b - 3.19196 \times 10^{1069}, \\
&\quad 3.68475 \times 10^{1069} u^{172} + 6.81125 \times 10^{1069} u^{171} + \cdots + 1.07575 \times 10^{1071} a + 1.11222 \times 10^{1074}, \\
&\quad u^{173} + u^{172} + \cdots + 818273u + 59333 \rangle \\
I_2^u &= \langle 3.81902 \times 10^{35} u^{44} - 2.24338 \times 10^{35} u^{43} + \cdots + 3.19337 \times 10^{33} b - 3.10619 \times 10^{35}, \\
&\quad - 5.69864 \times 10^{35} u^{44} - 7.52359 \times 10^{35} u^{43} + \cdots + 3.19337 \times 10^{33} a - 1.57081 \times 10^{36}, \\
&\quad u^{45} + 18u^{43} + \cdots + 17u^2 + 1 \rangle \\
I_3^u &= \langle b,\ u^3 - u^2 + a + u,\ u^4 + u^2 + u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 222 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. $\boldsymbol{I_1^u = \langle 6.29 \times 10^{1064} u^{172} + 1.32 \times 10^{1064} u^{171} + \cdots + 1.81 \times 10^{1066} b - 3.19 \times 10^{1069},\ 3.68 \times 10^{1069} u^{172} + 6.81 \times 10^{1069} u^{171} + \cdots + 1.08 \times 10^{1071} a + 1.11 \times 10^{1074},\ u^{173} + u^{172} + \cdots + 818273u + 59333 \rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -0.0342528u^{172} - 0.0633162u^{171} + \cdots - 15662.1u - 1033.90 \\ -0.0346895u^{172} - 0.00726018u^{171} + \cdots + 20161.3u + 1760.53 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0477650u^{172} - 0.0456886u^{171} + \cdots + 10111.1u + 992.107 \\ -0.0442190u^{172} - 0.00774286u^{171} + \cdots + 21255.2u + 1938.91 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0690865u^{172} - 0.132099u^{171} + \cdots - 88077.9u - 6249.36 \\ 0.0291113u^{172} + 0.00918828u^{171} + \cdots - 5126.00u - 626.952 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0689423u^{172} - 0.0705764u^{171} + \cdots + 4499.15u + 726.629 \\ -0.0346895u^{172} - 0.00726018u^{171} + \cdots + 20161.3u + 1760.53 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0189660u^{172} + 0.0100952u^{171} + \cdots + 34750.5u + 2620.23 \\ -0.0388657u^{172} - 0.00861547u^{171} + \cdots + 4918.24u + 697.500 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0402518u^{172} + 0.00362436u^{171} + \cdots - 27493.3u - 2377.65 \\ 0.109608u^{172} + 0.0254614u^{171} + \cdots - 91115.0u - 7455.54 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0427315u^{172} - 0.0298589u^{171} + \cdots - 92111.9u - 7144.99 \\ 0.0766791u^{172} - 0.0138396u^{171} + \cdots - 86901.4u - 6811.41 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.100360u^{172} + 0.0919849u^{171} + \cdots + 27574.0u + 1302.19 \\ 0.0174467u^{172} - 0.0184323u^{171} + \cdots - 59319.7u - 4407.27 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.354297u^{172} - 0.576879u^{171} + \cdots - 512725.u - 34786.1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{173} - 5u^{172} + \cdots + 34978845458u - 5461860410$
c_2, c_5	$u^{173} + 4u^{172} + \cdots + 7855501u + 378351$
c_3, c_8	$u^{173} + u^{172} + \cdots + 818273u + 59333$
c_4, c_{10}	$u^{173} - u^{172} + \cdots + 4515u + 3617$
c_6	$u^{173} + 8u^{172} + \cdots + 725366244u + 32903701$
c_7	$u^{173} + 2u^{172} + \cdots + 127844u + 7121$
c_9, c_{12}	$u^{173} - 8u^{172} + \cdots - 1082392u + 116112$
c_{11}	$u^{173} + 10u^{172} + \cdots + 22516u + 5257$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{173} - 57y^{172} + \cdots + 1.76 \times 10^{21}y - 2.98 \times 10^{19}$
c_2, c_5	$y^{173} - 84y^{172} + \cdots + 18389284184671y - 143149479201$
c_3, c_8	$y^{173} + 111y^{172} + \cdots - 76077907077y - 3520404889$
c_4, c_{10}	$y^{173} + 97y^{172} + \cdots - 638718983y - 13082689$
c_6	$y^{173} + 38y^{172} + \cdots + 138215553352212392y - 1082653539497401$
c_7	$y^{173} - 4y^{172} + \cdots - 4733202902y - 50708641$
c_9, c_{12}	$y^{173} + 120y^{172} + \cdots - 719338416320y - 13481996544$
c_{11}	$y^{173} + 4y^{172} + \cdots - 148893064y - 27636049$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.200695+0.983674I$ $a=\ \ 0.099596-1.101180I$ $b=-0.300391+0.865055I$	$-1.14533+1.31544I$	0
$u=-0.200695-0.983674I$ $a=\ \ 0.099596+1.101180I$ $b=-0.300391-0.865055I$	$-1.14533-1.31544I$	0
$u=\ \ 0.238962+0.976771I$ $a=-0.85300-1.75553I$ $b=\ \ 0.166763-1.275220I$	$1.45317+9.45174I$	0
$u=\ \ 0.238962-0.976771I$ $a=-0.85300+1.75553I$ $b=\ \ 0.166763+1.275220I$	$1.45317-9.45174I$	0
$u=\ \ 0.310932+0.937146I$ $a=-0.266639-1.322090I$ $b=\ \ 0.76410+1.60099I$	$2.30031+1.47617I$	0
$u=\ \ 0.310932-0.937146I$ $a=-0.266639+1.322090I$ $b=\ \ 0.76410-1.60099I$	$2.30031-1.47617I$	0
$u=\ \ 0.422422+0.944303I$ $a=-1.75931-1.00821I$ $b=\ \ 0.251193-1.248970I$	$2.98127+3.28924I$	0
$u=\ \ 0.422422-0.944303I$ $a=-1.75931+1.00821I$ $b=\ \ 0.251193+1.248970I$	$2.98127-3.28924I$	0
$u=\ \ 1.001610+0.259760I$ $a=-0.234073-0.456409I$ $b=-0.772152-0.286782I$	$-2.54970+2.40971I$	0
$u=\ \ 1.001610-0.259760I$ $a=-0.234073+0.456409I$ $b=-0.772152+0.286782I$	$-2.54970-2.40971I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.644326 + 0.717506I$ $a = -0.196592 - 0.236738I$ $b = 0.48186 + 1.36306I$	$4.48340 - 5.92423I$	0
$u = 0.644326 - 0.717506I$ $a = -0.196592 + 0.236738I$ $b = 0.48186 - 1.36306I$	$4.48340 + 5.92423I$	0
$u = -0.960899 + 0.053428I$ $a = -0.573354 - 0.300532I$ $b = 0.133195 - 0.911360I$	$-1.48764 + 1.19567I$	0
$u = -0.960899 - 0.053428I$ $a = -0.573354 + 0.300532I$ $b = 0.133195 + 0.911360I$	$-1.48764 - 1.19567I$	0
$u = -0.422732 + 0.858394I$ $a = 2.59637 - 0.57540I$ $b = -0.070848 - 1.196950I$	$3.46056 - 6.65815I$	0
$u = -0.422732 - 0.858394I$ $a = 2.59637 + 0.57540I$ $b = -0.070848 + 1.196950I$	$3.46056 + 6.65815I$	0
$u = 0.538570 + 0.895585I$ $a = -2.20809 + 0.16514I$ $b = 0.68648 - 1.23900I$	$3.93045 + 10.55550I$	0
$u = 0.538570 - 0.895585I$ $a = -2.20809 - 0.16514I$ $b = 0.68648 + 1.23900I$	$3.93045 - 10.55550I$	0
$u = 0.123622 + 0.946070I$ $a = -0.413155 + 0.378308I$ $b = -0.10101 - 1.69525I$	$-0.063851 - 0.587563I$	0
$u = 0.123622 - 0.946070I$ $a = -0.413155 - 0.378308I$ $b = -0.10101 + 1.69525I$	$-0.063851 + 0.587563I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.260715+1.013100I$ $a=\ \ 0.112130+1.016630I$ $b=\ \ 0.42334-1.92998I$	$1.40101-6.53069I$	0
$u=-0.260715-1.013100I$ $a=\ \ 0.112130-1.016630I$ $b=\ \ 0.42334+1.92998I$	$1.40101+6.53069I$	0
$u=-0.484556+0.937692I$ $a=\ \ 1.25963-1.03608I$ $b=-0.829834+0.213422I$	$-2.59855-2.68466I$	0
$u=-0.484556-0.937692I$ $a=\ \ 1.25963+1.03608I$ $b=-0.829834-0.213422I$	$-2.59855+2.68466I$	0
$u=-0.241499+1.030300I$ $a=\ \ 2.18143+1.49276I$ $b=-0.040701-1.056610I$	$4.74593+0.10675I$	0
$u=-0.241499-1.030300I$ $a=\ \ 2.18143-1.49276I$ $b=-0.040701+1.056610I$	$4.74593-0.10675I$	0
$u=-0.940511+0.041481I$ $a=-0.054074-0.608164I$ $b=\ \ 0.851988-0.060783I$	$-0.22897-9.03529I$	0
$u=-0.940511-0.041481I$ $a=-0.054074+0.608164I$ $b=\ \ 0.851988+0.060783I$	$-0.22897+9.03529I$	0
$u=-0.320339+1.010070I$ $a=\ \ 1.94948+0.50565I$ $b=-0.69852-1.53386I$	$-0.27735-7.08476I$	0
$u=-0.320339-1.010070I$ $a=\ \ 1.94948-0.50565I$ $b=-0.69852+1.53386I$	$-0.27735+7.08476I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.168961 + 0.922551I$ $a = 1.75791 - 1.25810I$ $b = -0.54516 + 1.34894I$	$-0.12681 + 1.91606I$	0
$u = 0.168961 - 0.922551I$ $a = 1.75791 + 1.25810I$ $b = -0.54516 - 1.34894I$	$-0.12681 - 1.91606I$	0
$u = -0.179170 + 0.916415I$ $a = 0.527452 - 1.173700I$ $b = -0.173887 - 1.340160I$	$-0.26861 - 4.57877I$	0
$u = -0.179170 - 0.916415I$ $a = 0.527452 + 1.173700I$ $b = -0.173887 + 1.340160I$	$-0.26861 + 4.57877I$	0
$u = 1.065240 + 0.105937I$ $a = -0.264381 + 0.425510I$ $b = 0.332949 + 1.307200I$	$6.92967 - 7.56473I$	0
$u = 1.065240 - 0.105937I$ $a = -0.264381 - 0.425510I$ $b = 0.332949 - 1.307200I$	$6.92967 + 7.56473I$	0
$u = -0.334971 + 1.021610I$ $a = -1.71258 - 0.81682I$ $b = 0.63493 + 1.27867I$	$5.54370 - 6.15762I$	0
$u = -0.334971 - 1.021610I$ $a = -1.71258 + 0.81682I$ $b = 0.63493 - 1.27867I$	$5.54370 + 6.15762I$	0
$u = -0.613604 + 0.689976I$ $a = 1.212130 - 0.573384I$ $b = -0.343083 - 1.275000I$	$2.48008 - 5.65404I$	0
$u = -0.613604 - 0.689976I$ $a = 1.212130 + 0.573384I$ $b = -0.343083 + 1.275000I$	$2.48008 + 5.65404I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.855720+0.326054I$ $a=\ \ 0.026482+0.562497I$ $b=-0.345573+1.304350I$	$3.32095+3.55947I$	0
$u=-0.855720-0.326054I$ $a=\ \ 0.026482-0.562497I$ $b=-0.345573-1.304350I$	$3.32095-3.55947I$	0
$u=\ \ 0.498419+0.974019I$ $a=-1.148720-0.460274I$ $b=\ \ 1.052800+0.012207I$	$0.074828-0.437307I$	0
$u=\ \ 0.498419-0.974019I$ $a=-1.148720+0.460274I$ $b=\ \ 1.052800-0.012207I$	$0.074828+0.437307I$	0
$u=-0.853207+0.703439I$ $a=\ \ 0.441272-1.151180I$ $b=-0.003260-0.896503I$	$-2.17995-0.03180I$	0
$u=-0.853207-0.703439I$ $a=\ \ 0.441272+1.151180I$ $b=-0.003260+0.896503I$	$-2.17995+0.03180I$	0
$u=\ \ 0.435294+1.025140I$ $a=-1.80123+0.22678I$ $b=\ \ 0.134550-1.053260I$	$1.51146+2.82649I$	0
$u=\ \ 0.435294-1.025140I$ $a=-1.80123-0.22678I$ $b=\ \ 0.134550+1.053260I$	$1.51146-2.82649I$	0
$u=\ \ 0.670930+0.899795I$ $a=-1.45134-0.83472I$ $b=\ \ 0.028957-0.888822I$	$-0.97851+4.44415I$	0
$u=\ \ 0.670930-0.899795I$ $a=-1.45134+0.83472I$ $b=\ \ 0.028957+0.888822I$	$-0.97851-4.44415I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.207523 + 0.844878I$ $a = -0.736815 - 0.346037I$ $b = 0.218523 + 0.270180I$	$-0.614594 + 1.120450I$	0
$u = 0.207523 - 0.844878I$ $a = -0.736815 + 0.346037I$ $b = 0.218523 - 0.270180I$	$-0.614594 - 1.120450I$	0
$u = -0.085049 + 0.861726I$ $a = -0.27790 + 2.38839I$ $b = 0.012082 + 1.306460I$	$5.73234 - 1.49184I$	0
$u = -0.085049 - 0.861726I$ $a = -0.27790 - 2.38839I$ $b = 0.012082 - 1.306460I$	$5.73234 + 1.49184I$	0
$u = 0.356815 + 1.077960I$ $a = 1.37784 + 0.60863I$ $b = -0.754663 - 0.739240I$	$-3.80490 + 5.05102I$	0
$u = 0.356815 - 1.077960I$ $a = 1.37784 - 0.60863I$ $b = -0.754663 + 0.739240I$	$-3.80490 - 5.05102I$	0
$u = -0.246800 + 0.818439I$ $a = -2.16972 - 1.12059I$ $b = -0.122048 + 0.942351I$	$-0.15321 + 2.55823I$	0
$u = -0.246800 - 0.818439I$ $a = -2.16972 + 1.12059I$ $b = -0.122048 - 0.942351I$	$-0.15321 - 2.55823I$	0
$u = -0.530803 + 0.669522I$ $a = -0.343924 + 1.198740I$ $b = -0.097619 + 1.346350I$	$3.94899 + 2.73718I$	0
$u = -0.530803 - 0.669522I$ $a = -0.343924 - 1.198740I$ $b = -0.097619 - 1.346350I$	$3.94899 - 2.73718I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.409556 + 1.087370I$ $a = -0.939268 - 0.715361I$ $b = 0.599246 + 0.029607I$	$-0.901550 + 0.201664I$	0
$u = 0.409556 - 1.087370I$ $a = -0.939268 + 0.715361I$ $b = 0.599246 - 0.029607I$	$-0.901550 - 0.201664I$	0
$u = -0.660910 + 0.498160I$ $a = 0.076156 + 0.293628I$ $b = -0.405297 + 1.312040I$	$2.58653 + 3.21002I$	0
$u = -0.660910 - 0.498160I$ $a = 0.076156 - 0.293628I$ $b = -0.405297 - 1.312040I$	$2.58653 - 3.21002I$	0
$u = -0.824688 + 0.041380I$ $a = 0.350309 - 0.198605I$ $b = 0.238297 - 1.284210I$	$8.72034 + 2.85639I$	0
$u = -0.824688 - 0.041380I$ $a = 0.350309 + 0.198605I$ $b = 0.238297 + 1.284210I$	$8.72034 - 2.85639I$	0
$u = -0.338746 + 1.124780I$ $a = 1.46946 - 0.46557I$ $b = -1.025100 - 0.095171I$	$-4.00976 - 3.22158I$	0
$u = -0.338746 - 1.124780I$ $a = 1.46946 + 0.46557I$ $b = -1.025100 + 0.095171I$	$-4.00976 + 3.22158I$	0
$u = 0.209148 + 0.788172I$ $a = 3.54030 - 1.24576I$ $b = 0.100915 + 0.957619I$	$2.13521 - 7.36293I$	0
$u = 0.209148 - 0.788172I$ $a = 3.54030 + 1.24576I$ $b = 0.100915 - 0.957619I$	$2.13521 + 7.36293I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.127461 + 0.793359I$ $a = -2.62023 + 0.52773I$ $b = 1.31779 - 0.97993I$	$3.15145 + 0.80560I$	0
$u = 0.127461 - 0.793359I$ $a = -2.62023 - 0.52773I$ $b = 1.31779 + 0.97993I$	$3.15145 - 0.80560I$	0
$u = -0.557566 + 1.061750I$ $a = 2.01247 - 0.01070I$ $b = -0.54909 - 1.30517I$	$0.87998 - 7.95213I$	0
$u = -0.557566 - 1.061750I$ $a = 2.01247 + 0.01070I$ $b = -0.54909 + 1.30517I$	$0.87998 + 7.95213I$	0
$u = -0.227290 + 1.187560I$ $a = -1.238130 + 0.223788I$ $b = 1.266090 - 0.276373I$	$0.61509 - 1.69849I$	0
$u = -0.227290 - 1.187560I$ $a = -1.238130 - 0.223788I$ $b = 1.266090 + 0.276373I$	$0.61509 + 1.69849I$	0
$u = 1.104280 + 0.500833I$ $a = 0.063186 + 0.284522I$ $b = 0.349743 + 1.261070I$	$6.43258 + 1.18806I$	0
$u = 1.104280 - 0.500833I$ $a = 0.063186 - 0.284522I$ $b = 0.349743 - 1.261070I$	$6.43258 - 1.18806I$	0
$u = 0.087792 + 1.221130I$ $a = 1.48908 + 0.01988I$ $b = -0.917086 - 0.312089I$	$-6.85187 - 1.31367I$	0
$u = 0.087792 - 1.221130I$ $a = 1.48908 - 0.01988I$ $b = -0.917086 + 0.312089I$	$-6.85187 + 1.31367I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.071941+0.758354I$ $a=-0.517613+0.422829I$ $b=\ \ 0.32648-1.58765I$	$7.12191+4.10850I$	0
$u=-0.071941-0.758354I$ $a=-0.517613-0.422829I$ $b=\ \ 0.32648+1.58765I$	$7.12191-4.10850I$	0
$u=\ \ 0.745995+0.050959I$ $a=\ \ 0.562755-0.324699I$ $b=-0.253876+0.973620I$	$0.43657+5.36144I$	0
$u=\ \ 0.745995-0.050959I$ $a=\ \ 0.562755+0.324699I$ $b=-0.253876-0.973620I$	$0.43657-5.36144I$	0
$u=-0.474991+0.573714I$ $a=\ \ 0.754700-0.492005I$ $b=-0.866988+0.010804I$	$-1.58424-1.32895I$	0
$u=-0.474991-0.573714I$ $a=\ \ 0.754700+0.492005I$ $b=-0.866988-0.010804I$	$-1.58424+1.32895I$	0
$u=\ \ 0.305676+0.674389I$ $a=\ \ 1.90054+1.10104I$ $b=\ \ 0.091763+0.934171I$	$3.96341+0.13008I$	0
$u=\ \ 0.305676-0.674389I$ $a=\ \ 1.90054-1.10104I$ $b=\ \ 0.091763-0.934171I$	$3.96341-0.13008I$	0
$u=-1.229450+0.274632I$ $a=-0.132934-0.351115I$ $b=\ \ 0.483565-1.276640I$	$3.5038+13.9482I$	0
$u=-1.229450-0.274632I$ $a=-0.132934+0.351115I$ $b=\ \ 0.483565+1.276640I$	$3.5038-13.9482I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.738935 + 0.004935I$ $a = -0.237717 - 0.346243I$ $b = 0.732019 + 0.194067I$	$2.30380 - 3.73845I$	0
$u = 0.738935 - 0.004935I$ $a = -0.237717 + 0.346243I$ $b = 0.732019 - 0.194067I$	$2.30380 + 3.73845I$	0
$u = -0.404016 + 1.196830I$ $a = -1.022220 + 0.660966I$ $b = 0.522328 - 0.666856I$	$-6.15538 - 2.82090I$	0
$u = -0.404016 - 1.196830I$ $a = -1.022220 - 0.660966I$ $b = 0.522328 + 0.666856I$	$-6.15538 + 2.82090I$	0
$u = 1.240100 + 0.283101I$ $a = 0.017428 - 0.400823I$ $b = -0.512978 - 1.232960I$	$0.47355 - 7.35038I$	0
$u = 1.240100 - 0.283101I$ $a = 0.017428 + 0.400823I$ $b = -0.512978 + 1.232960I$	$0.47355 + 7.35038I$	0
$u = -0.469930 + 1.184400I$ $a = 1.43331 - 0.38913I$ $b = -1.38628 - 0.78182I$	$-4.41328 - 4.25579I$	0
$u = -0.469930 - 1.184400I$ $a = 1.43331 + 0.38913I$ $b = -1.38628 + 0.78182I$	$-4.41328 + 4.25579I$	0
$u = 0.768558 + 1.025240I$ $a = 0.740627 + 0.847959I$ $b = -0.211472 + 1.084880I$	$-1.24097 + 1.24830I$	0
$u = 0.768558 - 1.025240I$ $a = 0.740627 - 0.847959I$ $b = -0.211472 - 1.084880I$	$-1.24097 - 1.24830I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.421731 + 1.210240I$ $a = -1.38555 - 0.37015I$ $b = 1.034760 - 0.096329I$	$-1.25793 + 7.96082I$	0
$u = 0.421731 - 1.210240I$ $a = -1.38555 + 0.37015I$ $b = 1.034760 + 0.096329I$	$-1.25793 - 7.96082I$	0
$u = 0.566667 + 0.426889I$ $a = -0.143626 + 0.891339I$ $b = -0.043334 + 1.193820I$	$3.26579 + 1.23038I$	0
$u = 0.566667 - 0.426889I$ $a = -0.143626 - 0.891339I$ $b = -0.043334 - 1.193820I$	$3.26579 - 1.23038I$	0
$u = -0.093799 + 1.288260I$ $a = -0.196977 + 0.498006I$ $b = 0.102480 + 0.362124I$	$0.79234 - 1.20515I$	0
$u = -0.093799 - 1.288260I$ $a = -0.196977 - 0.498006I$ $b = 0.102480 - 0.362124I$	$0.79234 + 1.20515I$	0
$u = -0.235970 + 1.277440I$ $a = -1.228590 + 0.093576I$ $b = 0.718964 - 0.342749I$	$-7.54215 - 3.33495I$	0
$u = -0.235970 - 1.277440I$ $a = -1.228590 - 0.093576I$ $b = 0.718964 + 0.342749I$	$-7.54215 + 3.33495I$	0
$u = 0.452791 + 1.219170I$ $a = 1.76997 - 0.54548I$ $b = -0.449426 + 0.923660I$	$-3.18337 + 9.72897I$	0
$u = 0.452791 - 1.219170I$ $a = 1.76997 + 0.54548I$ $b = -0.449426 - 0.923660I$	$-3.18337 - 9.72897I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.155310+0.681341I$ $a=-2.71157-1.48800I$ $b=\ \ 0.83711+1.28982I$	$2.60834+4.36467I$	0
$u=-0.155310-0.681341I$ $a=-2.71157+1.48800I$ $b=\ \ 0.83711-1.28982I$	$2.60834-4.36467I$	0
$u=\ \ 0.622580+0.268911I$ $a=-0.031280-1.279900I$ $b=\ \ 0.670895+0.364613I$	$1.86821+4.69853I$	0
$u=\ \ 0.622580-0.268911I$ $a=-0.031280+1.279900I$ $b=\ \ 0.670895-0.364613I$	$1.86821-4.69853I$	0
$u=-0.539470+1.208070I$ $a=\ \ 1.67994+0.09619I$ $b=-0.51534-1.36848I$	$0.50906-8.74544I$	0
$u=-0.539470-1.208070I$ $a=\ \ 1.67994-0.09619I$ $b=-0.51534+1.36848I$	$0.50906+8.74544I$	0
$u=-0.508783+1.244480I$ $a=-1.73514-0.12564I$ $b=\ \ 0.346063+1.001060I$	$-5.10435-6.34939I$	0
$u=-0.508783-1.244480I$ $a=-1.73514+0.12564I$ $b=\ \ 0.346063-1.001060I$	$-5.10435+6.34939I$	0
$u=-0.150835+0.636696I$ $a=-1.42656-0.80774I$ $b=-0.17056+1.47314I$	$1.19705+4.57627I$	0
$u=-0.150835-0.636696I$ $a=-1.42656+0.80774I$ $b=-0.17056-1.47314I$	$1.19705-4.57627I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.676169 + 1.164640I$ $a = -1.51599 - 0.07557I$ $b = 0.51482 - 1.33239I$	$4.21518 + 5.09215I$	0
$u = 0.676169 - 1.164640I$ $a = -1.51599 + 0.07557I$ $b = 0.51482 + 1.33239I$	$4.21518 - 5.09215I$	0
$u = -0.642741 + 0.105210I$ $a = -0.683194 - 0.305909I$ $b = -0.608616 + 0.192143I$	$-1.321030 - 0.064493I$	0
$u = -0.642741 - 0.105210I$ $a = -0.683194 + 0.305909I$ $b = -0.608616 - 0.192143I$	$-1.321030 + 0.064493I$	0
$u = 0.529523 + 1.242600I$ $a = -0.025929 + 0.658243I$ $b = -0.176103 - 0.644974I$	$-2.77113 - 0.56813I$	0
$u = 0.529523 - 1.242600I$ $a = -0.025929 - 0.658243I$ $b = -0.176103 + 0.644974I$	$-2.77113 + 0.56813I$	0
$u = -0.486828 + 1.279600I$ $a = -1.243130 + 0.448606I$ $b = 1.290310 - 0.010475I$	$-4.2131 - 14.0503I$	0
$u = -0.486828 - 1.279600I$ $a = -1.243130 - 0.448606I$ $b = 1.290310 + 0.010475I$	$-4.2131 + 14.0503I$	0
$u = 0.409076 + 1.312490I$ $a = 1.234840 + 0.399237I$ $b = -1.42303 - 0.01913I$	$-7.35314 + 7.04313I$	0
$u = 0.409076 - 1.312490I$ $a = 1.234840 - 0.399237I$ $b = -1.42303 + 0.01913I$	$-7.35314 - 7.04313I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.306342 + 1.342840I$ $a = 1.31931 - 0.59248I$ $b = -0.481739 + 1.134850I$	$-4.27706 + 3.68192I$	0
$u = 0.306342 - 1.342840I$ $a = 1.31931 + 0.59248I$ $b = -0.481739 - 1.134850I$	$-4.27706 - 3.68192I$	0
$u = -0.414163 + 1.315930I$ $a = -0.520616 + 0.166712I$ $b = 0.296976 - 0.411062I$	$-6.01706 - 3.73980I$	0
$u = -0.414163 - 1.315930I$ $a = -0.520616 - 0.166712I$ $b = 0.296976 + 0.411062I$	$-6.01706 + 3.73980I$	0
$u = 0.40367 + 1.35756I$ $a = 0.356320 - 0.311474I$ $b = -0.134546 - 0.181562I$	$-2.95619 + 8.33098I$	0
$u = 0.40367 - 1.35756I$ $a = 0.356320 + 0.311474I$ $b = -0.134546 + 0.181562I$	$-2.95619 - 8.33098I$	0
$u = 0.09312 + 1.41611I$ $a = 0.664038 + 0.253307I$ $b = -0.767317 - 0.746931I$	$-6.64780 - 2.46565I$	0
$u = 0.09312 - 1.41611I$ $a = 0.664038 - 0.253307I$ $b = -0.767317 + 0.746931I$	$-6.64780 + 2.46565I$	0
$u = 0.57734 + 1.29880I$ $a = -1.57448 + 0.13744I$ $b = 0.49684 - 1.36344I$	$3.25669 + 13.38450I$	0
$u = 0.57734 - 1.29880I$ $a = -1.57448 - 0.13744I$ $b = 0.49684 + 1.36344I$	$3.25669 - 13.38450I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.71841+1.23226I$ $a=-1.104550+0.357117I$ $b=\ \ 0.260548+1.087990I$	$-4.01079-6.25159I$	0
$u=-0.71841-1.23226I$ $a=-1.104550-0.357117I$ $b=\ \ 0.260548-1.087990I$	$-4.01079+6.25159I$	0
$u=\ \ 0.338197+0.436937I$ $a=\ \ 1.78655-0.87316I$ $b=-0.656670+0.282557I$	$-1.84234-1.99545I$	0
$u=\ \ 0.338197-0.436937I$ $a=\ \ 1.78655+0.87316I$ $b=-0.656670-0.282557I$	$-1.84234+1.99545I$	0
$u=-0.60451+1.32699I$ $a=-1.254220-0.054545I$ $b=\ \ 0.67460+1.35632I$	$4.12011-8.54585I$	0
$u=-0.60451-1.32699I$ $a=-1.254220+0.054545I$ $b=\ \ 0.67460-1.35632I$	$4.12011+8.54585I$	0
$u=-0.49457+1.38585I$ $a=-0.889022+0.323729I$ $b=\ \ 0.761462+0.684158I$	$-4.24582+3.57433I$	0
$u=-0.49457-1.38585I$ $a=-0.889022-0.323729I$ $b=\ \ 0.761462-0.684158I$	$-4.24582-3.57433I$	0
$u=\ \ 0.65270+1.31995I$ $a=\ \ 1.43202+0.05432I$ $b=-0.62746+1.42216I$	$-2.9143+13.9641I$	0
$u=\ \ 0.65270-1.31995I$ $a=\ \ 1.43202-0.05432I$ $b=-0.62746-1.42216I$	$-2.9143-13.9641I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.507676+0.141344I$ $a=-2.05228-0.37222I$ $b=\ \ 0.356699+0.298984I$	$-2.86841-0.82807I$	$0.+8.79471I$
$u=-0.507676-0.141344I$ $a=-2.05228+0.37222I$ $b=\ \ 0.356699-0.298984I$	$-2.86841+0.82807I$	$0.-8.79471I$
$u=-0.66683+1.31444I$ $a=-1.50920+0.02825I$ $b=\ \ 0.60120+1.40467I$	$0.1709-20.5807I$	0
$u=-0.66683-1.31444I$ $a=-1.50920-0.02825I$ $b=\ \ 0.60120-1.40467I$	$0.1709+20.5807I$	0
$u=-1.44089+0.34583I$ $a=\ \ 0.144320-0.276778I$ $b=\ \ 0.442281-0.996689I$	$7.88970+1.76253I$	0
$u=-1.44089-0.34583I$ $a=\ \ 0.144320+0.276778I$ $b=\ \ 0.442281+0.996689I$	$7.88970-1.76253I$	0
$u=-0.46028+1.41728I$ $a=-1.256740-0.338955I$ $b=\ \ 0.395751+1.124070I$	$-5.11618-7.48246I$	0
$u=-0.46028-1.41728I$ $a=-1.256740+0.338955I$ $b=\ \ 0.395751-1.124070I$	$-5.11618+7.48246I$	0
$u=-0.500402$ $a=-0.136223$ $b=-0.605024$	-0.994718	-9.62290
$u=\ \ 0.55581+1.40235I$ $a=\ \ 1.005280+0.197330I$ $b=-0.903456+1.004650I$	$-6.18479+3.83257I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.55581 - 1.40235I$ $a = 1.005280 - 0.197330I$ $b = -0.903456 - 1.004650I$	$-6.18479 - 3.83257I$	0
$u = -0.03898 + 1.59444I$ $a = -0.454801 + 0.242071I$ $b = 0.504232 - 0.821944I$	$-3.72758 + 8.46324I$	0
$u = -0.03898 - 1.59444I$ $a = -0.454801 - 0.242071I$ $b = 0.504232 + 0.821944I$	$-3.72758 - 8.46324I$	0
$u = 0.84577 + 1.38737I$ $a = 0.834223 + 0.079314I$ $b = -0.256121 + 1.141020I$	$-0.13172 + 10.50580I$	0
$u = 0.84577 - 1.38737I$ $a = 0.834223 - 0.079314I$ $b = -0.256121 - 1.141020I$	$-0.13172 - 10.50580I$	0
$u = 1.42804 + 0.89885I$ $a = 0.277593 + 0.091444I$ $b = -0.082743 + 1.055710I$	$2.38474 - 0.72465I$	0
$u = 1.42804 - 0.89885I$ $a = 0.277593 - 0.091444I$ $b = -0.082743 - 1.055710I$	$2.38474 + 0.72465I$	0
$u = -0.145703 + 0.108995I$ $a = 4.43512 - 2.00976I$ $b = 0.456618 + 0.451128I$	$3.77260 - 0.21833I$	$-0.90363 + 2.02273I$
$u = -0.145703 - 0.108995I$ $a = 4.43512 + 2.00976I$ $b = 0.456618 - 0.451128I$	$3.77260 + 0.21833I$	$-0.90363 - 2.02273I$
$u = -1.36879 + 1.54721I$ $a = -0.144850 - 0.068651I$ $b = -0.068323 + 1.045680I$	$1.215440 - 0.488757I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.36879-1.54721I$ $a=-0.144850+0.068651I$ $b=-0.068323-1.045680I$	$1.215440+0.488757I$	0
$u=\ \ 0.91488+2.58528I$ $a=-0.154193+0.119329I$ $b=\ \ 0.029677-1.000980I$	$1.79971-0.49368I$	0
$u=\ \ 0.91488-2.58528I$ $a=-0.154193-0.119329I$ $b=\ \ 0.029677+1.000980I$	$1.79971+0.49368I$	0

II. $I_2^u = \langle 3.82 \times 10^{35} u^{44} - 2.24 \times 10^{35} u^{43} + \cdots + 3.19 \times 10^{33} b - 3.11 \times 10^{35},\ -5.70 \times 10^{35} u^{44} - 7.52 \times 10^{35} u^{43} + \cdots + 3.19 \times 10^{33} a - 1.57 \times 10^{36},\ u^{45} + 18u^{43} + \cdots + 17u^2 + 1 \rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} 178.452u^{44} + 235.600u^{43} + \cdots + 224.715u + 491.898 \\ -119.592u^{44} + 70.2511u^{43} + \cdots - 297.619u + 97.2698 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 87.8966u^{44} + 214.629u^{43} + \cdots + 41.6191u + 436.646 \\ -167.160u^{44} + 58.9590u^{43} + \cdots - 390.159u + 62.9891 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -378.801u^{44} - 193.864u^{43} + \cdots - 418.016u - 239.904 \\ -94.4082u^{44} + 12.8675u^{43} + \cdots - 126.115u + 36.6309 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 58.8598u^{44} + 305.851u^{43} + \cdots - 72.9041u + 589.168 \\ -119.592u^{44} + 70.2511u^{43} + \cdots - 297.619u + 97.2698 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 10.7299u^{44} - 104.791u^{43} + \cdots + 24.6221u - 299.847 \\ 111.146u^{44} + 32.8745u^{43} + \cdots + 226.531u + 101.034 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -103.776u^{44} + 93.5402u^{43} + \cdots - 293.170u + 177.786 \\ -255.143u^{44} + 14.3061u^{43} + \cdots - 605.994u - 60.4676 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -510.740u^{44} + 36.5039u^{43} + \cdots - 859.830u - 22.3988 \\ -172.219u^{44} - 20.0526u^{43} + \cdots - 377.660u - 96.0545 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 149.656u^{44} - 444.054u^{43} + \cdots + 333.745u - 872.884 \\ -38.7622u^{44} - 168.898u^{43} + \cdots + 29.6870u - 319.402 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -464.099u^{44} - 372.350u^{43} + \cdots + 93.1415u - 584.709$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{45} - 9u^{44} + \cdots + 212u - 23$
c_2	$u^{45} + 7u^{44} + \cdots - 7u - 1$
c_3	$u^{45} + 18u^{43} + \cdots - 17u^2 - 1$
c_4	$u^{45} + 15u^{43} + \cdots - 10u^2 - 1$
c_5	$u^{45} - 7u^{44} + \cdots - 7u + 1$
c_6	$u^{45} + u^{44} + \cdots + 19u - 7$
c_7	$u^{45} + 5u^{44} + \cdots + 4u^2 - 7$
c_8	$u^{45} + 18u^{43} + \cdots + 17u^2 + 1$
c_9	$u^{45} - 3u^{44} + \cdots + 1907u - 257$
c_{10}	$u^{45} + 15u^{43} + \cdots + 10u^2 + 1$
c_{11}	$u^{45} - 15u^{44} + \cdots - 12u + 1$
c_{12}	$u^{45} + 3u^{44} + \cdots + 1907u + 257$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{45} - 13y^{44} + \cdots - 49310y - 529$
c_2, c_5	$y^{45} - 13y^{44} + \cdots + 41y - 1$
c_3, c_8	$y^{45} + 36y^{44} + \cdots - 34y - 1$
c_4, c_{10}	$y^{45} + 30y^{44} + \cdots - 20y - 1$
c_6	$y^{45} + 7y^{44} + \cdots - 1081y - 49$
c_7	$y^{45} + 19y^{44} + \cdots + 56y - 49$
c_9, c_{12}	$y^{45} + 39y^{44} + \cdots - 413157y - 66049$
c_{11}	$y^{45} - 9y^{44} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.311947 + 1.005490I$ $a = -0.901531 + 0.410668I$ $b = 0.11117 - 1.65625I$	$0.72353 + 6.83072I$	0
$u = 0.311947 - 1.005490I$ $a = -0.901531 - 0.410668I$ $b = 0.11117 + 1.65625I$	$0.72353 - 6.83072I$	0
$u = -0.224559 + 1.028720I$ $a = 0.925330 - 0.289558I$ $b = -0.834180 + 0.533341I$	$1.74862 - 0.66737I$	0
$u = -0.224559 - 1.028720I$ $a = 0.925330 + 0.289558I$ $b = -0.834180 - 0.533341I$	$1.74862 + 0.66737I$	0
$u = 0.382831 + 0.838903I$ $a = -1.61107 - 1.35168I$ $b = 0.590407 + 0.391439I$	$-2.48215 + 3.85489I$	$-11.86897 - 5.48024I$
$u = 0.382831 - 0.838903I$ $a = -1.61107 + 1.35168I$ $b = 0.590407 - 0.391439I$	$-2.48215 - 3.85489I$	$-11.86897 + 5.48024I$
$u = -0.148473 + 0.867814I$ $a = 2.44688 + 0.55554I$ $b = -0.883783 - 0.846143I$	$2.71828 - 0.92347I$	$-11.51658 + 3.63819I$
$u = -0.148473 - 0.867814I$ $a = 2.44688 - 0.55554I$ $b = -0.883783 + 0.846143I$	$2.71828 + 0.92347I$	$-11.51658 - 3.63819I$
$u = 0.527046 + 1.039650I$ $a = -2.11232 - 0.01431I$ $b = 0.51228 - 1.33613I$	$1.09167 + 8.38621I$	0
$u = 0.527046 - 1.039650I$ $a = -2.11232 + 0.01431I$ $b = 0.51228 + 1.33613I$	$1.09167 - 8.38621I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.597880 + 0.578287I$ $a = 0.204471 + 0.380212I$ $b = 0.38686 + 1.37043I$	$2.53310 - 3.92810I$	$-5.57688 + 6.97404I$
$u = 0.597880 - 0.578287I$ $a = 0.204471 - 0.380212I$ $b = 0.38686 - 1.37043I$	$2.53310 + 3.92810I$	$-5.57688 - 6.97404I$
$u = -0.365895 + 1.187550I$ $a = -1.133760 + 0.520185I$ $b = 0.458109 - 0.616629I$	$-6.09607 - 3.24527I$	0
$u = -0.365895 - 1.187550I$ $a = -1.133760 - 0.520185I$ $b = 0.458109 + 0.616629I$	$-6.09607 + 3.24527I$	0
$u = 0.075537 + 0.742971I$ $a = 2.43336 - 1.42764I$ $b = -0.51589 + 1.46968I$	$2.35293 - 4.72878I$	$-7.32352 + 10.73388I$
$u = 0.075537 - 0.742971I$ $a = 2.43336 + 1.42764I$ $b = -0.51589 - 1.46968I$	$2.35293 + 4.72878I$	$-7.32352 - 10.73388I$
$u = 0.012323 + 0.725477I$ $a = 1.11428 + 2.96007I$ $b = -0.045032 + 1.267830I$	$6.09467 + 1.19408I$	$5.53377 + 2.24144I$
$u = 0.012323 - 0.725477I$ $a = 1.11428 - 2.96007I$ $b = -0.045032 - 1.267830I$	$6.09467 - 1.19408I$	$5.53377 - 2.24144I$
$u = 0.508449 + 1.179060I$ $a = -1.333690 - 0.460508I$ $b = 1.31485 - 0.76491I$	$-4.45142 + 4.06524I$	0
$u = 0.508449 - 1.179060I$ $a = -1.333690 + 0.460508I$ $b = 1.31485 + 0.76491I$	$-4.45142 - 4.06524I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.517444+1.175710I$ $a=\ \ 1.48713+0.19969I$ $b=-0.67166-1.31826I$	$4.42284-7.28143I$	0
$u=-0.517444-1.175710I$ $a=\ \ 1.48713-0.19969I$ $b=-0.67166+1.31826I$	$4.42284+7.28143I$	0
$u=\ \ 0.402942+0.573753I$ $a=-0.190259-0.843176I$ $b=\ \ 0.780945+0.177630I$	$-2.34795+0.38519I$	$-15.5976+0.7071I$
$u=\ \ 0.402942-0.573753I$ $a=-0.190259+0.843176I$ $b=\ \ 0.780945-0.177630I$	$-2.34795-0.38519I$	$-15.5976-0.7071I$
$u=-0.133588+0.644566I$ $a=\ \ 3.21375-2.23896I$ $b=-0.282676-1.134760I$	$2.41396-8.42156I$	$-5.49306+9.88582I$
$u=-0.133588-0.644566I$ $a=\ \ 3.21375+2.23896I$ $b=-0.282676+1.134760I$	$2.41396+8.42156I$	$-5.49306-9.88582I$
$u=-1.349700+0.292584I$ $a=-0.221393+0.269343I$ $b=-0.398071+1.021000I$	$8.05735+1.60538I$	0
$u=-1.349700-0.292584I$ $a=-0.221393-0.269343I$ $b=-0.398071-1.021000I$	$8.05735-1.60538I$	0
$u=-0.484219+1.294460I$ $a=-1.62041-0.30155I$ $b=\ \ 0.321288+1.070220I$	$-4.58785-6.46596I$	0
$u=-0.484219-1.294460I$ $a=-1.62041+0.30155I$ $b=\ \ 0.321288-1.070220I$	$-4.58785+6.46596I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.613159$ $a=-1.14070$ $b=\ \ 0.395940$	-3.04383	-13.7690
$u=-0.344109+0.493889I$ $a=-1.33055-0.75763I$ $b=\ \ 0.067469+1.407320I$	$1.17564-1.47139I$	$-6.48411+3.94277I$
$u=-0.344109-0.493889I$ $a=-1.33055+0.75763I$ $b=\ \ 0.067469-1.407320I$	$1.17564+1.47139I$	$-6.48411-3.94277I$
$u=-0.127196+0.583593I$ $a=\ \ 0.520823-0.910794I$ $b=-0.33562+1.53080I$	$7.46926+4.12451I$	$6.07487-3.10116I$
$u=-0.127196-0.583593I$ $a=\ \ 0.520823+0.910794I$ $b=-0.33562-1.53080I$	$7.46926-4.12451I$	$6.07487+3.10116I$
$u=-0.51090+1.36135I$ $a=-1.006210+0.152292I$ $b=\ \ 0.774114+0.599024I$	$-6.55348-5.31075I$	0
$u=-0.51090-1.36135I$ $a=-1.006210-0.152292I$ $b=\ \ 0.774114-0.599024I$	$-6.55348+5.31075I$	0
$u=\ \ 0.45763+1.38922I$ $a=\ \ 0.957977-0.614190I$ $b=-0.256485+0.889747I$	$-2.00496+9.21402I$	0
$u=\ \ 0.45763-1.38922I$ $a=\ \ 0.957977+0.614190I$ $b=-0.256485-0.889747I$	$-2.00496-9.21402I$	0
$u=\ \ 0.253820+0.443798I$ $a=-0.96382-2.69812I$ $b=\ \ 0.261629-1.218920I$	$0.73359+3.98093I$	$-7.23789-3.23916I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.253820 - 0.443798I$ $a = -0.96382 + 2.69812I$ $b = \quad 0.261629 + 1.218920I$	$0.73359 - 3.98093I$	$-7.23789 + 3.23916I$
$u = -0.20551 + 1.57096I$ $a = -0.062707 - 0.141295I$ $b = -0.089804 + 0.886493I$	$1.41951 - 0.76619I$	0
$u = -0.20551 - 1.57096I$ $a = -0.062707 + 0.141295I$ $b = -0.089804 - 0.886493I$	$1.41951 + 0.76619I$	0
$u = \quad 1.18778 + 2.10321I$ $a = -0.245919 + 0.046111I$ $b = \quad 0.036113 - 1.007070I$	$1.89527 - 0.51966I$	0
$u = \quad 1.18778 - 2.10321I$ $a = -0.245919 - 0.046111I$ $b = \quad 0.036113 + 1.007070I$	$1.89527 + 0.51966I$	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^3 - u^2 - u - 17$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^4 - 5y^3 + 10y^2 - 9y + 4$
c_2, c_5, c_7 c_{11}	$(y-1)^4$
c_3, c_4, c_8 c_{10}	$y^4 + 2y^3 + 3y^2 + y + 1$
c_6	$y^4 + 2y^3 + 7y^2 + 5y + 1$
c_9, c_{12}	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.547424+0.585652I$ $a=\ 0.10488-1.55249I$ $b=\ 0$	-3.28987	$-16.8085-0.2701I$
$u=-0.547424-0.585652I$ $a=\ 0.10488+1.55249I$ $b=\ 0$	-3.28987	$-16.8085+0.2701I$
$u=\ 0.547424+1.120870I$ $a=\ 0.395123+0.506844I$ $b=\ 0$	-3.28987	$-14.6915-1.9475I$
$u=\ 0.547424-1.120870I$ $a=\ 0.395123-0.506844I$ $b=\ 0$	-3.28987	$-14.6915+1.9475I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^4-u^3-2u^2+u+2)(u^{45}-9u^{44}+\cdots+212u-23)$ $\cdot(u^{173}-5u^{172}+\cdots+34978845458u-5461860410)$
c_2	$((u-1)^4)(u^{45}+7u^{44}+\cdots-7u-1)$ $\cdot(u^{173}+4u^{172}+\cdots+7855501u+378351)$
c_3	$(u^4+u^2-u+1)(u^{45}+18u^{43}+\cdots-17u^2-1)$ $\cdot(u^{173}+u^{172}+\cdots+818273u+59333)$
c_4	$(u^4+u^2-u+1)(u^{45}+15u^{43}+\cdots-10u^2-1)$ $\cdot(u^{173}-u^{172}+\cdots+4515u+3617)$
c_5	$((u+1)^4)(u^{45}-7u^{44}+\cdots-7u+1)$ $\cdot(u^{173}+4u^{172}+\cdots+7855501u+378351)$
c_6	$(u^4-2u^3+3u^2-u+1)(u^{45}+u^{44}+\cdots+19u-7)$ $\cdot(u^{173}+8u^{172}+\cdots+725366244u+32903701)$
c_7	$((u-1)^4)(u^{45}+5u^{44}+\cdots+4u^2-7)$ $\cdot(u^{173}+2u^{172}+\cdots+127844u+7121)$
c_8	$(u^4+u^2+u+1)(u^{45}+18u^{43}+\cdots+17u^2+1)$ $\cdot(u^{173}+u^{172}+\cdots+818273u+59333)$
c_9	$u^4(u^{45}-3u^{44}+\cdots+1907u-257)$ $\cdot(u^{173}-8u^{172}+\cdots-1082392u+116112)$
c_{10}	$(u^4+u^2+u+1)(u^{45}+15u^{43}+\cdots+10u^2+1)$ $\cdot(u^{173}-u^{172}+\cdots+4515u+3617)$
c_{11}	$((u+1)^4)(u^{45}-15u^{44}+\cdots-12u+1)$ $\cdot(u^{173}+10u^{172}+\cdots+22516u+5257)$
c_{12}	$u^4(u^{45}+3u^{44}+\cdots+1907u+257)$ $\cdot(u^{173}-8u^{172}+\cdots-1082392u+116112)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^4-5y^3+10y^2-9y+4)(y^{45}-13y^{44}+\cdots-49310y-529)$ $\cdot(y^{173}-57y^{172}+\cdots+1.76\times10^{21}y-2.98\times10^{19})$
c_2, c_5	$((y-1)^4)(y^{45}-13y^{44}+\cdots+41y-1)$ $\cdot(y^{173}-84y^{172}+\cdots+18389284184671y-143149479201)$
c_3, c_8	$(y^4+2y^3+3y^2+y+1)(y^{45}+36y^{44}+\cdots-34y-1)$ $\cdot(y^{173}+111y^{172}+\cdots-76077907077y-3520404889)$
c_4, c_{10}	$(y^4+2y^3+3y^2+y+1)(y^{45}+30y^{44}+\cdots-20y-1)$ $\cdot(y^{173}+97y^{172}+\cdots-638718983y-13082689)$
c_6	$(y^4+2y^3+7y^2+5y+1)(y^{45}+7y^{44}+\cdots-1081y-49)$ $\cdot(y^{173}+38y^{172}+\cdots+138215553352212392y-1082653539497401)$
c_7	$((y-1)^4)(y^{45}+19y^{44}+\cdots+56y-49)$ $\cdot(y^{173}-4y^{172}+\cdots-4733202902y-50708641)$
c_9, c_{12}	$y^4(y^{45}+39y^{44}+\cdots-413157y-66049)$ $\cdot(y^{173}+120y^{172}+\cdots-719338416320y-13481996544)$
c_{11}	$((y-1)^4)(y^{45}-9y^{44}+\cdots-2y-1)$ $\cdot(y^{173}+4y^{172}+\cdots-148893064y-27636049)$