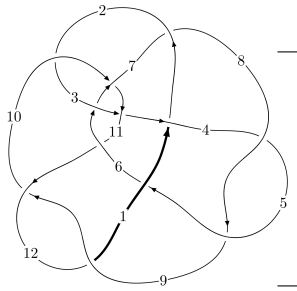
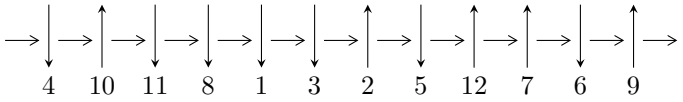
$12a_{1190}$ $(K12a_{1190})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.49146 \times 10^{1687} u^{177} - 5.62173 \times 10^{1687} u^{176} + \cdots + 1.88308 \times 10^{1688} b + 1.61526 \times 10^{1688},$$
$$- 1.19578 \times 10^{1688} u^{177} - 6.33495 \times 10^{1688} u^{176} + \cdots + 1.12985 \times 10^{1689} a + 1.06401 \times 10^{1690},$$
$$u^{178} + 4u^{177} + \cdots - 21u - 2 \rangle$$
$$I_2^u = \langle 8.62429 \times 10^{50} u^{36} - 4.71449 \times 10^{51} u^{35} + \cdots + 1.82706 \times 10^{52} b + 2.16797 \times 10^{52},$$
$$1.72012 \times 10^{53} u^{36} + 7.10407 \times 10^{53} u^{35} + \cdots + 5.48117 \times 10^{52} a - 3.27600 \times 10^{53},\ u^{37} + 4u^{36} + \cdots - 6u^2 -$$
$$I_3^u = \langle b + 1,\ 4a + u + 1,\ u^2 - u + 2 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 217 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. $\boldsymbol{I_1^u = \langle -1.49 \times 10^{1687} u^{177} - 5.62 \times 10^{1687} u^{176} + \cdots + 1.88 \times 10^{1688} b + 1.62 \times 10^{1688},\ -1.20 \times 10^{1688} u^{177} - 6.33 \times 10^{1688} u^{176} + \cdots + 1.13 \times 10^{1689} a + 1.06 \times 10^{1690},\ u^{178} + 4u^{177} + \cdots - 21u - 2 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 0.105836u^{177} + 0.560692u^{176} + \cdots - 11.6907u - 9.41733 \\ 0.0792032u^{177} + 0.298540u^{176} + \cdots - 2.76824u - 0.857776 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0122961u^{177} + 0.233061u^{176} + \cdots - 12.0185u - 8.83425 \\ 0.0760799u^{177} + 0.295925u^{176} + \cdots - 3.55824u - 0.950832 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0266326u^{177} + 0.262152u^{176} + \cdots - 8.92250u - 8.55956 \\ 0.0792032u^{177} + 0.298540u^{176} + \cdots - 2.76824u - 0.857776 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.618581u^{177} - 2.17190u^{176} + \cdots + 52.4006u - 0.0257066 \\ 0.176218u^{177} + 0.737382u^{176} + \cdots - 15.0884u - 2.55881 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.253660u^{177} - 1.02149u^{176} + \cdots + 36.8667u + 0.0634775 \\ 0.0754801u^{177} + 0.277632u^{176} + \cdots - 5.33836u - 0.844349 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.255051u^{177} - 0.664552u^{176} + \cdots + 20.5289u - 5.22424 \\ 0.187312u^{177} + 0.769967u^{176} + \cdots - 14.7832u - 2.63972 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.88497u^{177} - 7.51745u^{176} + \cdots + 117.974u + 36.5488 \\ -0.0838975u^{177} - 0.335890u^{176} + \cdots + 3.14355u + 2.04874 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.49126u^{177} - 5.42814u^{176} + \cdots + 74.4212u + 10.7835 \\ 0.115106u^{177} + 0.483065u^{176} + \cdots - 15.3748u - 3.80923 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3.15788u^{177} - 12.2043u^{176} + \cdots + 131.418u + 44.7856 \\ -0.0801125u^{177} - 0.334446u^{176} + \cdots + 9.90154u - 0.107285 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.02479u^{177} - 4.33367u^{176} + \cdots + 42.2180u + 7.71517$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{178} + 9u^{177} + \cdots + 195424u + 17789$
c_2	$u^{178} + 2u^{177} + \cdots - 7960u - 317$
c_3	$u^{178} + 6u^{176} + \cdots - 666u + 48$
c_4, c_8	$u^{178} - 2u^{177} + \cdots + 4446u + 507$
c_5	$2(2u^{178} - 3u^{177} + \cdots + 4.56520 \times 10^9 u - 3.41074 \times 10^8)$
c_6	$2(2u^{178} + 23u^{177} + \cdots + 219u - 47)$
c_7	$2(2u^{178} + 5u^{177} + \cdots + 4.04930 \times 10^9 u - 1.45266 \times 10^9)$
c_9, c_{12}	$u^{178} - 5u^{177} + \cdots + 127105u - 5687$
c_{10}	$u^{178} - 4u^{177} + \cdots + 21u - 2$
c_{11}	$u^{178} + 15u^{176} + \cdots + 9533823u - 3520214$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{178} - 23y^{177} + \cdots - 39074546342y + 316448521$
c_2	$y^{178} + 34y^{177} + \cdots + 2079880y + 100489$
c_3	$y^{178} + 12y^{177} + \cdots - 194916y + 2304$
c_4, c_8	$y^{178} - 150y^{177} + \cdots - 14609712y + 257049$
c_5	$4(4y^{178} - 237y^{177} + \cdots - 8.57880 \times 10^{18}y + 1.16331 \times 10^{17})$
c_6	$4(4y^{178} + 71y^{177} + \cdots + 137783y + 2209)$
c_7	$4(4y^{178} + 355y^{177} + \cdots - 6.10451 \times 10^{19}y + 2.11024 \times 10^{18})$
c_9, c_{12}	$y^{178} + 143y^{177} + \cdots - 4213128887y + 32341969$
c_{10}	$y^{178} + 6y^{177} + \cdots - 37y + 4$
c_{11}	$y^{178} + 30y^{177} + \cdots + 1544048546344095y + 12391906605796$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.334212 + 0.921829I$ $a = 0.233673 + 0.436254I$ $b = 1.28299 + 0.87450I$	$-2.98454 + 3.17441I$	0
$u = 0.334212 - 0.921829I$ $a = 0.233673 - 0.436254I$ $b = 1.28299 - 0.87450I$	$-2.98454 - 3.17441I$	0
$u = -0.745003 + 0.636120I$ $a = -0.330882 - 0.000632I$ $b = -1.243140 + 0.263859I$	$-1.55990 - 0.68923I$	0
$u = -0.745003 - 0.636120I$ $a = -0.330882 + 0.000632I$ $b = -1.243140 - 0.263859I$	$-1.55990 + 0.68923I$	0
$u = -0.040993 + 0.976650I$ $a = 1.45231 + 0.61687I$ $b = 0.160668 + 0.593015I$	$-9.37899 + 8.52499I$	0
$u = -0.040993 - 0.976650I$ $a = 1.45231 - 0.61687I$ $b = 0.160668 - 0.593015I$	$-9.37899 - 8.52499I$	0
$u = -0.810180 + 0.521711I$ $a = 0.44071 + 1.77226I$ $b = -0.818838 + 0.394494I$	$0.69328 - 6.97464I$	0
$u = -0.810180 - 0.521711I$ $a = 0.44071 - 1.77226I$ $b = -0.818838 - 0.394494I$	$0.69328 + 6.97464I$	0
$u = 0.762016 + 0.704658I$ $a = 0.054773 - 1.091680I$ $b = -0.89039 - 1.33047I$	$-1.70044 + 5.23899I$	0
$u = 0.762016 - 0.704658I$ $a = 0.054773 + 1.091680I$ $b = -0.89039 + 1.33047I$	$-1.70044 - 5.23899I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.686190 + 0.670809I$ $a = 0.07203 + 1.54734I$ $b = 0.715833 + 0.994636I$	$4.02978 + 4.45479I$	0
$u = 0.686190 - 0.670809I$ $a = 0.07203 - 1.54734I$ $b = 0.715833 - 0.994636I$	$4.02978 - 4.45479I$	0
$u = -0.058178 + 1.047940I$ $a = -0.72673 - 1.29867I$ $b = -0.171733 - 0.729843I$	$-6.21858 + 1.49415I$	0
$u = -0.058178 - 1.047940I$ $a = -0.72673 + 1.29867I$ $b = -0.171733 + 0.729843I$	$-6.21858 - 1.49415I$	0
$u = 0.891438 + 0.303280I$ $a = 0.144617 + 0.478241I$ $b = 0.95751 + 1.41048I$	$-0.98017 + 5.40898I$	0
$u = 0.891438 - 0.303280I$ $a = 0.144617 - 0.478241I$ $b = 0.95751 - 1.41048I$	$-0.98017 - 5.40898I$	0
$u = 0.746027 + 0.542943I$ $a = -0.05512 + 1.62056I$ $b = 0.473762 + 0.548739I$	$4.13240 + 4.10945I$	0
$u = 0.746027 - 0.542943I$ $a = -0.05512 - 1.62056I$ $b = 0.473762 - 0.548739I$	$4.13240 - 4.10945I$	0
$u = -0.850751 + 0.661025I$ $a = -0.068350 - 1.222040I$ $b = 0.65745 - 1.60237I$	$-3.62487 - 6.33004I$	0
$u = -0.850751 - 0.661025I$ $a = -0.068350 + 1.222040I$ $b = 0.65745 + 1.60237I$	$-3.62487 + 6.33004I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.622228+0.669833I$ $a=\ \ 0.24634-1.79404I$ $b=\ \ 0.984915-0.684501I$	$1.21927-1.57710I$	0
$u=-0.622228-0.669833I$ $a=\ \ 0.24634+1.79404I$ $b=\ \ 0.984915+0.684501I$	$1.21927+1.57710I$	0
$u=-0.740383+0.527956I$ $a=-0.137296+0.673777I$ $b=-0.738608+0.385350I$	$1.35575-0.91115I$	0
$u=-0.740383-0.527956I$ $a=-0.137296-0.673777I$ $b=-0.738608-0.385350I$	$1.35575+0.91115I$	0
$u=-0.847296+0.689743I$ $a=-0.091334+1.185800I$ $b=-1.002850+0.637421I$	$2.74103-1.16411I$	0
$u=-0.847296-0.689743I$ $a=-0.091334-1.185800I$ $b=-1.002850-0.637421I$	$2.74103+1.16411I$	0
$u=\ \ 0.900439+0.641713I$ $a=-0.139740-1.325770I$ $b=-1.161380-0.198914I$	$-0.95493-3.01964I$	0
$u=\ \ 0.900439-0.641713I$ $a=-0.139740+1.325770I$ $b=-1.161380+0.198914I$	$-0.95493+3.01964I$	0
$u=-0.104953+0.885622I$ $a=-0.490710+0.757787I$ $b=\ \ 0.594836+0.880721I$	$-5.90764-2.67081I$	0
$u=-0.104953-0.885622I$ $a=-0.490710-0.757787I$ $b=\ \ 0.594836-0.880721I$	$-5.90764+2.67081I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.026249+0.888683I$		
$a=$	$0.66956+1.68413I$	$-9.51815-2.04707I$	0
$b=$	$0.146894+1.365680I$		
$u=$	$0.026249-0.888683I$		
$a=$	$0.66956-1.68413I$	$-9.51815+2.04707I$	0
$b=$	$0.146894-1.365680I$		
$u=$	$-0.882202+0.108564I$		
$a=$	$0.125725+0.628410I$	$2.84041+0.34314I$	0
$b=$	$0.35205+1.50690I$		
$u=$	$-0.882202-0.108564I$		
$a=$	$0.125725-0.628410I$	$2.84041-0.34314I$	0
$b=$	$0.35205-1.50690I$		
$u=$	$0.373609+0.804667I$		
$a=$	$1.40089-0.26878I$	$-2.81218-0.84469I$	0
$b=$	$0.178737-0.679089I$		
$u=$	$0.373609-0.804667I$		
$a=$	$1.40089+0.26878I$	$-2.81218+0.84469I$	0
$b=$	$0.178737+0.679089I$		
$u=$	$1.014590+0.500312I$		
$a=$	$-0.128840-0.713116I$	$-0.79329+4.77627I$	0
$b=$	$-0.042097-0.799859I$		
$u=$	$1.014590-0.500312I$		
$a=$	$-0.128840+0.713116I$	$-0.79329-4.77627I$	0
$b=$	$-0.042097+0.799859I$		
$u=$	$-0.004895+0.866487I$		
$a=$	$-0.029943+1.333020I$	$-8.97747-0.92900I$	0
$b=$	$-0.43283+2.21565I$		
$u=$	$-0.004895-0.866487I$		
$a=$	$-0.029943-1.333020I$	$-8.97747+0.92900I$	0
$b=$	$-0.43283-2.21565I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.068500 + 0.419249I$ $a = 0.462573 + 0.427802I$ $b = 0.604436 - 0.274096I$	$-1.51647 - 3.23333I$	0
$u = 1.068500 - 0.419249I$ $a = 0.462573 - 0.427802I$ $b = 0.604436 + 0.274096I$	$-1.51647 + 3.23333I$	0
$u = 0.803606 + 0.278642I$ $a = -0.113056 - 0.843541I$ $b = -0.86706 - 1.54573I$	$0.15715 + 5.57475I$	0
$u = 0.803606 - 0.278642I$ $a = -0.113056 + 0.843541I$ $b = -0.86706 + 1.54573I$	$0.15715 - 5.57475I$	0
$u = -0.457898 + 1.070530I$ $a = -0.799381 + 0.318504I$ $b = 0.268664 - 0.031011I$	$-6.40919 - 2.24652I$	0
$u = -0.457898 - 1.070530I$ $a = -0.799381 - 0.318504I$ $b = 0.268664 + 0.031011I$	$-6.40919 + 2.24652I$	0
$u = 0.979172 + 0.638211I$ $a = 0.082470 - 0.867185I$ $b = -0.043878 - 0.593158I$	$-2.72043 + 3.29733I$	0
$u = 0.979172 - 0.638211I$ $a = 0.082470 + 0.867185I$ $b = -0.043878 + 0.593158I$	$-2.72043 - 3.29733I$	0
$u = -0.105893 + 0.822995I$ $a = 1.51430 - 1.24007I$ $b = 0.216066 - 0.362818I$	$-3.50598 - 3.00741I$	0
$u = -0.105893 - 0.822995I$ $a = 1.51430 + 1.24007I$ $b = 0.216066 + 0.362818I$	$-3.50598 + 3.00741I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.343790 + 0.745651I$ $a = 1.31346 - 1.16903I$ $b = -0.576134 - 0.962220I$	$-3.75421 + 7.16872I$	0
$u = 0.343790 - 0.745651I$ $a = 1.31346 + 1.16903I$ $b = -0.576134 + 0.962220I$	$-3.75421 - 7.16872I$	0
$u = -0.311853 + 0.738750I$ $a = 0.006552 - 0.649861I$ $b = 1.58343 - 0.79986I$	$-7.60302 - 3.01581I$	0
$u = -0.311853 - 0.738750I$ $a = 0.006552 + 0.649861I$ $b = 1.58343 + 0.79986I$	$-7.60302 + 3.01581I$	0
$u = -0.958218 + 0.735244I$ $a = -0.016518 - 1.242670I$ $b = 0.883485 - 0.449570I$	$1.89547 - 7.39104I$	0
$u = -0.958218 - 0.735244I$ $a = -0.016518 + 1.242670I$ $b = 0.883485 + 0.449570I$	$1.89547 + 7.39104I$	0
$u = 0.451192 + 0.650407I$ $a = -1.43950 - 0.76410I$ $b = 0.052954 + 0.366216I$	$-2.41955 + 0.71912I$	0
$u = 0.451192 - 0.650407I$ $a = -1.43950 + 0.76410I$ $b = 0.052954 - 0.366216I$	$-2.41955 - 0.71912I$	0
$u = 0.233709 + 0.752714I$ $a = -0.294268 + 0.231661I$ $b = -1.92818 + 0.48005I$	$-7.96554 + 5.30716I$	0
$u = 0.233709 - 0.752714I$ $a = -0.294268 - 0.231661I$ $b = -1.92818 - 0.48005I$	$-7.96554 - 5.30716I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.369275+0.684904I$ $a=-2.16033-1.06749I$ $b=\ \ 0.337282-0.974381I$	$-8.1559-12.4260I$	0
$u=-0.369275-0.684904I$ $a=-2.16033+1.06749I$ $b=\ \ 0.337282+0.974381I$	$-8.1559+12.4260I$	0
$u=-0.289753+0.714871I$ $a=\ \ 1.21884+1.10953I$ $b=-0.420309+0.695206I$	$0.42760-3.05593I$	0
$u=-0.289753-0.714871I$ $a=\ \ 1.21884-1.10953I$ $b=-0.420309-0.695206I$	$0.42760+3.05593I$	0
$u=\ \ 1.017850+0.750031I$ $a=\ \ 0.192237-1.294550I$ $b=-1.241900-0.513435I$	$-2.28027+11.98210I$	0
$u=\ \ 1.017850-0.750031I$ $a=\ \ 0.192237+1.294550I$ $b=-1.241900+0.513435I$	$-2.28027-11.98210I$	0
$u=-0.636803+0.356058I$ $a=-0.166679+0.742241I$ $b=-1.54205+1.81664I$	$-6.50405-11.29230I$	0
$u=-0.636803-0.356058I$ $a=-0.166679-0.742241I$ $b=-1.54205-1.81664I$	$-6.50405+11.29230I$	0
$u=-0.938845+0.872728I$ $a=-0.728210-0.190853I$ $b=-0.118241-0.343414I$	$-4.93549-0.39758I$	0
$u=-0.938845-0.872728I$ $a=-0.728210+0.190853I$ $b=-0.118241+0.343414I$	$-4.93549+0.39758I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.213788 + 0.647931I$ $a = -2.15061 + 1.72336I$ $b = 0.250649 + 0.755443I$	$-2.64277 + 6.59049I$	0
$u = 0.213788 - 0.647931I$ $a = -2.15061 - 1.72336I$ $b = 0.250649 - 0.755443I$	$-2.64277 - 6.59049I$	0
$u = 0.023270 + 1.330420I$ $a = -0.504926 + 0.269297I$ $b = -0.879521 + 0.293844I$	$2.16910 - 0.46767I$	0
$u = 0.023270 - 1.330420I$ $a = -0.504926 - 0.269297I$ $b = -0.879521 - 0.293844I$	$2.16910 + 0.46767I$	0
$u = -0.739465 + 1.107800I$ $a = -0.039825 - 0.846487I$ $b = 0.69742 - 1.73940I$	$-9.19212 - 5.51724I$	0
$u = -0.739465 - 1.107800I$ $a = -0.039825 + 0.846487I$ $b = 0.69742 + 1.73940I$	$-9.19212 + 5.51724I$	0
$u = -0.696323 + 1.172930I$ $a = -0.391900 + 1.120840I$ $b = -1.05057 + 1.24701I$	$-7.79155 - 10.71950I$	0
$u = -0.696323 - 1.172930I$ $a = -0.391900 - 1.120840I$ $b = -1.05057 - 1.24701I$	$-7.79155 + 10.71950I$	0
$u = -0.611470 + 0.135088I$ $a = -0.31378 + 3.50662I$ $b = -0.284235 - 0.986431I$	$-5.50473 + 0.54606I$	0
$u = -0.611470 - 0.135088I$ $a = -0.31378 - 3.50662I$ $b = -0.284235 + 0.986431I$	$-5.50473 - 0.54606I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.623724+1.224210I$ $a=\ \ 0.057014-0.827040I$ $b=\ \ 0.93610-1.11760I$	$-9.32855-4.54793I$	0
$u=-0.623724-1.224210I$ $a=\ \ 0.057014+0.827040I$ $b=\ \ 0.93610+1.11760I$	$-9.32855+4.54793I$	0
$u=\ \ 0.942466+1.002480I$ $a=-0.079452-0.950627I$ $b=-0.68322-1.26020I$	$-2.85055+5.46001I$	0
$u=\ \ 0.942466-1.002480I$ $a=-0.079452+0.950627I$ $b=-0.68322+1.26020I$	$-2.85055-5.46001I$	0
$u=-0.025189+0.613974I$ $a=-0.286756-1.239350I$ $b=\ \ 1.20632-2.25259I$	$-8.02992+10.67250I$	0
$u=-0.025189-0.613974I$ $a=-0.286756+1.239350I$ $b=\ \ 1.20632+2.25259I$	$-8.02992-10.67250I$	0
$u=-0.536660+0.278337I$ $a=-0.325262+1.107840I$ $b=-1.139290+0.355944I$	$1.47019-1.35952I$	0
$u=-0.536660-0.278337I$ $a=-0.325262-1.107840I$ $b=-1.139290-0.355944I$	$1.47019+1.35952I$	0
$u=\ \ 1.392650+0.133667I$ $a=\ \ 0.392177+0.332039I$ $b=-0.384591-0.306923I$	$-1.63563+0.90103I$	0
$u=\ \ 1.392650-0.133667I$ $a=\ \ 0.392177-0.332039I$ $b=-0.384591+0.306923I$	$-1.63563-0.90103I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.669687+1.229820I$ $a=\ \ 0.160923-0.340522I$ $b=\ \ 1.03910-1.09455I$	$-6.03822-3.94197I$	0
$u=-0.669687-1.229820I$ $a=\ \ 0.160923+0.340522I$ $b=\ \ 1.03910+1.09455I$	$-6.03822+3.94197I$	0
$u=\ \ 0.869272+1.098820I$ $a=-0.178082-1.124710I$ $b=-1.21941-1.13440I$	$-3.05106+10.00260I$	0
$u=\ \ 0.869272-1.098820I$ $a=-0.178082+1.124710I$ $b=-1.21941+1.13440I$	$-3.05106-10.00260I$	0
$u=\ \ 0.087151+0.580876I$ $a=\ \ 0.12321-1.85816I$ $b=-0.60964-1.80477I$	$-4.33834-0.44727I$	0
$u=\ \ 0.087151-0.580876I$ $a=\ \ 0.12321+1.85816I$ $b=-0.60964+1.80477I$	$-4.33834+0.44727I$	0
$u=-0.069560+0.566745I$ $a=\ \ 0.80787-1.37357I$ $b=-0.87571-1.63656I$	$-3.04218-5.85468I$	0
$u=-0.069560-0.566745I$ $a=\ \ 0.80787+1.37357I$ $b=-0.87571+1.63656I$	$-3.04218+5.85468I$	0
$u=-0.264331+0.498487I$ $a=\ \ 1.02225+1.88175I$ $b=-0.99841+1.65805I$	$-7.69749+1.02735I$	0
$u=-0.264331-0.498487I$ $a=\ \ 1.02225-1.88175I$ $b=-0.99841-1.65805I$	$-7.69749-1.02735I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.07881+1.44669I$ $a=-0.714272-0.137503I$ $b=-1.286020-0.328346I$	$-0.82939-1.69405I$	0
$u=-0.07881-1.44669I$ $a=-0.714272+0.137503I$ $b=-1.286020+0.328346I$	$-0.82939+1.69405I$	0
$u=0.200254+0.510705I$ $a=-2.07416-2.65095I$ $b=-0.034667-0.700359I$	$-6.42961+2.29582I$	0
$u=0.200254-0.510705I$ $a=-2.07416+2.65095I$ $b=-0.034667+0.700359I$	$-6.42961-2.29582I$	0
$u=-0.180021+0.512373I$ $a=3.86166-0.37177I$ $b=-0.104421+0.180610I$	$-6.85240-4.96963I$	0
$u=-0.180021-0.512373I$ $a=3.86166+0.37177I$ $b=-0.104421-0.180610I$	$-6.85240+4.96963I$	0
$u=-1.44522+0.18937I$ $a=0.178761+0.617076I$ $b=0.119692-0.132470I$	$-4.10259-4.48237I$	0
$u=-1.44522-0.18937I$ $a=0.178761-0.617076I$ $b=0.119692+0.132470I$	$-4.10259+4.48237I$	0
$u=-0.89255+1.17071I$ $a=0.216563-0.884138I$ $b=1.008280-0.862612I$	$-0.62645-5.64321I$	0
$u=-0.89255-1.17071I$ $a=0.216563+0.884138I$ $b=1.008280+0.862612I$	$-0.62645+5.64321I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.085940 + 0.513513I$ $a = -1.09290 - 1.66095I$ $b = 0.391359 - 0.486170I$	$-1.48268 + 0.50506I$	0
$u = 0.085940 - 0.513513I$ $a = -1.09290 + 1.66095I$ $b = 0.391359 + 0.486170I$	$-1.48268 - 0.50506I$	0
$u = 0.219472 + 0.464560I$ $a = -2.55689 + 0.48127I$ $b = 0.716219 + 0.594132I$	$-3.95888 + 3.05190I$	0
$u = 0.219472 - 0.464560I$ $a = -2.55689 - 0.48127I$ $b = 0.716219 - 0.594132I$	$-3.95888 - 3.05190I$	0
$u = -0.229166 + 0.455818I$ $a = -0.111495 + 1.403930I$ $b = 1.25414 + 1.47677I$	$-1.89387 - 6.45141I$	$0. + 14.7650I$
$u = -0.229166 - 0.455818I$ $a = -0.111495 - 1.403930I$ $b = 1.25414 - 1.47677I$	$-1.89387 + 6.45141I$	$0. - 14.7650I$
$u = -1.05202 + 1.06437I$ $a = 0.072885 - 1.062030I$ $b = 0.679254 - 1.190290I$	$-4.82577 - 6.98736I$	0
$u = -1.05202 - 1.06437I$ $a = 0.072885 + 1.062030I$ $b = 0.679254 + 1.190290I$	$-4.82577 + 6.98736I$	0
$u = -0.041912 + 0.482594I$ $a = 0.75819 - 4.33029I$ $b = 0.096906 - 1.039910I$	$-4.11558 + 0.61925I$	$-22.6894 + 6.7956I$
$u = -0.041912 - 0.482594I$ $a = 0.75819 + 4.33029I$ $b = 0.096906 + 1.039910I$	$-4.11558 - 0.61925I$	$-22.6894 - 6.7956I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.98293+1.15847I$ $a=-0.079778+1.045590I$ $b=-1.49056+1.26383I$	$-6.31378-10.09180I$	0
$u=-0.98293-1.15847I$ $a=-0.079778-1.045590I$ $b=-1.49056-1.26383I$	$-6.31378+10.09180I$	0
$u=-0.68140+1.35990I$ $a=\ 0.437484-0.354670I$ $b=\ 0.915427-0.201435I$	$0.89518-4.59048I$	0
$u=-0.68140-1.35990I$ $a=\ 0.437484+0.354670I$ $b=\ 0.915427+0.201435I$	$0.89518+4.59048I$	0
$u=\ 0.64462+1.39348I$ $a=\ 0.231156+0.173476I$ $b=\ 0.306825+0.493640I$	$-3.48270+0.34662I$	0
$u=\ 0.64462-1.39348I$ $a=\ 0.231156-0.173476I$ $b=\ 0.306825-0.493640I$	$-3.48270-0.34662I$	0
$u=\ 1.01711+1.15369I$ $a=\ 0.108588+1.013870I$ $b=\ 1.10281+1.13533I$	$-1.8747+15.3178I$	0
$u=\ 1.01711-1.15369I$ $a=\ 0.108588-1.013870I$ $b=\ 1.10281-1.13533I$	$-1.8747-15.3178I$	0
$u=\ 1.08679+1.09278I$ $a=\ 0.027751+0.630231I$ $b=\ 0.629381+1.141390I$	$-3.99995+4.86264I$	0
$u=\ 1.08679-1.09278I$ $a=\ 0.027751-0.630231I$ $b=\ 0.629381-1.141390I$	$-3.99995-4.86264I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.49626 + 0.40047I$ $a = -0.147499 + 0.334589I$ $b = 0.007561 + 0.695298I$	$-2.73459 + 5.29701I$	0
$u = 1.49626 - 0.40047I$ $a = -0.147499 - 0.334589I$ $b = 0.007561 - 0.695298I$	$-2.73459 - 5.29701I$	0
$u = -0.90341 + 1.25870I$ $a = 0.011815 + 0.737170I$ $b = -0.469370 + 1.161280I$	$-11.56810 + 2.40117I$	0
$u = -0.90341 - 1.25870I$ $a = 0.011815 - 0.737170I$ $b = -0.469370 - 1.161280I$	$-11.56810 - 2.40117I$	0
$u = -1.01749 + 1.17158I$ $a = -0.157789 + 0.896574I$ $b = -1.01810 + 1.06978I$	$1.80342 - 10.10880I$	0
$u = -1.01749 - 1.17158I$ $a = -0.157789 - 0.896574I$ $b = -1.01810 - 1.06978I$	$1.80342 + 10.10880I$	0
$u = 1.02419 + 1.17278I$ $a = 0.161045 - 0.813632I$ $b = -0.505269 - 0.911045I$	$-5.53959 + 4.24432I$	0
$u = 1.02419 - 1.17278I$ $a = 0.161045 + 0.813632I$ $b = -0.505269 + 0.911045I$	$-5.53959 - 4.24432I$	0
$u = 0.73738 + 1.37374I$ $a = 0.418959 + 0.502749I$ $b = 1.231200 + 0.317671I$	$-3.11688 + 9.06197I$	0
$u = 0.73738 - 1.37374I$ $a = 0.418959 - 0.502749I$ $b = 1.231200 - 0.317671I$	$-3.11688 - 9.06197I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.98429+1.21452I$		
$a=$	$0.117221+0.853768I$	$-4.09209+9.61861I$	0
$b=$	$1.26647+0.95703I$		
$u=$	$0.98429-1.21452I$		
$a=$	$0.117221-0.853768I$	$-4.09209-9.61861I$	0
$b=$	$1.26647-0.95703I$		
$u=$	$0.80452+1.34400I$		
$a=$	$0.352611+0.728207I$	$-4.51389+2.39133I$	0
$b=$	$0.837666+0.928145I$		
$u=$	$0.80452-1.34400I$		
$a=$	$0.352611-0.728207I$	$-4.51389-2.39133I$	0
$b=$	$0.837666-0.928145I$		
$u=$	$-1.01473+1.20229I$		
$a=$	$0.127318-0.997154I$	$-7.4529-21.2081I$	0
$b=$	$1.23602-1.24127I$		
$u=$	$-1.01473-1.20229I$		
$a=$	$0.127318+0.997154I$	$-7.4529+21.2081I$	0
$b=$	$1.23602+1.24127I$		
$u=$	$0.99894+1.25916I$		
$a=$	$-0.214915-0.887162I$	$-2.0669+14.6869I$	0
$b=$	$-1.16866-1.08179I$		
$u=$	$0.99894-1.25916I$		
$a=$	$-0.214915+0.887162I$	$-2.0669-14.6869I$	0
$b=$	$-1.16866+1.08179I$		
$u=$	$1.64908+0.12188I$		
$a=$	$-0.456420-0.176140I$	$-4.04903+3.16400I$	0
$b=$	$0.842311+0.617996I$		
$u=$	$1.64908-0.12188I$		
$a=$	$-0.456420+0.176140I$	$-4.04903-3.16400I$	0
$b=$	$0.842311-0.617996I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.16347+1.24172I$ $a=\ \ 0.173722+0.631745I$ $b=-0.750482+0.923280I$	$-10.6686-11.3890I$	0
$u=-1.16347-1.24172I$ $a=\ \ 0.173722-0.631745I$ $b=-0.750482-0.923280I$	$-10.6686+11.3890I$	0
$u=\ \ 1.31919+1.07626I$ $a=-0.286218+0.311474I$ $b=\ \ 0.809532+0.781772I$	$-3.95592+3.06340I$	0
$u=\ \ 1.31919-1.07626I$ $a=-0.286218-0.311474I$ $b=\ \ 0.809532-0.781772I$	$-3.95592-3.06340I$	0
$u=\ \ 0.182370+0.233220I$ $a=\ \ 1.23090+1.97467I$ $b=-1.40847+0.75399I$	$2.49013+2.24099I$	$6.18370-9.30392I$
$u=\ \ 0.182370-0.233220I$ $a=\ \ 1.23090-1.97467I$ $b=-1.40847-0.75399I$	$2.49013-2.24099I$	$6.18370+9.30392I$
$u=\ \ 0.172317+0.187819I$ $a=\ \ 0.36789+3.17819I$ $b=\ \ 1.54391+0.16825I$	$-3.78763+6.76219I$	$-3.56872-8.68344I$
$u=\ \ 0.172317-0.187819I$ $a=\ \ 0.36789-3.17819I$ $b=\ \ 1.54391-0.16825I$	$-3.78763-6.76219I$	$-3.56872+8.68344I$
$u=-1.61096+0.69342I$ $a=\ \ 0.192523-0.286265I$ $b=\ \ 0.246441+0.081996I$	$3.08978+1.53467I$	0
$u=-1.61096-0.69342I$ $a=\ \ 0.192523+0.286265I$ $b=\ \ 0.246441-0.081996I$	$3.08978-1.53467I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.68700 + 0.47964I$ $a = 0.181687 + 0.370205I$ $b = 0.360279 - 0.197178I$	$0.02044 - 5.93764I$	0
$u = 1.68700 - 0.47964I$ $a = 0.181687 - 0.370205I$ $b = 0.360279 + 0.197178I$	$0.02044 + 5.93764I$	0
$u = 0.170839$ $a = 5.58453$ $b = 0.289563$	-1.24966	-10.2960
$u = 1.50567 + 1.04477I$ $a = -0.346130 - 0.089351I$ $b = -0.378999 + 0.380499I$	$-1.01707 - 6.86063I$	0
$u = 1.50567 - 1.04477I$ $a = -0.346130 + 0.089351I$ $b = -0.378999 - 0.380499I$	$-1.01707 + 6.86063I$	0
$u = -0.056909 + 0.155543I$ $a = -5.47241 + 0.37836I$ $b = 1.274970 + 0.364572I$	$-0.47856 + 2.22846I$	$2.42840 - 3.11107I$
$u = -0.056909 - 0.155543I$ $a = -5.47241 - 0.37836I$ $b = 1.274970 - 0.364572I$	$-0.47856 - 2.22846I$	$2.42840 + 3.11107I$
$u = -1.63538 + 0.85906I$ $a = 0.231981 - 0.303256I$ $b = 0.614714 + 0.812521I$	$-5.13177 + 1.77890I$	0
$u = -1.63538 - 0.85906I$ $a = 0.231981 + 0.303256I$ $b = 0.614714 - 0.812521I$	$-5.13177 - 1.77890I$	0
$u = -1.59465 + 0.94710I$ $a = -0.364852 + 0.179835I$ $b = -0.404554 - 0.558521I$	$-6.23221 + 12.55560I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.59465-0.94710I$ $a=-0.364852-0.179835I$ $b=-0.404554+0.558521I$	$-6.23221-12.55560I$	0
$u=-1.27168+1.35830I$ $a=\ \ 0.145026-0.520039I$ $b=\ \ 0.735775-0.935018I$	$-6.58760-5.34574I$	0
$u=-1.27168-1.35830I$ $a=\ \ 0.145026+0.520039I$ $b=\ \ 0.735775+0.935018I$	$-6.58760+5.34574I$	0
$u=-0.1348440+0.0119762I$ $a=-11.38340+0.61349I$ $b=-0.260317-0.551233I$	$-4.41798+1.27138I$	$-2.89568+3.39719I$
$u=-0.1348440-0.0119762I$ $a=-11.38340-0.61349I$ $b=-0.260317+0.551233I$	$-4.41798-1.27138I$	$-2.89568-3.39719I$
$u=-0.65906+1.92965I$ $a=-0.1321600+0.0461246I$ $b=-0.902122-0.078844I$	$-0.119207+0.278577I$	0
$u=-0.65906-1.92965I$ $a=-0.1321600-0.0461246I$ $b=-0.902122+0.078844I$	$-0.119207-0.278577I$	0
$u=-2.80675$ $a=\ \ 0.122533$ $b=-0.814512$	-0.276204	0

II. $I_2^u =$
$\langle \mathbf{8.62\times10^{50}u^{36}-4.71\times10^{51}u^{35}+\cdots+1.83\times10^{52}b+2.17\times10^{52},\ 1.72\times10^{53}u^{36}+7.10\times10^{53}u^{35}+\cdots+5.48\times10^{52}a-3.28\times10^{53},\ u^{37}+4u^{36}+\cdots-6u^2-1}\rangle$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} -3.13824u^{36} - 12.9609u^{35} + \cdots + 12.1785u + 5.97682 \\ -0.0472032u^{36} + 0.258037u^{35} + \cdots + 1.95699u - 1.18659 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3.85181u^{36} - 16.2544u^{35} + \cdots + 13.3597u + 7.57133 \\ -0.0988303u^{36} + 0.000956303u^{35} + \cdots + 2.67057u - 0.747385 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -3.09103u^{36} - 13.2189u^{35} + \cdots + 10.2215u + 7.16342 \\ -0.0472032u^{36} + 0.258037u^{35} + \cdots + 1.95699u - 1.18659 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -5.99990u^{36} - 22.1070u^{35} + \cdots + 36.9602u - 10.4819 \\ 0.0953428u^{36} + 0.333449u^{35} + \cdots + 1.41828u + 2.24592 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 4.43211u^{36} + 16.7516u^{35} + \cdots - 27.9725u + 2.60608 \\ 0.0464231u^{36} + 0.471654u^{35} + \cdots + 0.486977u - 0.950816 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -6.45324u^{36} - 23.9157u^{35} + \cdots + 39.6737u - 6.94407 \\ -0.548680u^{36} - 2.14212u^{35} + \cdots + 3.29521u + 1.29192 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -6.98278u^{36} - 29.0214u^{35} + \cdots + 37.3633u + 11.4932 \\ 1.43570u^{36} + 5.38450u^{35} + \cdots - 6.83067u + 2.10323 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -7.56475u^{36} - 26.2630u^{35} + \cdots + 58.5986u - 15.2706 \\ -0.926767u^{36} - 3.95134u^{35} + \cdots + 0.655775u + 0.855731 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.00659u^{36} - 0.389871u^{35} + \cdots - 22.0726u + 26.7971 \\ -0.0952498u^{36} - 0.387269u^{35} + \cdots - 1.17945u - 2.03035 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8.13280u^{36} + 32.0564u^{35} + \cdots - 32.4693u + 0.268701$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{37} - 14u^{36} + \cdots - 5u^2 + 1$
c_2	$u^{37} + u^{36} + \cdots - 10u - 1$
c_3	$u^{37} + u^{36} + \cdots + 40u + 7$
c_4	$u^{37} + 5u^{36} + \cdots - 18u - 9$
c_5	$u^{37} + 2u^{36} + \cdots + 28u + 17$
c_6	$u^{37} + 4u^{36} + \cdots + 6u + 1$
c_7	$u^{37} + 6u^{36} + \cdots + 160u + 29$
c_8	$u^{37} - 5u^{36} + \cdots - 18u + 9$
c_9	$u^{37} + 6u^{36} + \cdots + 239u + 43$
c_{10}	$u^{37} + 4u^{36} + \cdots - 6u^2 - 1$
c_{11}	$u^{37} + 2u^{36} + \cdots + 5u - 1$
c_{12}	$u^{37} - 6u^{36} + \cdots + 239u - 43$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{37} + 4y^{36} + \cdots + 10y - 1$
c_2	$y^{37} + 29y^{36} + \cdots + 16y - 1$
c_3	$y^{37} + 21y^{36} + \cdots + 5408y - 49$
c_4, c_8	$y^{37} - 39y^{36} + \cdots + 648y - 81$
c_5	$y^{37} - 14y^{36} + \cdots + 2756y - 289$
c_6	$y^{37} + 6y^{36} + \cdots + 2y - 1$
c_7	$y^{37} + 26y^{36} + \cdots - 18538y - 841$
c_9, c_{12}	$y^{37} + 42y^{36} + \cdots - 47197y - 1849$
c_{10}	$y^{37} - 16y^{36} + \cdots - 12y - 1$
c_{11}	$y^{37} + 4y^{36} + \cdots - 43y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.883324+0.531418I$ $a=-0.199819-0.949056I$ $b=\ \ 0.59572-1.35977I$	$-1.43525-6.08474I$	$-0.83120+11.80184I$
$u=-0.883324-0.531418I$ $a=-0.199819+0.949056I$ $b=\ \ 0.59572+1.35977I$	$-1.43525+6.08474I$	$-0.83120-11.80184I$
$u=-0.485303+0.784794I$ $a=-1.337920+0.393186I$ $b=-0.213522-0.566096I$	$-3.46207+0.91718I$	$-12.33884+1.53638I$
$u=-0.485303-0.784794I$ $a=-1.337920-0.393186I$ $b=-0.213522+0.566096I$	$-3.46207-0.91718I$	$-12.33884-1.53638I$
$u=\ \ 0.980868+0.492936I$ $a=-0.262339-0.271808I$ $b=-0.406869-0.868693I$	$2.55896-1.11348I$	$0.87712+3.16946I$
$u=\ \ 0.980868-0.492936I$ $a=-0.262339+0.271808I$ $b=-0.406869+0.868693I$	$2.55896+1.11348I$	$0.87712-3.16946I$
$u=-1.056220+0.316112I$ $a=-0.168967-0.585423I$ $b=\ \ 0.401577-1.265740I$	$-1.45043-5.94742I$	$-2.93754+12.30570I$
$u=-1.056220-0.316112I$ $a=-0.168967+0.585423I$ $b=\ \ 0.401577+1.265740I$	$-1.45043+5.94742I$	$-2.93754-12.30570I$
$u=\ \ 0.642568+0.591154I$ $a=\ \ 0.05681+1.70972I$ $b=\ \ 0.478865+0.853994I$	$3.74888+4.15391I$	$-12.95278-0.01057I$
$u=\ \ 0.642568-0.591154I$ $a=\ \ 0.05681-1.70972I$ $b=\ \ 0.478865-0.853994I$	$3.74888-4.15391I$	$-12.95278+0.01057I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.562884 + 0.639371I$ $a = 1.75878 + 0.14006I$ $b = 0.268371 - 0.824948I$	$-5.30175 - 0.97998I$	$-5.58286 - 1.10351I$
$u = 0.562884 - 0.639371I$ $a = 1.75878 - 0.14006I$ $b = 0.268371 + 0.824948I$	$-5.30175 + 0.97998I$	$-5.58286 + 1.10351I$
$u = 0.498227 + 0.635314I$ $a = -1.10819 - 1.16121I$ $b = 0.289232 + 0.021890I$	$-5.61162 + 2.64618I$	$-5.06637 - 5.88097I$
$u = 0.498227 - 0.635314I$ $a = -1.10819 + 1.16121I$ $b = 0.289232 - 0.021890I$	$-5.61162 - 2.64618I$	$-5.06637 + 5.88097I$
$u = 0.066896 + 0.760551I$ $a = -0.51889 + 1.64728I$ $b = -0.05742 + 2.09440I$	$-8.29218 + 2.11892I$	$-9.17959 - 4.92050I$
$u = 0.066896 - 0.760551I$ $a = -0.51889 - 1.64728I$ $b = -0.05742 - 2.09440I$	$-8.29218 - 2.11892I$	$-9.17959 + 4.92050I$
$u = -0.651666 + 0.229245I$ $a = 0.913026 + 0.161048I$ $b = 0.331703 - 0.847244I$	$-1.31023 + 5.83740I$	$-2.31313 - 6.35202I$
$u = -0.651666 - 0.229245I$ $a = 0.913026 - 0.161048I$ $b = 0.331703 + 0.847244I$	$-1.31023 - 5.83740I$	$-2.31313 + 6.35202I$
$u = 1.00766 + 0.99701I$ $a = -0.062594 - 1.095680I$ $b = -0.74088 - 1.25766I$	$-4.58487 + 6.99095I$	$0. - 10.23365I$
$u = 1.00766 - 0.99701I$ $a = -0.062594 + 1.095680I$ $b = -0.74088 + 1.25766I$	$-4.58487 - 6.99095I$	$0. + 10.23365I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.575562 + 0.038093I$ $a = 0.983149 + 0.261656I$ $b = -0.29995 - 1.64500I$	$-7.19374 + 10.97760I$	$-7.25728 - 8.04651I$
$u = 0.575562 - 0.038093I$ $a = 0.983149 - 0.261656I$ $b = -0.29995 + 1.64500I$	$-7.19374 - 10.97760I$	$-7.25728 + 8.04651I$
$u = -0.92036 + 1.12196I$ $a = -0.171829 + 1.095980I$ $b = -1.41157 + 0.94436I$	$-4.31065 - 11.54590I$	0
$u = -0.92036 - 1.12196I$ $a = -0.171829 - 1.095980I$ $b = -1.41157 - 0.94436I$	$-4.31065 + 11.54590I$	0
$u = -1.47810 + 0.20927I$ $a = 0.143885 + 0.439614I$ $b = 0.254292 + 0.213854I$	$-2.20730 - 5.27772I$	0
$u = -1.47810 - 0.20927I$ $a = 0.143885 - 0.439614I$ $b = 0.254292 - 0.213854I$	$-2.20730 + 5.27772I$	0
$u = -0.049018 + 0.466856I$ $a = -0.84414 - 3.19752I$ $b = -0.190471 - 1.345910I$	$-3.83554 - 0.80716I$	$1.33074 + 9.30187I$
$u = -0.049018 - 0.466856I$ $a = -0.84414 + 3.19752I$ $b = -0.190471 + 1.345910I$	$-3.83554 + 0.80716I$	$1.33074 - 9.30187I$
$u = -1.08274 + 1.14460I$ $a = 0.026944 - 0.682535I$ $b = 0.618450 - 1.018510I$	$-4.29196 - 4.27454I$	0
$u = -1.08274 - 1.14460I$ $a = 0.026944 + 0.682535I$ $b = 0.618450 + 1.018510I$	$-4.29196 + 4.27454I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.059409+0.403440I$ $a=\ \ 3.86721+0.12404I$ $b=-0.599313-0.275483I$	$-6.63357-4.70993I$	$-3.41395-1.70812I$
$u=-0.059409-0.403440I$ $a=\ \ 3.86721-0.12404I$ $b=-0.599313+0.275483I$	$-6.63357+4.70993I$	$-3.41395+1.70812I$
$u=\ \ 1.23558+1.24002I$ $a=\ \ 0.115342+0.545684I$ $b=\ \ 0.741579+1.053920I$	$-6.32770+5.45757I$	0
$u=\ \ 1.23558-1.24002I$ $a=\ \ 0.115342-0.545684I$ $b=\ \ 0.741579-1.053920I$	$-6.32770-5.45757I$	0
$u=\ \ 2.00321$ $a=\ \ 0.225353$ $b=-0.806085$	-0.240403	0
$u=-1.90571+0.81334I$ $a=-0.303136-0.075167I$ $b=\ \ 0.843244-0.695602I$	$-4.09118-3.05303I$	0
$u=-1.90571-0.81334I$ $a=-0.303136+0.075167I$ $b=\ \ 0.843244+0.695602I$	$-4.09118+3.05303I$	0

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

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} -\frac{1}{4}u - \frac{1}{4} \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u+2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{1}{4}u - \frac{1}{4} \\ -1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{4}u + \frac{3}{4} \\ -1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{8}u + \frac{5}{8} \\ \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u + \frac{1}{2} \\ -2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{8}u - \frac{3}{8} \\ \frac{3}{2}u - \frac{1}{2} \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -\frac{1}{8}u + \frac{3}{8} \\ \frac{1}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{4}u + \frac{1}{4} \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{45}{16}u - \frac{1}{16}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.50000 + 1.32288I$ $a = -0.375000 - 0.330719I$ $b = -1.00000$	0	$-1.46875 - 3.72059I$
$u = \quad 0.50000 - 1.32288I$ $a = -0.375000 + 0.330719I$ $b = -1.00000$	0	$-1.46875 + 3.72059I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u+1)^2)(u^{37}-14u^{36}+\cdots-5u^2+1)$ $\cdot(u^{178}+9u^{177}+\cdots+195424u+17789)$
c_2	$((u-1)^2)(u^{37}+u^{36}+\cdots-10u-1)(u^{178}+2u^{177}+\cdots-7960u-317)$
c_3	$u^2(u^{37}+u^{36}+\cdots+40u+7)(u^{178}+6u^{176}+\cdots-666u+48)$
c_4	$((u-1)^2)(u^{37}+5u^{36}+\cdots-18u-9)(u^{178}-2u^{177}+\cdots+4446u+507)$
c_5	$4(2u^2+3u+2)(u^{37}+2u^{36}+\cdots+28u+17)$ $\cdot(2u^{178}-3u^{177}+\cdots+4565201302u-341073574)$
c_6	$4(2u^2+u+1)(u^{37}+4u^{36}+\cdots+6u+1)$ $\cdot(2u^{178}+23u^{177}+\cdots+219u-47)$
c_7	$4(2u^2+3u+2)(u^{37}+6u^{36}+\cdots+160u+29)$ $\cdot(2u^{178}+5u^{177}+\cdots+4049302530u-1452664970)$
c_8	$((u+1)^2)(u^{37}-5u^{36}+\cdots-18u+9)(u^{178}-2u^{177}+\cdots+4446u+507)$
c_9	$((u+1)^2)(u^{37}+6u^{36}+\cdots+239u+43)$ $\cdot(u^{178}-5u^{177}+\cdots+127105u-5687)$
c_{10}	$(u^2-u+2)(u^{37}+4u^{36}+\cdots-6u^2-1)(u^{178}-4u^{177}+\cdots+21u-2)$
c_{11}	$(u^2-u+2)(u^{37}+2u^{36}+\cdots+5u-1)$ $\cdot(u^{178}+15u^{176}+\cdots+9533823u-3520214)$
c_{12}	$((u-1)^2)(u^{37}-6u^{36}+\cdots+239u-43)$ $\cdot(u^{178}-5u^{177}+\cdots+127105u-5687)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^2)(y^{37}+4y^{36}+\cdots+10y-1)$ $\cdot(y^{178}-23y^{177}+\cdots-39074546342y+316448521)$
c_2	$((y-1)^2)(y^{37}+29y^{36}+\cdots+16y-1)$ $\cdot(y^{178}+34y^{177}+\cdots+2079880y+100489)$
c_3	$y^2(y^{37}+21y^{36}+\cdots+5408y-49)$ $\cdot(y^{178}+12y^{177}+\cdots-194916y+2304)$
c_4, c_8	$((y-1)^2)(y^{37}-39y^{36}+\cdots+648y-81)$ $\cdot(y^{178}-150y^{177}+\cdots-14609712y+257049)$
c_5	$16(4y^2-y+4)(y^{37}-14y^{36}+\cdots+2756y-289)$ $\cdot(4y^{178}-237y^{177}+\cdots-8.58\times10^{18}y+1.16\times10^{17})$
c_6	$16(4y^2+3y+1)(y^{37}+6y^{36}+\cdots+2y-1)$ $\cdot(4y^{178}+71y^{177}+\cdots+137783y+2209)$
c_7	$16(4y^2-y+4)(y^{37}+26y^{36}+\cdots-18538y-841)$ $\cdot(4y^{178}+355y^{177}+\cdots-6.10\times10^{19}y+2.11\times10^{18})$
c_9, c_{12}	$((y-1)^2)(y^{37}+42y^{36}+\cdots-47197y-1849)$ $\cdot(y^{178}+143y^{177}+\cdots-4213128887y+32341969)$
c_{10}	$(y^2+3y+4)(y^{37}-16y^{36}+\cdots-12y-1)(y^{178}+6y^{177}+\cdots-37y+4)$
c_{11}	$(y^2+3y+4)(y^{37}+4y^{36}+\cdots-43y-1)$ $\cdot(y^{178}+30y^{177}+\cdots+1544048546344095y+12391906605796)$