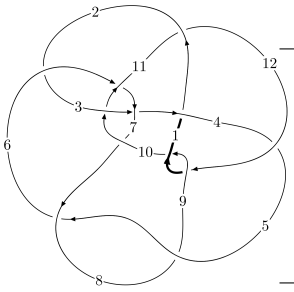
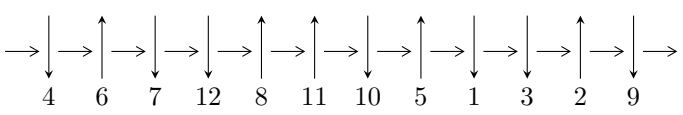
$12a_{0885}$ $(K12a_{0885})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -4.52853 \times 10^{1348} u^{191} - 4.40776 \times 10^{1348} u^{190} + \cdots + 3.02536 \times 10^{1349} b + 8.87488 \times 10^{1353}, \\
&\quad 5.55369 \times 10^{1354} u^{191} + 6.03965 \times 10^{1354} u^{190} + \cdots + 5.77581 \times 10^{1354} a - 9.76561 \times 10^{1359}, \\
&\quad u^{192} - 66 u^{190} + \cdots - 260505 u + 190913 \rangle \\
I_2^u &= \langle -2.32335 \times 10^{58} u^{45} + 9.00536 \times 10^{58} u^{44} + \cdots + 5.08445 \times 10^{58} b - 2.32363 \times 10^{58}, \\
&\quad 8.57429 \times 10^{57} u^{45} - 6.83963 \times 10^{58} u^{44} + \cdots + 5.08445 \times 10^{58} a - 1.60246 \times 10^{59},\ u^{46} - u^{45} + \cdots + 4u + 1 \rangle \\
I_3^u &= \langle u^2 + b - 1,\ a,\ u^3 - u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 241 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. $\boldsymbol{I_1^u = \langle -4.53 \times 10^{1348} u^{191} - 4.41 \times 10^{1348} u^{190} + \cdots + 3.03 \times 10^{1349} b + 8.87 \times 10^{1353},\ 5.55 \times 10^{1354} u^{191} + 6.04 \times 10^{1354} u^{190} + \cdots + 5.78 \times 10^{1354} a - 9.77 \times 10^{1359},\ u^{192} - 66 u^{190} + \cdots - 260505 u + 190913 \rangle}$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.961543 u^{191} - 1.04568 u^{190} + \cdots - 75031.1 u + 169078. \\ 0.149686 u^{191} + 0.145693 u^{190} + \cdots + 10084.4 u - 29334.9 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.811857 u^{191} - 0.899986 u^{190} + \cdots - 64946.7 u + 139743. \\ 0.149686 u^{191} + 0.145693 u^{190} + \cdots + 10084.4 u - 29334.9 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.53091 u^{191} + 1.69422 u^{190} + \cdots + 121583. u - 264246. \\ 0.260752 u^{191} + 0.286880 u^{190} + \cdots + 20365.1 u - 45511.1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.10499 u^{191} + 1.22263 u^{190} + \cdots + 88020.6 u - 190738. \\ 0.139490 u^{191} + 0.165249 u^{190} + \cdots + 11817.1 u - 22474.1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.00511 u^{191} + 3.25714 u^{190} + \cdots + 233858. u - 529065. \\ 0.0344419 u^{191} + 0.0295635 u^{190} + \cdots + 2010.33 u - 7319.91 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.998536 u^{191} + 1.11888 u^{190} + \cdots + 80578.5 u - 170226. \\ 0.146191 u^{191} + 0.175037 u^{190} + \cdots + 12554.3 u - 23179.0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.222952 u^{191} - 0.268722 u^{190} + \cdots - 19410.7 u + 34741.5 \\ -0.628421 u^{191} - 0.691947 u^{190} + \cdots - 49938.6 u + 108743. \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 3.38660 u^{191} + 3.68537 u^{190} + \cdots + 264761. u - 593916. \\ 0.724951 u^{191} + 0.791999 u^{190} + \cdots + 57418.1 u - 126129. \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -7.52882 u^{191} - 7.76256 u^{190} + \cdots - 547014. u + 1.39459 \times 10^6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{192} + 11u^{191} + \cdots + 11366u - 13097$
c_2	$u^{192} + 12u^{190} + \cdots + 43u + 1$
c_3	$u^{192} + 6u^{191} + \cdots + 162u - 81$
c_4	$u^{192} + u^{191} + \cdots + 34724083357u - 1929655883$
c_5, c_8	$u^{192} - 7u^{191} + \cdots - 54816024u + 2680568$
c_6	$u^{192} - 3u^{191} + \cdots + 145u + 7$
c_7	$u^{192} - 15u^{191} + \cdots - 288765u + 40025$
c_9, c_{12}	$u^{192} - 66u^{190} + \cdots + 260505u + 190913$
c_{10}	$u^{192} + u^{191} + \cdots + 67u + 11$
c_{11}	$u^{192} + 13u^{191} + \cdots - 447056u + 393584$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{192} - 19y^{191} + \cdots - 5625892080y + 171531409$
c_2	$y^{192} + 24y^{191} + \cdots - 25y + 1$
c_3	$y^{192} + 8y^{191} + \cdots + 4694760y + 6561$
c_4	$y^{192} - 57y^{191} + \cdots - 3.74 \times 10^{20}y + 3.72 \times 10^{18}$
c_5, c_8	$y^{192} + 159y^{191} + \cdots - 1182090996599008y + 7185444802624$
c_6	$y^{192} + 27y^{191} + \cdots + 4161y + 49$
c_7	$y^{192} + 11y^{191} + \cdots + 28375301475y + 1602000625$
c_9, c_{12}	$y^{192} - 132y^{191} + \cdots - 2163961974271y + 36447773569$
c_{10}	$y^{192} - 5y^{191} + \cdots - 37181y + 121$
c_{11}	$y^{192} + 51y^{191} + \cdots + 17097698026752y + 154908365056$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.305368+0.942192I$ $a=\ 0.110413-0.540846I$ $b=\ 0.090117+0.706383I$	$4.07931-2.76969I$	0
$u=-0.305368-0.942192I$ $a=\ 0.110413+0.540846I$ $b=\ 0.090117-0.706383I$	$4.07931+2.76969I$	0
$u=\ 0.867048+0.469921I$ $a=-0.363887-0.862845I$ $b=\ 1.56487-0.08295I$	$-2.39773-0.74504I$	0
$u=\ 0.867048-0.469921I$ $a=-0.363887+0.862845I$ $b=\ 1.56487+0.08295I$	$-2.39773+0.74504I$	0
$u=\ 0.481447+0.859612I$ $a=-0.358476-0.689493I$ $b=-0.186779+0.743677I$	$3.17644-5.60653I$	0
$u=\ 0.481447-0.859612I$ $a=-0.358476+0.689493I$ $b=-0.186779-0.743677I$	$3.17644+5.60653I$	0
$u=\ 0.159304+0.965248I$ $a=\ 0.492221+0.736064I$ $b=-0.547287-0.604217I$	$1.57080-4.06752I$	0
$u=\ 0.159304-0.965248I$ $a=\ 0.492221-0.736064I$ $b=-0.547287+0.604217I$	$1.57080+4.06752I$	0
$u=\ 0.970622+0.078100I$ $a=-0.036052-1.139680I$ $b=\ 2.15368+2.31038I$	$-3.20206-2.23235I$	0
$u=\ 0.970622-0.078100I$ $a=-0.036052+1.139680I$ $b=\ 2.15368-2.31038I$	$-3.20206+2.23235I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.974854+0.339727I$ $a=\ \ 0.526466+1.165590I$ $b=\ \ 1.158080-0.784931I$	$0.16374+4.64361I$	0
$u=-0.974854-0.339727I$ $a=\ \ 0.526466-1.165590I$ $b=\ \ 1.158080+0.784931I$	$0.16374-4.64361I$	0
$u=\ \ 0.238694+1.011990I$ $a=-1.297170+0.056141I$ $b=\ \ 1.186040-0.534383I$	$-2.43406+6.12195I$	0
$u=\ \ 0.238694-1.011990I$ $a=-1.297170-0.056141I$ $b=\ \ 1.186040+0.534383I$	$-2.43406-6.12195I$	0
$u=\ \ 0.305304+0.908849I$ $a=-1.028910-0.696941I$ $b=\ \ 1.090190+0.526989I$	$-3.94137-3.92448I$	0
$u=\ \ 0.305304-0.908849I$ $a=-1.028910+0.696941I$ $b=\ \ 1.090190-0.526989I$	$-3.94137+3.92448I$	0
$u=\ \ 0.943288+0.165892I$ $a=\ \ 0.24864+2.25461I$ $b=-0.614650-0.455829I$	$-5.25118-5.63591I$	0
$u=\ \ 0.943288-0.165892I$ $a=\ \ 0.24864-2.25461I$ $b=-0.614650+0.455829I$	$-5.25118+5.63591I$	0
$u=\ \ 1.042920+0.039723I$ $a=-0.069996-1.059350I$ $b=-1.68735+3.57633I$	$-3.39563-2.19088I$	0
$u=\ \ 1.042920-0.039723I$ $a=-0.069996+1.059350I$ $b=-1.68735-3.57633I$	$-3.39563+2.19088I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.935948+0.517165I$ $a=-0.645535+0.204146I$ $b=\ \ 0.94217+1.10518I$	$-1.26562+8.71875I$	0
$u=-0.935948-0.517165I$ $a=-0.645535-0.204146I$ $b=\ \ 0.94217-1.10518I$	$-1.26562-8.71875I$	0
$u=\ \ 0.069314+1.089720I$ $a=-1.110850+0.091728I$ $b=\ \ 0.989033+0.287582I$	$-3.01334-0.11433I$	0
$u=\ \ 0.069314-1.089720I$ $a=-1.110850-0.091728I$ $b=\ \ 0.989033-0.287582I$	$-3.01334+0.11433I$	0
$u=\ \ 0.769753+0.479609I$ $a=-0.283950+0.796787I$ $b=-0.231751+0.208273I$	$-0.51327-2.35678I$	0
$u=\ \ 0.769753-0.479609I$ $a=-0.283950-0.796787I$ $b=-0.231751-0.208273I$	$-0.51327+2.35678I$	0
$u=\ \ 1.094820+0.007773I$ $a=\ \ 0.72992-2.16327I$ $b=\ \ 0.562751+0.193330I$	$-6.21148+5.06576I$	0
$u=\ \ 1.094820-0.007773I$ $a=\ \ 0.72992+2.16327I$ $b=\ \ 0.562751-0.193330I$	$-6.21148-5.06576I$	0
$u=-1.086090+0.146403I$ $a=-0.087948-1.053020I$ $b=\ \ 0.22516+2.39185I$	$-3.14940+11.56240I$	0
$u=-1.086090-0.146403I$ $a=-0.087948+1.053020I$ $b=\ \ 0.22516-2.39185I$	$-3.14940-11.56240I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.899444+0.054586I$ $a=\ \ 0.284465+1.110460I$ $b=\ \ 0.48414-1.40464I$	$0.49587+3.42536I$	0
$u=-0.899444-0.054586I$ $a=\ \ 0.284465-1.110460I$ $b=\ \ 0.48414+1.40464I$	$0.49587-3.42536I$	0
$u=-0.796022+0.759997I$ $a=\ \ 0.487024-0.914704I$ $b=-1.52510-0.02964I$	$-1.12884+8.61985I$	0
$u=-0.796022-0.759997I$ $a=\ \ 0.487024+0.914704I$ $b=-1.52510+0.02964I$	$-1.12884-8.61985I$	0
$u=-0.993985+0.477806I$ $a=\ \ 0.545470-1.274570I$ $b=-1.101560+0.254031I$	$-7.28880-2.65302I$	0
$u=-0.993985-0.477806I$ $a=\ \ 0.545470+1.274570I$ $b=-1.101560-0.254031I$	$-7.28880+2.65302I$	0
$u=\ \ 1.058770+0.309676I$ $a=-1.144730+0.666006I$ $b=-1.036080-0.737442I$	$-0.13894-5.07779I$	0
$u=\ \ 1.058770-0.309676I$ $a=-1.144730-0.666006I$ $b=-1.036080+0.737442I$	$-0.13894+5.07779I$	0
$u=\ \ 1.107260+0.067096I$ $a=-0.285398+1.107910I$ $b=-0.05333-2.07988I$	$-2.35852-2.75429I$	0
$u=\ \ 1.107260-0.067096I$ $a=-0.285398-1.107910I$ $b=-0.05333+2.07988I$	$-2.35852+2.75429I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.312180 + 0.827366I$ $a = 1.50708 + 0.67486I$ $b = -0.905828 - 0.573173I$	$-5.17128 - 6.53541I$	0
$u = 0.312180 - 0.827366I$ $a = 1.50708 - 0.67486I$ $b = -0.905828 + 0.573173I$	$-5.17128 + 6.53541I$	0
$u = 0.874586 + 0.112468I$ $a = -0.469015 + 0.973330I$ $b = -2.37603 + 1.42021I$	$-1.23213 - 2.20378I$	0
$u = 0.874586 - 0.112468I$ $a = -0.469015 - 0.973330I$ $b = -2.37603 - 1.42021I$	$-1.23213 + 2.20378I$	0
$u = 1.063830 + 0.346254I$ $a = -0.115968 - 0.301971I$ $b = 0.856147 - 0.146668I$	$-2.02076 - 0.56587I$	0
$u = 1.063830 - 0.346254I$ $a = -0.115968 + 0.301971I$ $b = 0.856147 + 0.146668I$	$-2.02076 + 0.56587I$	0
$u = 0.803548 + 0.353842I$ $a = 0.211760 + 0.419784I$ $b = -0.607727 + 1.241630I$	$-1.72811 - 2.09926I$	0
$u = 0.803548 - 0.353842I$ $a = 0.211760 - 0.419784I$ $b = -0.607727 - 1.241630I$	$-1.72811 + 2.09926I$	0
$u = 1.133420 + 0.025545I$ $a = -0.447167 + 0.543690I$ $b = -1.21044 + 0.73880I$	$-3.67970 + 1.40620I$	0
$u = 1.133420 - 0.025545I$ $a = -0.447167 - 0.543690I$ $b = -1.21044 - 0.73880I$	$-3.67970 - 1.40620I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.132390+0.085969I$ $a=\ \ 0.17312+1.48786I$ $b=\ \ 1.064260-0.632811I$	$-8.47850+4.57950I$	0
$u=-1.132390-0.085969I$ $a=\ \ 0.17312-1.48786I$ $b=\ \ 1.064260+0.632811I$	$-8.47850-4.57950I$	0
$u=-1.124730+0.173697I$ $a=-0.141884+1.209500I$ $b=-0.106376-1.113790I$	$-3.53497+4.99188I$	0
$u=-1.124730-0.173697I$ $a=-0.141884-1.209500I$ $b=-0.106376+1.113790I$	$-3.53497-4.99188I$	0
$u=-0.809277+0.288353I$ $a=\ \ 0.954266+0.733731I$ $b=\ \ 0.392319-0.327849I$	$1.54455+1.72701I$	0
$u=-0.809277-0.288353I$ $a=\ \ 0.954266-0.733731I$ $b=\ \ 0.392319+0.327849I$	$1.54455-1.72701I$	0
$u=-0.635234+0.570049I$ $a=\ \ 0.522799+0.792351I$ $b=\ \ 0.022074-0.888954I$	$2.03268+2.00343I$	0
$u=-0.635234-0.570049I$ $a=\ \ 0.522799-0.792351I$ $b=\ \ 0.022074+0.888954I$	$2.03268-2.00343I$	0
$u=\ \ 1.064340+0.468005I$ $a=\ \ 0.723498-0.029467I$ $b=\ \ 0.751564+0.213637I$	$1.24268+0.84125I$	0
$u=\ \ 1.064340-0.468005I$ $a=\ \ 0.723498+0.029467I$ $b=\ \ 0.751564-0.213637I$	$1.24268-0.84125I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.164350 + 0.058481I$ $a = -0.050434 + 0.695042I$ $b = 1.24526 - 1.49451I$	$-2.65715 - 1.57082I$	0
$u = 1.164350 - 0.058481I$ $a = -0.050434 - 0.695042I$ $b = 1.24526 + 1.49451I$	$-2.65715 + 1.57082I$	0
$u = -0.157356 + 0.812635I$ $a = 1.62829 - 0.44953I$ $b = -1.101990 + 0.371276I$	$-6.47800 - 2.03822I$	0
$u = -0.157356 - 0.812635I$ $a = 1.62829 + 0.44953I$ $b = -1.101990 - 0.371276I$	$-6.47800 + 2.03822I$	0
$u = -1.118270 + 0.356984I$ $a = 1.053190 + 0.818883I$ $b = 0.838701 - 0.716389I$	$0.26808 + 5.86406I$	0
$u = -1.118270 - 0.356984I$ $a = 1.053190 - 0.818883I$ $b = 0.838701 + 0.716389I$	$0.26808 - 5.86406I$	0
$u = 0.020401 + 1.173750I$ $a = 1.140610 + 0.374143I$ $b = -1.000230 - 0.475762I$	$-1.65808 - 6.79976I$	0
$u = 0.020401 - 1.173750I$ $a = 1.140610 - 0.374143I$ $b = -1.000230 + 0.475762I$	$-1.65808 + 6.79976I$	0
$u = -0.701610 + 0.951889I$ $a = -0.715301 + 0.589225I$ $b = 1.297320 + 0.312962I$	$-0.72678 - 2.51797I$	0
$u = -0.701610 - 0.951889I$ $a = -0.715301 - 0.589225I$ $b = 1.297320 - 0.312962I$	$-0.72678 + 2.51797I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.175080+0.167165I$ $a=\ \ 0.09392+1.67341I$ $b=\ \ 0.531288-0.494076I$	$-4.31427+4.91419I$	0
$u=-1.175080-0.167165I$ $a=\ \ 0.09392-1.67341I$ $b=\ \ 0.531288+0.494076I$	$-4.31427-4.91419I$	0
$u=\ \ 0.451422+0.674552I$ $a=-0.232071+0.371080I$ $b=\ \ 0.808574-0.610049I$	$-0.01951+2.31296I$	0
$u=\ \ 0.451422-0.674552I$ $a=-0.232071-0.371080I$ $b=\ \ 0.808574+0.610049I$	$-0.01951-2.31296I$	0
$u=-0.633951+0.465512I$ $a=\ \ 1.322230-0.170725I$ $b=-0.427598-0.964768I$	$1.26438-1.21230I$	0
$u=-0.633951-0.465512I$ $a=\ \ 1.322230+0.170725I$ $b=-0.427598+0.964768I$	$1.26438+1.21230I$	0
$u=\ \ 1.146370+0.404217I$ $a=-0.666920+0.524426I$ $b=-1.243780-0.337708I$	$-2.31218-6.47981I$	0
$u=\ \ 1.146370-0.404217I$ $a=-0.666920-0.524426I$ $b=-1.243780+0.337708I$	$-2.31218+6.47981I$	0
$u=-1.217410+0.038052I$ $a=-0.987024+0.928998I$ $b=-0.836116+0.024849I$	$-6.30075+1.93071I$	0
$u=-1.217410-0.038052I$ $a=-0.987024-0.928998I$ $b=-0.836116-0.024849I$	$-6.30075-1.93071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.195630+0.252592I$ $a=\ 1.229890-0.082937I$ $b=\ 0.778095-0.159143I$	$-0.84744+2.01085I$	0
$u=-1.195630-0.252592I$ $a=\ 1.229890+0.082937I$ $b=\ 0.778095+0.159143I$	$-0.84744-2.01085I$	0
$u=\ 1.221330+0.130605I$ $a=\ 1.016110-0.572027I$ $b=\ 0.888204+0.554345I$	$-4.46644+2.83668I$	0
$u=\ 1.221330-0.130605I$ $a=\ 1.016110+0.572027I$ $b=\ 0.888204-0.554345I$	$-4.46644-2.83668I$	0
$u=\ 0.225125+0.736868I$ $a=\ 0.277337-1.119630I$ $b=-0.695257+0.968927I$	$1.23337+10.52490I$	0
$u=\ 0.225125-0.736868I$ $a=\ 0.277337+1.119630I$ $b=-0.695257-0.968927I$	$1.23337-10.52490I$	0
$u=-0.764209+0.096980I$ $a=-0.964939+0.640567I$ $b=-1.291280+0.071409I$	$0.37084+4.87903I$	0
$u=-0.764209-0.096980I$ $a=-0.964939-0.640567I$ $b=-1.291280-0.071409I$	$0.37084-4.87903I$	0
$u=-1.233510+0.084242I$ $a=-0.708049+0.160514I$ $b=-1.026690+0.237295I$	$-5.79287+2.31865I$	0
$u=-1.233510-0.084242I$ $a=-0.708049-0.160514I$ $b=-1.026690-0.237295I$	$-5.79287-2.31865I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.184960 + 0.394506I$ $a = 1.022800 - 0.564245I$ $b = 0.982713 + 0.647260I$	$-1.7507 - 14.7337I$	0
$u = 1.184960 - 0.394506I$ $a = 1.022800 + 0.564245I$ $b = 0.982713 - 0.647260I$	$-1.7507 + 14.7337I$	0
$u = -0.348484 + 0.663722I$ $a = 1.58572 - 0.14053I$ $b = -0.283625 - 0.389898I$	$-0.74775 - 2.53752I$	0
$u = -0.348484 - 0.663722I$ $a = 1.58572 + 0.14053I$ $b = -0.283625 + 0.389898I$	$-0.74775 + 2.53752I$	0
$u = 1.25346$ $a = -0.0604534$ $b = 1.20712$	-2.38580	0
$u = -1.150880 + 0.526517I$ $a = -0.525271 - 0.314656I$ $b = -0.636920 + 0.437989I$	$1.40074 + 8.00367I$	0
$u = -1.150880 - 0.526517I$ $a = -0.525271 + 0.314656I$ $b = -0.636920 - 0.437989I$	$1.40074 - 8.00367I$	0
$u = -0.006404 + 1.267720I$ $a = 1.032320 - 0.323472I$ $b = -1.055600 + 0.539846I$	$-2.7992 + 15.1385I$	0
$u = -0.006404 - 1.267720I$ $a = 1.032320 + 0.323472I$ $b = -1.055600 - 0.539846I$	$-2.7992 - 15.1385I$	0
$u = -1.262900 + 0.160181I$ $a = -0.048431 - 1.077210I$ $b = -1.033360 + 0.299904I$	$-7.72706 - 2.33747I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.262900-0.160181I$ $a=-0.048431+1.077210I$ $b=-1.033360-0.299904I$	$-7.72706+2.33747I$	0
$u=-1.222090+0.363341I$ $a=-0.776547-0.283739I$ $b=-1.058100+0.515747I$	$-3.49792+7.23918I$	0
$u=-1.222090-0.363341I$ $a=-0.776547+0.283739I$ $b=-1.058100-0.515747I$	$-3.49792-7.23918I$	0
$u=-0.250874+0.676510I$ $a=\ \ 0.591197+1.182170I$ $b=-0.551887-0.874213I$	$2.88211-1.95809I$	0
$u=-0.250874-0.676510I$ $a=\ \ 0.591197-1.182170I$ $b=-0.551887+0.874213I$	$2.88211+1.95809I$	0
$u=\ \ 1.29323$ $a=-0.195840$ $b=-0.138975$	-2.45720	0
$u=\ \ 0.684211+0.168174I$ $a=\ \ 0.712154+1.084940I$ $b=\ \ 0.841864+1.005410I$	$-2.73961+1.33459I$	0
$u=\ \ 0.684211-0.168174I$ $a=\ \ 0.712154-1.084940I$ $b=\ \ 0.841864-1.005410I$	$-2.73961-1.33459I$	0
$u=\ \ 0.076960+1.325380I$ $a=-0.888194-0.250389I$ $b=\ \ 0.955675+0.507610I$	$-3.32748-6.25467I$	0
$u=\ \ 0.076960-1.325380I$ $a=-0.888194+0.250389I$ $b=\ \ 0.955675-0.507610I$	$-3.32748+6.25467I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.521550 + 0.420439I$ $a = -0.887273 + 0.789250I$ $b = 0.704062 - 1.076010I$	$1.60707 + 1.95595I$	0
$u = 0.521550 - 0.420439I$ $a = -0.887273 - 0.789250I$ $b = 0.704062 + 1.076010I$	$1.60707 - 1.95595I$	0
$u = -0.107497 + 0.660161I$ $a = 0.038444 - 0.668300I$ $b = 0.572964 + 0.880525I$	$-0.06866 - 3.35072I$	0
$u = -0.107497 - 0.660161I$ $a = 0.038444 + 0.668300I$ $b = 0.572964 - 0.880525I$	$-0.06866 + 3.35072I$	0
$u = 0.161940 + 1.328270I$ $a = -0.967399 + 0.051022I$ $b = 1.102410 - 0.282550I$	$-3.98520 + 4.74023I$	0
$u = 0.161940 - 1.328270I$ $a = -0.967399 - 0.051022I$ $b = 1.102410 + 0.282550I$	$-3.98520 - 4.74023I$	0
$u = -1.261850 + 0.456858I$ $a = -0.048281 + 1.129610I$ $b = 1.11906 - 0.93067I$	$-3.94964 + 6.97406I$	0
$u = -1.261850 - 0.456858I$ $a = -0.048281 - 1.129610I$ $b = 1.11906 + 0.93067I$	$-3.94964 - 6.97406I$	0
$u = -1.367460 + 0.074634I$ $a = 0.160249 + 0.182782I$ $b = 1.094190 - 0.707998I$	$-4.60834 + 8.36376I$	0
$u = -1.367460 - 0.074634I$ $a = 0.160249 - 0.182782I$ $b = 1.094190 + 0.707998I$	$-4.60834 - 8.36376I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.307160 + 0.422218I$ $a = -0.058679 - 1.104600I$ $b = 1.70715 + 0.83779I$	$-10.85340 - 2.43457I$	0
$u = 1.307160 - 0.422218I$ $a = -0.058679 + 1.104600I$ $b = 1.70715 - 0.83779I$	$-10.85340 + 2.43457I$	0
$u = -0.316985 + 0.531413I$ $a = -0.14289 + 1.65232I$ $b = -0.344791 - 0.696827I$	$1.88849 + 0.95106I$	0
$u = -0.316985 - 0.531413I$ $a = -0.14289 - 1.65232I$ $b = -0.344791 + 0.696827I$	$1.88849 - 0.95106I$	0
$u = 0.571496 + 0.219591I$ $a = -0.40409 + 1.51431I$ $b = -0.143378 + 0.610600I$	$-0.56420 - 2.39531I$	0
$u = 0.571496 - 0.219591I$ $a = -0.40409 - 1.51431I$ $b = -0.143378 - 0.610600I$	$-0.56420 + 2.39531I$	0
$u = -1.345100 + 0.413293I$ $a = -0.095367 + 1.014690I$ $b = 1.76208 - 1.05493I$	$-10.0413 + 10.9965I$	0
$u = -1.345100 - 0.413293I$ $a = -0.095367 - 1.014690I$ $b = 1.76208 + 1.05493I$	$-10.0413 - 10.9965I$	0
$u = 1.288550 + 0.573619I$ $a = 0.064849 + 1.143670I$ $b = -1.65715 - 0.79150I$	$-5.77986 - 11.89360I$	0
$u = 1.288550 - 0.573619I$ $a = 0.064849 - 1.143670I$ $b = -1.65715 + 0.79150I$	$-5.77986 + 11.89360I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.373118+0.455824I$ $a=-0.20817-1.59069I$ $b=-0.957373+0.557853I$	$-0.00081-4.69422I$	0
$u=-0.373118-0.455824I$ $a=-0.20817+1.59069I$ $b=-0.957373-0.557853I$	$-0.00081+4.69422I$	0
$u=-1.36171+0.39816I$ $a=-0.142593-1.035660I$ $b=-1.51048+0.84369I$	$-8.99325+8.47674I$	0
$u=-1.36171-0.39816I$ $a=-0.142593+1.035660I$ $b=-1.51048-0.84369I$	$-8.99325-8.47674I$	0
$u=1.41221+0.17637I$ $a=0.352402-1.143940I$ $b=0.959082+0.378682I$	$-8.14978-10.99000I$	0
$u=1.41221-0.17637I$ $a=0.352402+1.143940I$ $b=0.959082-0.378682I$	$-8.14978+10.99000I$	0
$u=-1.26549+0.66225I$ $a=-0.458006+0.998938I$ $b=1.227840-0.375071I$	$-9.20921+7.61235I$	0
$u=-1.26549-0.66225I$ $a=-0.458006-0.998938I$ $b=1.227840+0.375071I$	$-9.20921-7.61235I$	0
$u=-0.530206+0.207411I$ $a=-1.63863+1.27254I$ $b=-0.744006+1.029000I$	$-1.52673-9.94367I$	0
$u=-0.530206-0.207411I$ $a=-1.63863-1.27254I$ $b=-0.744006-1.029000I$	$-1.52673+9.94367I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.494657+0.217562I$ $a=\ 0.653058-0.786708I$ $b=\ 0.529597+0.970787I$	$0.59507-3.14892I$	0
$u=-0.494657-0.217562I$ $a=\ 0.653058+0.786708I$ $b=\ 0.529597-0.970787I$	$0.59507+3.14892I$	0
$u=\ 0.379547+0.384622I$ $a=\ 0.454876-0.455503I$ $b=\ 0.539354+0.559995I$	$-1.05332-1.07279I$	0
$u=\ 0.379547-0.384622I$ $a=\ 0.454876+0.455503I$ $b=\ 0.539354-0.559995I$	$-1.05332+1.07279I$	0
$u=\ 1.46911+0.20606I$ $a=\ 0.016989+0.808138I$ $b=-0.90534-1.32188I$	$-5.78949-1.52221I$	0
$u=\ 1.46911-0.20606I$ $a=\ 0.016989-0.808138I$ $b=-0.90534+1.32188I$	$-5.78949+1.52221I$	0
$u=-1.40587+0.47673I$ $a=\ 0.114511-0.772378I$ $b=-1.56961+0.64387I$	$-7.76722+5.72275I$	0
$u=-1.40587-0.47673I$ $a=\ 0.114511+0.772378I$ $b=-1.56961-0.64387I$	$-7.76722-5.72275I$	0
$u=-1.38839+0.53978I$ $a=-0.041307+1.121380I$ $b=\ 1.48590-0.94450I$	$-6.1180+12.7827I$	0
$u=-1.38839-0.53978I$ $a=-0.041307-1.121380I$ $b=\ 1.48590+0.94450I$	$-6.1180-12.7827I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.24401 + 1.48658I$ $a = 0.638860 + 0.048104I$ $b = -0.664139 + 0.056219I$	$2.65781 - 3.46911I$	0
$u = 0.24401 - 1.48658I$ $a = 0.638860 - 0.048104I$ $b = -0.664139 - 0.056219I$	$2.65781 + 3.46911I$	0
$u = -1.44622 + 0.43583I$ $a = 0.181980 + 0.852605I$ $b = 1.136740 - 0.777783I$	$-3.61273 + 9.07900I$	0
$u = -1.44622 - 0.43583I$ $a = 0.181980 - 0.852605I$ $b = 1.136740 + 0.777783I$	$-3.61273 - 9.07900I$	0
$u = -0.009782 + 0.485112I$ $a = 2.15543 + 0.60671I$ $b = -0.262078 + 0.305987I$	$-0.68377 - 2.75135I$	0
$u = -0.009782 - 0.485112I$ $a = 2.15543 - 0.60671I$ $b = -0.262078 - 0.305987I$	$-0.68377 + 2.75135I$	0
$u = -1.52010 + 0.12631I$ $a = -0.281698 - 0.839435I$ $b = -1.056320 + 0.401587I$	$-10.03770 + 2.03098I$	0
$u = -1.52010 - 0.12631I$ $a = -0.281698 + 0.839435I$ $b = -1.056320 - 0.401587I$	$-10.03770 - 2.03098I$	0
$u = 1.41816 + 0.57563I$ $a = -0.034125 - 1.059210I$ $b = 1.54663 + 0.89883I$	$-7.3292 - 21.5416I$	0
$u = 1.41816 - 0.57563I$ $a = -0.034125 + 1.059210I$ $b = 1.54663 - 0.89883I$	$-7.3292 + 21.5416I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.41320 + 0.58795I$ $a = -0.062490 - 0.823831I$ $b = 1.179210 + 0.737807I$	$-1.69946 - 3.56423I$	0
$u = 1.41320 - 0.58795I$ $a = -0.062490 + 0.823831I$ $b = 1.179210 - 0.737807I$	$-1.69946 + 3.56423I$	0
$u = 1.39099 + 0.64137I$ $a = 0.237222 + 0.970983I$ $b = -0.845004 - 0.546150I$	$-6.78294 - 5.95935I$	0
$u = 1.39099 - 0.64137I$ $a = 0.237222 - 0.970983I$ $b = -0.845004 + 0.546150I$	$-6.78294 + 5.95935I$	0
$u = -1.43396 + 0.56492I$ $a = 0.037249 - 0.954188I$ $b = -1.54151 + 0.86256I$	$-8.1130 + 12.7117I$	0
$u = -1.43396 - 0.56492I$ $a = 0.037249 + 0.954188I$ $b = -1.54151 - 0.86256I$	$-8.1130 - 12.7117I$	0
$u = 1.47800 + 0.47953I$ $a = -0.293028 - 0.772846I$ $b = 1.096430 + 0.473193I$	$-6.47470 + 0.55735I$	0
$u = 1.47800 - 0.47953I$ $a = -0.293028 + 0.772846I$ $b = 1.096430 - 0.473193I$	$-6.47470 - 0.55735I$	0
$u = 1.41864 + 0.64011I$ $a = 0.137758 + 0.982742I$ $b = -1.47359 - 0.65302I$	$-8.0671 - 11.6435I$	0
$u = 1.41864 - 0.64011I$ $a = 0.137758 - 0.982742I$ $b = -1.47359 + 0.65302I$	$-8.0671 + 11.6435I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.37481 + 0.75565I$ $a = 0.360722 + 0.724625I$ $b = -0.926611 - 0.161998I$	$-6.56200 - 2.58350I$	0
$u = 1.37481 - 0.75565I$ $a = 0.360722 - 0.724625I$ $b = -0.926611 + 0.161998I$	$-6.56200 + 2.58350I$	0
$u = -1.46226 + 0.57947I$ $a = 0.113089 - 0.893297I$ $b = -1.12758 + 0.98032I$	$-3.28575 + 12.12540I$	0
$u = -1.46226 - 0.57947I$ $a = 0.113089 + 0.893297I$ $b = -1.12758 - 0.98032I$	$-3.28575 - 12.12540I$	0
$u = 0.122890 + 0.408429I$ $a = 2.30189 + 1.64637I$ $b = -0.703275 + 0.479145I$	$-0.76610 - 2.83573I$	$-1.13464 + 3.66448I$
$u = 0.122890 - 0.408429I$ $a = 2.30189 - 1.64637I$ $b = -0.703275 - 0.479145I$	$-0.76610 + 2.83573I$	$-1.13464 - 3.66448I$
$u = -0.373035 + 0.193850I$ $a = 2.19334 - 0.53436I$ $b = -0.257584 - 0.218967I$	$1.25803 - 1.55252I$	$1.37685 + 1.12877I$
$u = -0.373035 - 0.193850I$ $a = 2.19334 + 0.53436I$ $b = -0.257584 + 0.218967I$	$1.25803 + 1.55252I$	$1.37685 - 1.12877I$
$u = 1.61263 + 0.19760I$ $a = -0.142128 + 0.813794I$ $b = -0.814113 - 0.338041I$	$-9.00450 - 1.44614I$	0
$u = 1.61263 - 0.19760I$ $a = -0.142128 - 0.813794I$ $b = -0.814113 + 0.338041I$	$-9.00450 + 1.44614I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.12434+1.62143I$ $a=-0.735350-0.019949I$ $b=\ \ 0.614071+0.129106I$	$1.59398-4.89106I$	0
$u=-0.12434-1.62143I$ $a=-0.735350+0.019949I$ $b=\ \ 0.614071-0.129106I$	$1.59398+4.89106I$	0
$u=-1.60093+0.35247I$ $a=\ \ 0.024334-0.762225I$ $b=-1.093340+0.386548I$	$-10.18190+1.61547I$	0
$u=-1.60093-0.35247I$ $a=\ \ 0.024334+0.762225I$ $b=-1.093340-0.386548I$	$-10.18190-1.61547I$	0
$u=\ \ 1.48382+0.73168I$ $a=-0.393269-0.769526I$ $b=\ \ 0.838668+0.523021I$	$-7.72269-0.30401I$	0
$u=\ \ 1.48382-0.73168I$ $a=-0.393269+0.769526I$ $b=\ \ 0.838668-0.523021I$	$-7.72269+0.30401I$	0
$u=-1.61723+0.50249I$ $a=-0.247071+0.694883I$ $b=\ \ 0.913852-0.264950I$	$-7.98578-8.28623I$	0
$u=-1.61723-0.50249I$ $a=-0.247071-0.694883I$ $b=\ \ 0.913852+0.264950I$	$-7.98578+8.28623I$	0
$u=\ \ 0.295783+0.070487I$ $a=-0.02228-3.05506I$ $b=\ \ 0.95976-1.24316I$	$-2.06885+1.72860I$	$-10.66573-4.92776I$
$u=\ \ 0.295783-0.070487I$ $a=-0.02228+3.05506I$ $b=\ \ 0.95976+1.24316I$	$-2.06885-1.72860I$	$-10.66573+4.92776I$

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.76476+0.37397I$		
$a=$	$0.034399+0.668992I$	$-8.92465-1.27448I$	0
$b=$	$-0.793422-0.371066I$		
$u=$	$1.76476-0.37397I$		
$a=$	$0.034399-0.668992I$	$-8.92465+1.27448I$	0
$b=$	$-0.793422+0.371066I$		

II.

$\boldsymbol{I_2^u = \langle -2.32\times 10^{58}u^{45}+9.01\times 10^{58}u^{44}+\cdots+5.08\times 10^{58}b-2.32\times 10^{58},\ 8.57\times 10^{57}u^{45}-6.84\times 10^{58}u^{44}+\cdots+5.08\times 10^{58}a-1.60\times 10^{59},\ u^{46}-u^{45}+\cdots+4u+1\rangle}$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.168637u^{45} + 1.34520u^{44} + \cdots - 2.00693u + 3.15168 \\ 0.456951u^{45} - 1.77116u^{44} + \cdots + 0.357746u + 0.457008 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.288314u^{45} - 0.425952u^{44} + \cdots - 1.64918u + 3.60869 \\ 0.456951u^{45} - 1.77116u^{44} + \cdots + 0.357746u + 0.457008 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2.34785u^{45} + 2.71702u^{44} + \cdots - 10.1739u - 0.222372 \\ 0.0709980u^{45} + 0.0202821u^{44} + \cdots - 2.28221u - 0.729688 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2.53842u^{45} + 3.07610u^{44} + \cdots - 8.56995u - 0.282681 \\ 1.36540u^{45} - 3.17519u^{44} + \cdots - 1.92124u - 1.14674 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.77032u^{45} + 4.09542u^{44} + \cdots - 7.30351u - 0.127157 \\ 0.505287u^{45} - 2.21397u^{44} + \cdots + 0.538812u - 0.893287 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.01031u^{45} - 0.0464750u^{44} + \cdots - 6.42915u + 0.0972876 \\ 1.40383u^{45} - 2.95307u^{44} + \cdots + 0.787708u + 0.0677596 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.608594u^{45} - 1.21256u^{44} + \cdots + 7.08772u + 2.19505 \\ 0.277914u^{45} - 0.864928u^{44} + \cdots + 3.56695u + 0.735874 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.42052u^{45} - 1.31374u^{44} + \cdots + 4.92353u + 1.47400 \\ 0.207427u^{45} - 0.333717u^{44} + \cdots + 3.78241u + 1.18037 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 56.7116u^{45} - 103.741u^{44} + \cdots + 160.878u + 54.1382$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{46} - 13u^{45} + \cdots + 3u^2 + 1$
c_2	$u^{46} - 3u^{45} + \cdots + 22u + 1$
c_3	$u^{46} - 2u^{45} + \cdots + 2u + 1$
c_4	$u^{46} + 3u^{45} + \cdots + 241u + 31$
c_5	$u^{46} + 10u^{45} + \cdots + 1213u + 97$
c_6	$u^{46} - 2u^{45} + \cdots + 11u^2 + 1$
c_7	$u^{46} - 4u^{45} + \cdots + 144u^2 + 11$
c_8	$u^{46} - 10u^{45} + \cdots - 1213u + 97$
c_9	$u^{46} + u^{45} + \cdots - 4u + 1$
c_{10}	$u^{46} + 3u^{45} + \cdots - 7u + 1$
c_{11}	$u^{46} + 8u^{45} + \cdots - 24u + 4$
c_{12}	$u^{46} - u^{45} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{46} - 5y^{45} + \cdots + 6y + 1$
c_2	$y^{46} + 19y^{45} + \cdots - 64y + 1$
c_3	$y^{46} + 18y^{45} + \cdots + 46y + 1$
c_4	$y^{46} + 13y^{45} + \cdots - 28755y + 961$
c_5, c_8	$y^{46} + 48y^{45} + \cdots + 271139y + 9409$
c_6	$y^{46} + 10y^{45} + \cdots + 22y + 1$
c_7	$y^{46} - 2y^{45} + \cdots + 3168y + 121$
c_9, c_{12}	$y^{46} - 29y^{45} + \cdots - 2y + 1$
c_{10}	$y^{46} - 15y^{45} + \cdots + y + 1$
c_{11}	$y^{46} - 2y^{45} + \cdots + 672y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.028920+0.080536I$ $a=-0.071638+1.063070I$ $b=\ \ 0.22651-2.99879I$	$-3.31324+2.24286I$	$-3.1403+20.5089I$
$u=-1.028920-0.080536I$ $a=-0.071638-1.063070I$ $b=\ \ 0.22651+2.99879I$	$-3.31324-2.24286I$	$-3.1403-20.5089I$
$u=\ \ 1.046760+0.131364I$ $a=\ \ 0.32274+2.23549I$ $b=-0.455939-0.495655I$	$-5.72591-5.83950I$	$-12.9761+13.8144I$
$u=\ \ 1.046760-0.131364I$ $a=\ \ 0.32274-2.23549I$ $b=-0.455939+0.495655I$	$-5.72591+5.83950I$	$-12.9761-13.8144I$
$u=-1.040630+0.277212I$ $a=\ \ 0.962769+0.216436I$ $b=\ \ 0.526120+0.234728I$	$-0.231899+1.217870I$	$0.+2.08894I$
$u=-1.040630-0.277212I$ $a=\ \ 0.962769-0.216436I$ $b=\ \ 0.526120-0.234728I$	$-0.231899-1.217870I$	$0.-2.08894I$
$u=\ \ 1.107900+0.155510I$ $a=\ \ 0.39567-1.76009I$ $b=\ \ 0.625914+0.117941I$	$-5.85415+4.46609I$	$-6.02152+0.I$
$u=\ \ 1.107900-0.155510I$ $a=\ \ 0.39567+1.76009I$ $b=\ \ 0.625914-0.117941I$	$-5.85415-4.46609I$	$-6.02152+0.I$
$u=-0.857383+0.087487I$ $a=\ \ 0.495965+1.009700I$ $b=\ \ 2.22776+1.74005I$	$-1.22876+2.16819I$	$-35.2828+119.0483I$
$u=-0.857383-0.087487I$ $a=\ \ 0.495965-1.009700I$ $b=\ \ 2.22776-1.74005I$	$-1.22876-2.16819I$	$-35.2828-119.0483I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.095240 + 0.338009I$ $a = -0.956514 + 0.851693I$ $b = -1.055010 - 0.764229I$	$-0.68811 - 5.67749I$	$0. + 10.42035I$
$u = 1.095240 - 0.338009I$ $a = -0.956514 - 0.851693I$ $b = -1.055010 + 0.764229I$	$-0.68811 + 5.67749I$	$0. - 10.42035I$
$u = 1.031610 + 0.509628I$ $a = -0.016779 + 0.257612I$ $b = -1.232680 + 0.076996I$	$0.09264 - 7.04184I$	$0. + 6.83284I$
$u = 1.031610 - 0.509628I$ $a = -0.016779 - 0.257612I$ $b = -1.232680 - 0.076996I$	$0.09264 + 7.04184I$	$0. - 6.83284I$
$u = 0.082337 + 1.151290I$ $a = -1.101750 + 0.159949I$ $b = 1.060140 - 0.470202I$	$-2.87772 + 5.39674I$	$0. - 4.68662I$
$u = 0.082337 - 1.151290I$ $a = -1.101750 - 0.159949I$ $b = 1.060140 + 0.470202I$	$-2.87772 - 5.39674I$	$0. + 4.68662I$
$u = -0.119326 + 1.226680I$ $a = -0.607440 - 0.019033I$ $b = 0.270613 - 0.128902I$	$3.11942 + 3.71441I$	0
$u = -0.119326 - 1.226680I$ $a = -0.607440 + 0.019033I$ $b = 0.270613 + 0.128902I$	$3.11942 - 3.71441I$	0
$u = -0.730715 + 0.205826I$ $a = 0.232335 - 1.107280I$ $b = -0.79448 - 2.21690I$	$-2.27439 + 2.33632I$	$-20.1949 - 6.7046I$
$u = -0.730715 - 0.205826I$ $a = 0.232335 + 1.107280I$ $b = -0.79448 + 2.21690I$	$-2.27439 - 2.33632I$	$-20.1949 + 6.7046I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.367977+0.609364I$ $a=-1.10574+0.97629I$ $b=\ 1.32324+0.57297I$	$-1.88833-1.09309I$	$-5.59794-1.92814I$
$u=-0.367977-0.609364I$ $a=-1.10574-0.97629I$ $b=\ 1.32324-0.57297I$	$-1.88833+1.09309I$	$-5.59794+1.92814I$
$u=\ 0.646129+0.221012I$ $a=\ 0.244795-1.321800I$ $b=\ 0.37151-1.48744I$	$-1.57015-10.96270I$	$-3.38606+10.75296I$
$u=\ 0.646129-0.221012I$ $a=\ 0.244795+1.321800I$ $b=\ 0.37151+1.48744I$	$-1.57015+10.96270I$	$-3.38606-10.75296I$
$u=-1.185450+0.650489I$ $a=-0.381363+1.126290I$ $b=\ 0.870802-0.487599I$	$-6.51168+6.34074I$	0
$u=-1.185450-0.650489I$ $a=-0.381363-1.126290I$ $b=\ 0.870802+0.487599I$	$-6.51168-6.34074I$	0
$u=\ 0.453884+0.389801I$ $a=-1.226120+0.424679I$ $b=\ 0.690730-1.041090I$	$1.45165+2.37349I$	$2.48972-9.61770I$
$u=\ 0.453884-0.389801I$ $a=-1.226120-0.424679I$ $b=\ 0.690730+1.041090I$	$1.45165-2.37349I$	$2.48972+9.61770I$
$u=-0.320129+0.426848I$ $a=\ 0.03079+1.58779I$ $b=\ 0.390028-0.842785I$	$1.52001+2.89657I$	$3.28401-7.02618I$
$u=-0.320129-0.426848I$ $a=\ 0.03079-1.58779I$ $b=\ 0.390028+0.842785I$	$1.52001-2.89657I$	$3.28401+7.02618I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.46571 + 0.19476I$ $a = 0.179702 - 0.831989I$ $b = 0.843999 + 1.073500I$	$-5.63866 - 10.37920I$	0
$u = 1.46571 - 0.19476I$ $a = 0.179702 + 0.831989I$ $b = 0.843999 - 1.073500I$	$-5.63866 + 10.37920I$	0
$u = 1.37163 + 0.57904I$ $a = 0.096520 + 1.041480I$ $b = -1.54180 - 0.80257I$	$-6.92722 - 11.55380I$	0
$u = 1.37163 - 0.57904I$ $a = 0.096520 - 1.041480I$ $b = -1.54180 + 0.80257I$	$-6.92722 + 11.55380I$	0
$u = -0.338000 + 0.357411I$ $a = 2.31319 - 0.58030I$ $b = -0.047507 - 0.904165I$	$-0.04163 - 1.94795I$	$3.34755 - 3.72536I$
$u = -0.338000 - 0.357411I$ $a = 2.31319 + 0.58030I$ $b = -0.047507 + 0.904165I$	$-0.04163 + 1.94795I$	$3.34755 + 3.72536I$
$u = -0.08298 + 1.54281I$ $a = 0.736523 - 0.100875I$ $b = -0.593222 - 0.074438I$	$1.61120 + 4.51582I$	0
$u = -0.08298 - 1.54281I$ $a = 0.736523 + 0.100875I$ $b = -0.593222 + 0.074438I$	$1.61120 - 4.51582I$	0
$u = -1.49012 + 0.57892I$ $a = 0.315431 - 0.825187I$ $b = -0.820086 + 0.585755I$	$-7.66009 + 0.03038I$	0
$u = -1.49012 - 0.57892I$ $a = 0.315431 + 0.825187I$ $b = -0.820086 - 0.585755I$	$-7.66009 - 0.03038I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.087733+0.363131I$ $a=\ \ 2.40974+0.29296I$ $b=\ \ 0.435075+0.446739I$	$-1.27647-3.23099I$	$-11.2720+10.2375I$
$u=-0.087733-0.363131I$ $a=\ \ 2.40974-0.29296I$ $b=\ \ 0.435075-0.446739I$	$-1.27647+3.23099I$	$-11.2720-10.2375I$
$u=\ \ 1.63220+0.13342I$ $a=-0.255654+0.725529I$ $b=-0.994346-0.370724I$	$-9.42078-2.19479I$	0
$u=\ \ 1.63220-0.13342I$ $a=-0.255654-0.725529I$ $b=-0.994346+0.370724I$	$-9.42078+2.19479I$	0
$u=-1.78403+0.29765I$ $a=-0.013162-0.638081I$ $b=-0.827354+0.396039I$	$-8.81817+1.08844I$	0
$u=-1.78403-0.29765I$ $a=-0.013162+0.638081I$ $b=-0.827354-0.396039I$	$-8.81817-1.08844I$	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9u^2 + 5u + 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.662359 + 0.562280I$ $a = 0$ $b = 0.877439 - 0.744862I$	$1.37919 + 2.82812I$	$3.20874 - 3.89236I$
$u = 0.662359 - 0.562280I$ $a = 0$ $b = 0.877439 + 0.744862I$	$1.37919 - 2.82812I$	$3.20874 + 3.89236I$
$u = -1.32472$ $a = 0$ $b = -0.754878$	-2.75839	-21.4170

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3-u^2+2u-1)(u^{46}-13u^{45}+\cdots+3u^2+1)$ $\cdot(u^{192}+11u^{191}+\cdots+11366u-13097)$
c_2	$(u^3+2u^2+3u+1)(u^{46}-3u^{45}+\cdots+22u+1)$ $\cdot(u^{192}+12u^{190}+\cdots+43u+1)$
c_3	$(u^3-u^2+2u-1)(u^{46}-2u^{45}+\cdots+2u+1)$ $\cdot(u^{192}+6u^{191}+\cdots+162u-81)$
c_4	$(u^3+u^2-1)(u^{46}+3u^{45}+\cdots+241u+31)$ $\cdot(u^{192}+u^{191}+\cdots+34724083357u-1929655883)$
c_5	$u^3(u^{46}+10u^{45}+\cdots+1213u+97)$ $\cdot(u^{192}-7u^{191}+\cdots-54816024u+2680568)$
c_6	$(u^3-u-1)(u^{46}-2u^{45}+\cdots+11u^2+1)(u^{192}-3u^{191}+\cdots+145u+7)$
c_7	$(u^3-2u^2+u-1)(u^{46}-4u^{45}+\cdots+144u^2+11)$ $\cdot(u^{192}-15u^{191}+\cdots-288765u+40025)$
c_8	$u^3(u^{46}-10u^{45}+\cdots-1213u+97)$ $\cdot(u^{192}-7u^{191}+\cdots-54816024u+2680568)$
c_9	$(u^3-u-1)(u^{46}+u^{45}+\cdots-4u+1)$ $\cdot(u^{192}-66u^{190}+\cdots+260505u+190913)$
c_{10}	$(u^3+u^2-1)(u^{46}+3u^{45}+\cdots-7u+1)(u^{192}+u^{191}+\cdots+67u+11)$
c_{11}	$(u^3-u-1)(u^{46}+8u^{45}+\cdots-24u+4)$ $\cdot(u^{192}+13u^{191}+\cdots-447056u+393584)$
c_{12}	$(u^3-u+1)(u^{46}-u^{45}+\cdots+4u+1)$ $\cdot(u^{192}-66u^{190}+\cdots+260505u+190913)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^3+3y^2+2y-1)(y^{46}-5y^{45}+\cdots+6y+1)$ $\cdot(y^{192}-19y^{191}+\cdots-5625892080y+171531409)$
c_2	$(y^3+2y^2+5y-1)(y^{46}+19y^{45}+\cdots-64y+1)$ $\cdot(y^{192}+24y^{191}+\cdots-25y+1)$
c_3	$(y^3+3y^2+2y-1)(y^{46}+18y^{45}+\cdots+46y+1)$ $\cdot(y^{192}+8y^{191}+\cdots+4694760y+6561)$
c_4	$(y^3-y^2+2y-1)(y^{46}+13y^{45}+\cdots-28755y+961)$ $\cdot(y^{192}-57y^{191}+\cdots-3.74\times10^{20}y+3.72\times10^{18})$
c_5, c_8	$y^3(y^{46}+48y^{45}+\cdots+271139y+9409)$ $\cdot(y^{192}+159y^{191}+\cdots-1182090996599008y+7185444802624)$
c_6	$(y^3-2y^2+y-1)(y^{46}+10y^{45}+\cdots+22y+1)$ $\cdot(y^{192}+27y^{191}+\cdots+4161y+49)$
c_7	$(y^3-2y^2-3y-1)(y^{46}-2y^{45}+\cdots+3168y+121)$ $\cdot(y^{192}+11y^{191}+\cdots+28375301475y+1602000625)$
c_9, c_{12}	$(y^3-2y^2+y-1)(y^{46}-29y^{45}+\cdots-2y+1)$ $\cdot(y^{192}-132y^{191}+\cdots-2163961974271y+36447773569)$
c_{10}	$(y^3-y^2+2y-1)(y^{46}-15y^{45}+\cdots+y+1)$ $\cdot(y^{192}-5y^{191}+\cdots-37181y+121)$
c_{11}	$(y^3-2y^2+y-1)(y^{46}-2y^{45}+\cdots+672y+16)$ $\cdot(y^{192}+51y^{191}+\cdots+17097698026752y+154908365056)$