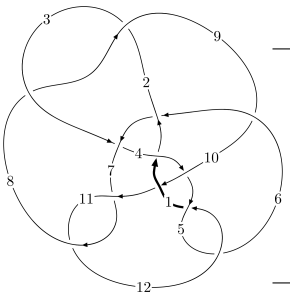
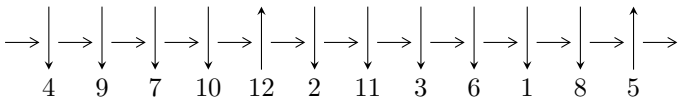
$12a_{1155}$ $(K12a_{1155})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.50988 \times 10^{1377} u^{193} + 5.90345 \times 10^{1378} u^{192} + \cdots + 5.92791 \times 10^{1378} b - 5.34232 \times 10^{1384},$$
$$- 5.91310 \times 10^{1384} u^{193} - 1.11374 \times 10^{1385} u^{192} + \cdots + 4.68861 \times 10^{1384} a + 5.14788 \times 10^{1390},$$
$$u^{194} + u^{193} + \cdots - 1651839u - 790939 \rangle$$
$$I_2^u = \langle -1.99760 \times 10^{82} u^{57} + 5.15828 \times 10^{81} u^{56} + \cdots + 1.43336 \times 10^{82} b - 1.65100 \times 10^{82},$$
$$1.86247 \times 10^{82} u^{57} + 5.00930 \times 10^{80} u^{56} + \cdots + 1.43336 \times 10^{82} a - 3.53162 \times 10^{82},\ u^{58} + 18u^{56} + \cdots + u + 1$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 252 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. $\boldsymbol{I_1^u = \langle -1.51 \times 10^{1377} u^{193} + 5.90 \times 10^{1378} u^{192} + \cdots + 5.93 \times 10^{1378} b - 5.34 \times 10^{1384},\ -5.91 \times 10^{1384} u^{193} - 1.11 \times 10^{1385} u^{192} + \cdots + 4.69 \times 10^{1384} a + 5.15 \times 10^{1390},\ u^{194} + u^{193} + \cdots - 1651839 u - 790939 \rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 1.26116 u^{193} + 2.37542 u^{192} + \cdots - 3.16290 \times 10^6 u - 1.09795 \times 10^6 \\ 0.0254707 u^{193} - 0.995873 u^{192} + \cdots + 1.73070 \times 10^6 u + 901215. \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.28663 u^{193} + 1.37955 u^{192} + \cdots - 1.43220 \times 10^6 u - 196739. \\ 0.0254707 u^{193} - 0.995873 u^{192} + \cdots + 1.73070 \times 10^6 u + 901215. \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.269234 u^{193} - 0.382547 u^{192} + \cdots + 688122. u + 201144. \\ 1.19256 u^{193} + 1.92736 u^{192} + \cdots - 2.78150 \times 10^6 u - 847543. \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.579703 u^{193} + 1.03632 u^{192} + \cdots - 1.34421 \times 10^6 u - 432416. \\ 0.450166 u^{193} + 0.872018 u^{192} + \cdots - 1.27867 \times 10^6 u - 468981. \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.599790 u^{193} + 0.366313 u^{192} + \cdots - 390711. u + 57558.9 \\ -0.0944036 u^{193} - 0.913057 u^{192} + \cdots + 1.51939 \times 10^6 u + 741934. \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.43082 u^{193} - 2.07265 u^{192} + \cdots + 3.06205 \times 10^6 u + 856286. \\ 1.06618 u^{193} + 1.57062 u^{192} + \cdots - 2.19934 \times 10^6 u - 610425. \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.472776 u^{193} - 0.774592 u^{192} + \cdots + 1.13923 \times 10^6 u + 370057. \\ -0.161775 u^{193} - 0.0848087 u^{192} + \cdots + 52404.0 u - 45327.9 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.17797 u^{193} + 1.00013 u^{192} + \cdots - 954147. u + 24399.5 \\ -0.349845 u^{193} - 0.676480 u^{192} + \cdots + 936578. u + 319712. \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3.42353 u^{193} + 12.3533 u^{192} + \cdots - 1.94793 \times 10^7 u - 8.52189 \times 10^6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{194} - 11u^{193} + \cdots - 62880330u + 4090161$
c_2, c_8	$u^{194} - u^{193} + \cdots + 1651839u - 790939$
c_3	$u^{194} + 11u^{193} + \cdots + 408965120u + 61030400$
c_4	$u^{194} - u^{193} + \cdots + 56u - 8$
c_5, c_{12}	$u^{194} - 3u^{193} + \cdots + 190059624u + 9025047$
c_6	$u^{194} - 3u^{193} + \cdots + 40202554u + 2009017$
c_7, c_{11}	$u^{194} - u^{193} + \cdots + 455874u - 98619$
c_9	$u^{194} + 7u^{193} + \cdots + 1253802198507u - 145931161770$
c_{10}	$u^{194} - u^{193} + \cdots - 285u + 44$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{194} + 53y^{193} + \cdots + 717183428110710y + 16729417005921$
c_2, c_8	$y^{194} + 125y^{193} + \cdots + 20930327480459y + 625584501721$
c_3	$y^{194} + 43y^{193} + \cdots - 127849415154073600y + 3724709724160000$
c_4	$y^{194} - 13y^{193} + \cdots + 1440y + 64$
c_5, c_{12}	$y^{194} + 131y^{193} + \cdots - 965532633072174y + 81451473352209$
c_6	$y^{194} + 49y^{193} + \cdots + 7208004183428y + 4036149306289$
c_7, c_{11}	$y^{194} - 97y^{193} + \cdots - 576170958396y + 9725707161$
c_9	$y^{194} + 71y^{193} + \cdots + 1.21 \times 10^{24}y + 2.13 \times 10^{22}$
c_{10}	$y^{194} - 23y^{193} + \cdots - 1116017y + 1936$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.141757+0.992496I$ $a=\ 0.163340+0.401248I$ $b=\ 0.125416-0.882349I$	$-0.05703+5.75531I$	0
$u=-0.141757-0.992496I$ $a=\ 0.163340-0.401248I$ $b=\ 0.125416+0.882349I$	$-0.05703-5.75531I$	0
$u=\ 0.012567+0.996931I$ $a=-0.66341+1.84287I$ $b=\ 0.172614-1.345680I$	$3.23208-0.05229I$	0
$u=\ 0.012567-0.996931I$ $a=-0.66341-1.84287I$ $b=\ 0.172614+1.345680I$	$3.23208+0.05229I$	0
$u=\ 0.183620+0.969879I$ $a=\ 0.786047+0.313791I$ $b=-1.53889-0.04387I$	$0.87248-4.35039I$	0
$u=\ 0.183620-0.969879I$ $a=\ 0.786047-0.313791I$ $b=-1.53889+0.04387I$	$0.87248+4.35039I$	0
$u=\ 1.010950+0.088150I$ $a=\ 0.420693+0.209939I$ $b=\ 0.731544-0.486785I$	$-0.240796-1.041520I$	0
$u=\ 1.010950-0.088150I$ $a=\ 0.420693-0.209939I$ $b=\ 0.731544+0.486785I$	$-0.240796+1.041520I$	0
$u=\ 0.702164+0.741809I$ $a=\ 0.070096-0.844095I$ $b=\ 1.030280-0.360452I$	$-4.26655+5.95623I$	0
$u=\ 0.702164-0.741809I$ $a=\ 0.070096+0.844095I$ $b=\ 1.030280+0.360452I$	$-4.26655-5.95623I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.373062 + 0.903622I$ $a = -1.20701 + 1.35773I$ $b = -1.212420 - 0.470885I$	$-3.81513 - 10.23240I$	0
$u = 0.373062 - 0.903622I$ $a = -1.20701 - 1.35773I$ $b = -1.212420 + 0.470885I$	$-3.81513 + 10.23240I$	0
$u = -0.085914 + 0.972801I$ $a = -0.17201 + 2.56255I$ $b = -0.692011 - 0.160444I$	$4.09753 - 0.21757I$	0
$u = -0.085914 - 0.972801I$ $a = -0.17201 - 2.56255I$ $b = -0.692011 + 0.160444I$	$4.09753 + 0.21757I$	0
$u = 0.613142 + 0.820785I$ $a = 0.575284 - 0.121686I$ $b = -1.224860 + 0.233289I$	$-4.05828 - 3.74240I$	0
$u = 0.613142 - 0.820785I$ $a = 0.575284 + 0.121686I$ $b = -1.224860 - 0.233289I$	$-4.05828 + 3.74240I$	0
$u = -0.122959 + 0.949111I$ $a = -0.039975 - 0.899708I$ $b = 1.270660 + 0.316796I$	$-0.38062 + 3.28995I$	0
$u = -0.122959 - 0.949111I$ $a = -0.039975 + 0.899708I$ $b = 1.270660 - 0.316796I$	$-0.38062 - 3.28995I$	0
$u = 0.107862 + 0.943439I$ $a = 0.17255 + 3.89805I$ $b = 0.591677 - 0.203306I$	$2.01211 - 7.03068I$	0
$u = 0.107862 - 0.943439I$ $a = 0.17255 - 3.89805I$ $b = 0.591677 + 0.203306I$	$2.01211 + 7.03068I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.698437+0.641631I$ $a=\ \ 0.276948+0.195181I$ $b=\ \ 1.150670+0.382326I$	$-4.77250-1.88463I$	0
$u=-0.698437-0.641631I$ $a=\ \ 0.276948-0.195181I$ $b=\ \ 1.150670-0.382326I$	$-4.77250+1.88463I$	0
$u=-0.571720+0.885000I$ $a=\ \ 0.657406-0.837722I$ $b=-1.62664+0.20912I$	$-5.55754+9.30667I$	0
$u=-0.571720-0.885000I$ $a=\ \ 0.657406+0.837722I$ $b=-1.62664-0.20912I$	$-5.55754-9.30667I$	0
$u=-0.112545+1.052170I$ $a=-0.74904+1.75486I$ $b=\ \ 1.33777-0.93989I$	$2.61512+4.80540I$	0
$u=-0.112545-1.052170I$ $a=-0.74904-1.75486I$ $b=\ \ 1.33777+0.93989I$	$2.61512-4.80540I$	0
$u=\ \ 0.028466+1.067350I$ $a=\ \ 0.38284-3.04993I$ $b=\ \ 0.884838+0.378701I$	$4.83034+0.43988I$	0
$u=\ \ 0.028466-1.067350I$ $a=\ \ 0.38284+3.04993I$ $b=\ \ 0.884838-0.378701I$	$4.83034-0.43988I$	0
$u=\ \ 0.921549+0.104379I$ $a=-0.694260+1.026770I$ $b=-0.193219-1.048660I$	$-0.18284+8.97734I$	0
$u=\ \ 0.921549-0.104379I$ $a=-0.694260-1.026770I$ $b=-0.193219+1.048660I$	$-0.18284-8.97734I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.156861+0.911862I$ $a=\ \ 0.478462+0.325241I$ $b=\ \ 1.139960+0.096404I$	$-1.40701+1.73482I$	0
$u=-0.156861-0.911862I$ $a=\ \ 0.478462-0.325241I$ $b=\ \ 1.139960-0.096404I$	$-1.40701-1.73482I$	0
$u=-0.075733+0.920826I$ $a=-1.06604-1.58618I$ $b=\ \ 1.38632+0.94262I$	$-0.62948+3.58997I$	0
$u=-0.075733-0.920826I$ $a=-1.06604+1.58618I$ $b=\ \ 1.38632-0.94262I$	$-0.62948-3.58997I$	0
$u=-0.460687+0.976608I$ $a=-0.25897-1.89271I$ $b=-1.169800+0.517564I$	$-3.70753+6.39451I$	0
$u=-0.460687-0.976608I$ $a=-0.25897+1.89271I$ $b=-1.169800-0.517564I$	$-3.70753-6.39451I$	0
$u=\ \ 1.082490+0.186558I$ $a=\ \ 0.655668-0.110945I$ $b=\ \ 0.935171-0.269263I$	$-0.52302+1.95724I$	0
$u=\ \ 1.082490-0.186558I$ $a=\ \ 0.655668+0.110945I$ $b=\ \ 0.935171+0.269263I$	$-0.52302-1.95724I$	0
$u=-0.884808+0.663733I$ $a=-0.512145+0.959964I$ $b=\ \ 1.55204-0.12993I$	$-6.37930-3.93678I$	0
$u=-0.884808-0.663733I$ $a=-0.512145-0.959964I$ $b=\ \ 1.55204+0.12993I$	$-6.37930+3.93678I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.103990 + 0.073176I$ $a = -0.482596 + 0.574349I$ $b = -1.117840 - 0.535989I$	$0.43529 - 8.89903I$	0
$u = 1.103990 - 0.073176I$ $a = -0.482596 - 0.574349I$ $b = -1.117840 + 0.535989I$	$0.43529 + 8.89903I$	0
$u = -0.012111 + 0.891727I$ $a = 0.68008 + 2.79498I$ $b = -0.718619 - 0.804079I$	$-0.81128 - 4.94492I$	0
$u = -0.012111 - 0.891727I$ $a = 0.68008 - 2.79498I$ $b = -0.718619 + 0.804079I$	$-0.81128 + 4.94492I$	0
$u = -0.300630 + 1.068800I$ $a = 0.53016 - 2.13216I$ $b = -1.012020 + 0.748608I$	$-2.36541 + 5.65305I$	0
$u = -0.300630 - 1.068800I$ $a = 0.53016 + 2.13216I$ $b = -1.012020 - 0.748608I$	$-2.36541 - 5.65305I$	0
$u = 0.390413 + 1.043690I$ $a = -0.01824 - 1.62063I$ $b = -0.291925 + 1.140940I$	$5.03548 - 1.54324I$	0
$u = 0.390413 - 1.043690I$ $a = -0.01824 + 1.62063I$ $b = -0.291925 - 1.140940I$	$5.03548 + 1.54324I$	0
$u = -0.855806 + 0.207817I$ $a = -0.332375 + 0.585087I$ $b = -0.287391 - 0.745600I$	$2.84978 + 4.10135I$	0
$u = -0.855806 - 0.207817I$ $a = -0.332375 - 0.585087I$ $b = -0.287391 + 0.745600I$	$2.84978 - 4.10135I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.079210+0.301920I$ $a=\ \ 0.557126-0.205509I$ $b=\ \ 0.922776+0.499946I$	$-0.83638-5.13379I$	0
$u=-1.079210-0.301920I$ $a=\ \ 0.557126+0.205509I$ $b=\ \ 0.922776-0.499946I$	$-0.83638+5.13379I$	0
$u=-0.052636+0.875022I$ $a=\ \ 1.08237-2.31394I$ $b=-0.820533+0.560278I$	$-1.84370-0.44111I$	0
$u=-0.052636-0.875022I$ $a=\ \ 1.08237+2.31394I$ $b=-0.820533-0.560278I$	$-1.84370+0.44111I$	0
$u=\ \ 0.277966+1.094970I$ $a=\ \ 0.27805+1.57449I$ $b=-1.049610-0.700045I$	$2.37803-3.36677I$	0
$u=\ \ 0.277966-1.094970I$ $a=\ \ 0.27805-1.57449I$ $b=-1.049610+0.700045I$	$2.37803+3.36677I$	0
$u=-0.095539+1.133020I$ $a=-0.73877-2.87835I$ $b=-0.830698+0.401060I$	$3.37646+6.68626I$	0
$u=-0.095539-1.133020I$ $a=-0.73877+2.87835I$ $b=-0.830698-0.401060I$	$3.37646-6.68626I$	0
$u=-0.153065+0.849088I$ $a=\ \ 0.51004-1.98225I$ $b=-0.72291+1.30755I$	$-0.55572-2.21708I$	0
$u=-0.153065-0.849088I$ $a=\ \ 0.51004+1.98225I$ $b=-0.72291-1.30755I$	$-0.55572+2.21708I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.197752 + 1.121700I$ $a = 1.12470 + 1.96532I$ $b = -1.122350 - 0.630454I$	$-2.26508 - 0.70757I$	0
$u = 0.197752 - 1.121700I$ $a = 1.12470 - 1.96532I$ $b = -1.122350 + 0.630454I$	$-2.26508 + 0.70757I$	0
$u = -0.221543 + 1.126860I$ $a = -0.21070 + 1.85774I$ $b = 1.289210 - 0.532367I$	$-0.86302 + 6.13303I$	0
$u = -0.221543 - 1.126860I$ $a = -0.21070 - 1.85774I$ $b = 1.289210 + 0.532367I$	$-0.86302 - 6.13303I$	0
$u = 0.613195 + 0.977810I$ $a = -0.147630 - 0.731590I$ $b = 1.373540 + 0.181772I$	$-7.26828 - 1.52844I$	0
$u = 0.613195 - 0.977810I$ $a = -0.147630 + 0.731590I$ $b = 1.373540 - 0.181772I$	$-7.26828 + 1.52844I$	0
$u = 0.903048 + 0.762605I$ $a = -0.037219 - 1.364120I$ $b = 1.060500 + 0.632297I$	$-4.51146 - 1.87791I$	0
$u = 0.903048 - 0.762605I$ $a = -0.037219 + 1.364120I$ $b = 1.060500 - 0.632297I$	$-4.51146 + 1.87791I$	0
$u = 1.024660 + 0.593621I$ $a = -0.043160 + 0.754894I$ $b = -1.224310 - 0.073065I$	$-8.62806 - 4.24228I$	0
$u = 1.024660 - 0.593621I$ $a = -0.043160 - 0.754894I$ $b = -1.224310 + 0.073065I$	$-8.62806 + 4.24228I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.291631 + 1.164270I$ $a = -0.59579 - 1.83467I$ $b = 1.21591 + 0.92947I$	$-1.06269 - 11.81910I$	0
$u = 0.291631 - 1.164270I$ $a = -0.59579 + 1.83467I$ $b = 1.21591 - 0.92947I$	$-1.06269 + 11.81910I$	0
$u = -1.210700 + 0.175801I$ $a = 0.150096 + 1.025400I$ $b = 1.024850 - 0.854983I$	$-1.70744 + 3.81023I$	0
$u = -1.210700 - 0.175801I$ $a = 0.150096 - 1.025400I$ $b = 1.024850 + 0.854983I$	$-1.70744 - 3.81023I$	0
$u = -0.747472 + 0.173357I$ $a = -0.109262 - 1.074320I$ $b = 0.528423 + 0.497889I$	$-3.35851 - 2.95071I$	0
$u = -0.747472 - 0.173357I$ $a = -0.109262 + 1.074320I$ $b = 0.528423 - 0.497889I$	$-3.35851 + 2.95071I$	0
$u = -0.241122 + 1.215340I$ $a = -0.008227 + 1.356890I$ $b = 0.056353 - 1.139580I$	$7.08361 + 2.79268I$	0
$u = -0.241122 - 1.215340I$ $a = -0.008227 - 1.356890I$ $b = 0.056353 + 1.139580I$	$7.08361 - 2.79268I$	0
$u = -0.311147 + 1.203840I$ $a = 0.17743 + 1.45236I$ $b = 1.283630 - 0.394427I$	$-1.51736 + 6.67010I$	0
$u = -0.311147 - 1.203840I$ $a = 0.17743 - 1.45236I$ $b = 1.283630 + 0.394427I$	$-1.51736 - 6.67010I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.182060+0.401122I$ $a=\ \ 0.0086736+0.0155341I$ $b=\ \ 0.980942+0.270063I$	$-0.688997-0.140298I$	0
$u=-1.182060-0.401122I$ $a=\ \ 0.0086736-0.0155341I$ $b=\ \ 0.980942-0.270063I$	$-0.688997+0.140298I$	0
$u=-0.738513+0.111285I$ $a=\ \ 1.156250-0.453907I$ $b=\ \ 0.915145+0.579228I$	$-1.01502-4.25132I$	0
$u=-0.738513-0.111285I$ $a=\ \ 1.156250+0.453907I$ $b=\ \ 0.915145-0.579228I$	$-1.01502+4.25132I$	0
$u=-0.745520$ $a=-1.45175$ $b=-1.00386$	-4.46196	0
$u=\ \ 0.740597+0.075694I$ $a=\ \ 0.800859-1.063810I$ $b=\ \ 0.238716+1.148900I$	$0.47281-3.27667I$	0
$u=\ \ 0.740597-0.075694I$ $a=\ \ 0.800859+1.063810I$ $b=\ \ 0.238716-1.148900I$	$0.47281+3.27667I$	0
$u=\ \ 0.036943+1.257370I$ $a=-2.11103-0.98282I$ $b=\ \ 0.760879+0.335671I$	$5.26485-3.65445I$	0
$u=\ \ 0.036943-1.257370I$ $a=-2.11103+0.98282I$ $b=\ \ 0.760879-0.335671I$	$5.26485+3.65445I$	0
$u=-0.331273+1.214680I$ $a=\ \ 0.55420-1.33553I$ $b=-0.376956+0.118818I$	$0.15486+6.77754I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.331273-1.214680I$ $a=\ \ 0.55420+1.33553I$ $b=-0.376956-0.118818I$	$0.15486-6.77754I$	0
$u=-0.149470+1.252490I$ $a=-2.02601+1.88203I$ $b=\ \ 1.111220-0.376418I$	$-0.02912+9.82160I$	0
$u=-0.149470-1.252490I$ $a=-2.02601-1.88203I$ $b=\ \ 1.111220+0.376418I$	$-0.02912-9.82160I$	0
$u=-0.579114+1.122990I$ $a=-1.054090-0.676947I$ $b=-0.699592+0.340503I$	$4.90661+3.64655I$	0
$u=-0.579114-1.122990I$ $a=-1.054090+0.676947I$ $b=-0.699592-0.340503I$	$4.90661-3.64655I$	0
$u=\ \ 0.043393+1.264150I$ $a=\ \ 0.236409+1.186900I$ $b=-0.496891-0.948200I$	$3.97925-2.63874I$	0
$u=\ \ 0.043393-1.264150I$ $a=\ \ 0.236409-1.186900I$ $b=-0.496891+0.948200I$	$3.97925+2.63874I$	0
$u=-1.269250+0.077896I$ $a=-0.088902+0.492604I$ $b=-1.238480-0.604359I$	$-3.3675-14.7813I$	0
$u=-1.269250-0.077896I$ $a=-0.088902-0.492604I$ $b=-1.238480+0.604359I$	$-3.3675+14.7813I$	0
$u=\ \ 0.712307+0.060309I$ $a=\ \ 0.800762-0.929031I$ $b=\ \ 1.077060+0.168010I$	$-1.68046+1.54359I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.712307 - 0.060309I$ $a = 0.800762 + 0.929031I$ $b = 1.077060 - 0.168010I$	$-1.68046 - 1.54359I$	0
$u = 0.190249 + 1.284900I$ $a = 1.310230 - 0.437763I$ $b = -0.663839 + 0.517318I$	$3.62767 - 2.82994I$	0
$u = 0.190249 - 1.284900I$ $a = 1.310230 + 0.437763I$ $b = -0.663839 - 0.517318I$	$3.62767 + 2.82994I$	0
$u = 0.049552 + 0.699003I$ $a = 0.304009 - 0.065197I$ $b = 1.329970 - 0.418526I$	$-4.02753 - 0.58659I$	0
$u = 0.049552 - 0.699003I$ $a = 0.304009 + 0.065197I$ $b = 1.329970 + 0.418526I$	$-4.02753 + 0.58659I$	0
$u = -0.558450 + 0.402479I$ $a = -0.162118 - 0.103374I$ $b = 1.184810 + 0.529511I$	$-4.29748 - 2.36254I$	0
$u = -0.558450 - 0.402479I$ $a = -0.162118 + 0.103374I$ $b = 1.184810 - 0.529511I$	$-4.29748 + 2.36254I$	0
$u = 0.130784 + 1.305250I$ $a = 0.428779 + 1.050390I$ $b = -0.519465 - 0.428573I$	$3.29612 - 2.06294I$	0
$u = 0.130784 - 1.305250I$ $a = 0.428779 - 1.050390I$ $b = -0.519465 + 0.428573I$	$3.29612 + 2.06294I$	0
$u = 0.203965 + 0.653111I$ $a = 0.880704 - 0.896634I$ $b = -0.184452 + 0.654679I$	$-0.90305 - 1.69960I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.203965 - 0.653111I$ $a = 0.880704 + 0.896634I$ $b = -0.184452 - 0.654679I$	$-0.90305 + 1.69960I$	0
$u = 0.585393 + 1.198790I$ $a = -0.89421 + 1.62831I$ $b = -0.667509 - 0.685707I$	$3.60459 - 7.93827I$	0
$u = 0.585393 - 1.198790I$ $a = -0.89421 - 1.62831I$ $b = -0.667509 + 0.685707I$	$3.60459 + 7.93827I$	0
$u = -0.274285 + 1.315170I$ $a = 0.336365 + 0.996411I$ $b = -0.525280 - 0.790982I$	$4.94232 - 0.88409I$	0
$u = -0.274285 - 1.315170I$ $a = 0.336365 - 0.996411I$ $b = -0.525280 + 0.790982I$	$4.94232 + 0.88409I$	0
$u = -0.080227 + 0.650717I$ $a = 1.13664 - 1.28468I$ $b = -0.390995 + 0.565964I$	$-0.90676 - 1.74017I$	0
$u = -0.080227 - 0.650717I$ $a = 1.13664 + 1.28468I$ $b = -0.390995 - 0.565964I$	$-0.90676 + 1.74017I$	0
$u = 1.339900 + 0.177175I$ $a = -0.305905 + 0.486053I$ $b = 1.41341 - 0.68044I$	$-2.78336 + 5.08720I$	0
$u = 1.339900 - 0.177175I$ $a = -0.305905 - 0.486053I$ $b = 1.41341 + 0.68044I$	$-2.78336 - 5.08720I$	0
$u = 0.504628 + 0.389189I$ $a = 1.037650 + 0.072486I$ $b = 0.031712 + 0.412942I$	$-1.61738 - 1.41619I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.504628-0.389189I$		
$a=$	$1.037650-0.072486I$	$-1.61738+1.41619I$	0
$b=$	$0.031712-0.412942I$		
$u=$	$0.523230+1.260220I$		
$a=$	$1.00701-1.14637I$	$3.68492+4.33866I$	0
$b=$	$0.626905+0.441316I$		
$u=$	$0.523230-1.260220I$		
$a=$	$1.00701+1.14637I$	$3.68492-4.33866I$	0
$b=$	$0.626905-0.441316I$		
$u=$	$-0.588653+0.237393I$		
$a=$	$-1.20621-1.19546I$	$-4.56951-3.23821I$	0
$b=$	$-1.095030-0.217933I$		
$u=$	$-0.588653-0.237393I$		
$a=$	$-1.20621+1.19546I$	$-4.56951+3.23821I$	0
$b=$	$-1.095030+0.217933I$		
$u=$	$-0.566761+0.269113I$		
$a=$	$0.84256-1.27775I$	$-2.91506-3.25491I$	0
$b=$	$0.663580-0.210533I$		
$u=$	$-0.566761-0.269113I$		
$a=$	$0.84256+1.27775I$	$-2.91506+3.25491I$	0
$b=$	$0.663580+0.210533I$		
$u=$	$0.159312+1.364020I$		
$a=$	$-1.51880-0.29408I$	$2.17373-5.27368I$	0
$b=$	$0.704075+0.077038I$		
$u=$	$0.159312-1.364020I$		
$a=$	$-1.51880+0.29408I$	$2.17373+5.27368I$	0
$b=$	$0.704075-0.077038I$		
$u=$	$0.182836+1.366050I$		
$a=$	$0.86098+1.21551I$	$3.32688-1.86040I$	0
$b=$	$-0.843976-0.282095I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.182836 - 1.366050I$ $a = 0.86098 - 1.21551I$ $b = -0.843976 + 0.282095I$	$3.32688 + 1.86040I$	0
$u = 0.516382 + 1.281070I$ $a = -0.73171 + 1.36342I$ $b = 0.469318 - 1.268170I$	$3.4603 - 14.2159I$	0
$u = 0.516382 - 1.281070I$ $a = -0.73171 - 1.36342I$ $b = 0.469318 + 1.268170I$	$3.4603 + 14.2159I$	0
$u = 0.188812 + 1.369630I$ $a = -0.322489 - 0.164581I$ $b = -0.265103 + 0.326133I$	$5.31637 - 2.44648I$	0
$u = 0.188812 - 1.369630I$ $a = -0.322489 + 0.164581I$ $b = -0.265103 - 0.326133I$	$5.31637 + 2.44648I$	0
$u = 0.605825 + 0.091505I$ $a = 0.124507 - 0.147158I$ $b = 0.753377 - 0.425311I$	$-0.553879 + 0.079056I$	0
$u = 0.605825 - 0.091505I$ $a = 0.124507 + 0.147158I$ $b = 0.753377 + 0.425311I$	$-0.553879 - 0.079056I$	0
$u = -0.382526 + 1.337370I$ $a = -0.612076 - 1.178220I$ $b = 0.356663 + 1.035790I$	$7.62311 + 8.50302I$	0
$u = -0.382526 - 1.337370I$ $a = -0.612076 + 1.178220I$ $b = 0.356663 - 1.035790I$	$7.62311 - 8.50302I$	0
$u = -0.438648 + 1.326450I$ $a = -0.209389 - 1.183600I$ $b = 0.262242 + 0.722065I$	$0.44163 + 7.26276I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.438648-1.326450I$ $a=-0.209389+1.183600I$ $b=\ \ 0.262242-0.722065I$	$0.44163-7.26276I$	0
$u=\ \ 0.430231+1.331920I$ $a=\ \ 0.440495-0.717057I$ $b=-0.435848+0.783829I$	$4.32371-6.04169I$	0
$u=\ \ 0.430231-1.331920I$ $a=\ \ 0.440495+0.717057I$ $b=-0.435848-0.783829I$	$4.32371+6.04169I$	0
$u=\ \ 0.557172+1.288270I$ $a=-0.119401+1.170320I$ $b=-1.195440-0.475464I$	$3.02195-7.74405I$	0
$u=\ \ 0.557172-1.288270I$ $a=-0.119401-1.170320I$ $b=-1.195440+0.475464I$	$3.02195+7.74405I$	0
$u=\ \ 0.549121+1.293100I$ $a=-0.06567+1.41583I$ $b=-1.031520-0.641589I$	$3.47007-4.45958I$	0
$u=\ \ 0.549121-1.293100I$ $a=-0.06567-1.41583I$ $b=-1.031520+0.641589I$	$3.47007+4.45958I$	0
$u=-0.478174+1.324900I$ $a=-0.11537-1.93130I$ $b=-1.121580+0.747231I$	$3.05324+8.91932I$	0
$u=-0.478174-1.324900I$ $a=-0.11537+1.93130I$ $b=-1.121580-0.747231I$	$3.05324-8.91932I$	0
$u=-0.63619+1.28800I$ $a=-0.29405-1.41570I$ $b=-1.113000+0.614765I$	$2.29613+11.33520I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.63619-1.28800I$ $a=-0.29405+1.41570I$ $b=-1.113000-0.614765I$	$2.29613-11.33520I$	0
$u=-0.45382+1.36999I$ $a=\ \ 0.134242+1.330560I$ $b=\ \ 1.085190-0.397677I$	$0.20935+4.44066I$	0
$u=-0.45382-1.36999I$ $a=\ \ 0.134242-1.330560I$ $b=\ \ 1.085190+0.397677I$	$0.20935-4.44066I$	0
$u=-0.77646+1.21944I$ $a=\ \ 1.08749+1.80717I$ $b=-0.69141-1.69192I$	$3.76836+3.52679I$	0
$u=-0.77646-1.21944I$ $a=\ \ 1.08749-1.80717I$ $b=-0.69141+1.69192I$	$3.76836-3.52679I$	0
$u=\ \ 0.51677+1.37154I$ $a=-0.01638-1.67661I$ $b=\ \ 1.217530+0.653404I$	$4.9333-14.5735I$	0
$u=\ \ 0.51677-1.37154I$ $a=-0.01638+1.67661I$ $b=\ \ 1.217530-0.653404I$	$4.9333+14.5735I$	0
$u=-0.77527+1.25884I$ $a=\ \ 0.529789+1.154660I$ $b=\ \ 0.740856-0.481396I$	$5.21622+1.65303I$	0
$u=-0.77527-1.25884I$ $a=\ \ 0.529789-1.154660I$ $b=\ \ 0.740856+0.481396I$	$5.21622-1.65303I$	0
$u=-0.50719+1.39553I$ $a=\ \ 1.062650+0.666083I$ $b=-0.993404-0.795221I$	$2.66353+2.36063I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.50719-1.39553I$ $a=\ \ 1.062650-0.666083I$ $b=-0.993404+0.795221I$	$2.66353-2.36063I$	0
$u=-0.73462+1.31535I$ $a=\ \ 0.134160-1.173340I$ $b=-1.152840+0.572715I$	$2.15635+7.06656I$	0
$u=-0.73462-1.31535I$ $a=\ \ 0.134160+1.173340I$ $b=-1.152840-0.572715I$	$2.15635-7.06656I$	0
$u=-0.61050+1.38896I$ $a=-0.14579+1.71431I$ $b=\ \ 1.27738-0.75434I$	$0.7935+21.3109I$	0
$u=-0.61050-1.38896I$ $a=-0.14579-1.71431I$ $b=\ \ 1.27738+0.75434I$	$0.7935-21.3109I$	0
$u=\ \ 0.48090+1.44743I$ $a=\ \ 1.33469-1.26005I$ $b=-0.97058+1.16825I$	$4.17391-2.19443I$	0
$u=\ \ 0.48090-1.44743I$ $a=\ \ 1.33469+1.26005I$ $b=-0.97058-1.16825I$	$4.17391+2.19443I$	0
$u=\ \ 0.63565+1.39901I$ $a=\ \ 0.33100+1.80319I$ $b=-1.33485-0.84417I$	$1.23447-11.94710I$	0
$u=\ \ 0.63565-1.39901I$ $a=\ \ 0.33100-1.80319I$ $b=-1.33485+0.84417I$	$1.23447+11.94710I$	0
$u=\ \ 0.12635+1.53423I$ $a=-0.587208+0.575000I$ $b=\ \ 0.663266-0.176713I$	$2.07488-1.65689I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.12635 - 1.53423I$ $a = -0.587208 - 0.575000I$ $b = 0.663266 + 0.176713I$	$2.07488 + 1.65689I$	0
$u = 0.449093$ $a = 0.317775$ $b = 0.477819$	-0.784793	-8.00000
$u = -0.407111 + 0.157585I$ $a = 1.79492 + 0.14168I$ $b = -0.228962 + 0.627889I$	$3.21362 + 0.35503I$	0
$u = -0.407111 - 0.157585I$ $a = 1.79492 - 0.14168I$ $b = -0.228962 - 0.627889I$	$3.21362 - 0.35503I$	0
$u = 0.28515 + 1.56266I$ $a = 1.258510 + 0.030088I$ $b = -1.159630 + 0.247070I$	$3.71612 - 1.06820I$	0
$u = 0.28515 - 1.56266I$ $a = 1.258510 - 0.030088I$ $b = -1.159630 - 0.247070I$	$3.71612 + 1.06820I$	0
$u = -1.58896 + 0.00880I$ $a = -0.635848 + 0.550164I$ $b = -0.764635 - 0.277252I$	$-5.28796 + 1.56106I$	0
$u = -1.58896 - 0.00880I$ $a = -0.635848 - 0.550164I$ $b = -0.764635 + 0.277252I$	$-5.28796 - 1.56106I$	0
$u = 0.66855 + 1.45894I$ $a = -0.114956 - 1.388790I$ $b = 1.147640 + 0.558529I$	$-2.09669 - 12.19230I$	0
$u = 0.66855 - 1.45894I$ $a = -0.114956 + 1.388790I$ $b = 1.147640 - 0.558529I$	$-2.09669 + 12.19230I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.27120+1.58518I$ $a=\ \ 0.488337-0.072664I$ $b=-0.621728-0.052130I$	$6.22015+5.10650I$	0
$u=-0.27120-1.58518I$ $a=\ \ 0.488337+0.072664I$ $b=-0.621728+0.052130I$	$6.22015-5.10650I$	0
$u=\ \ 0.57502+1.51305I$ $a=-0.454346+0.526607I$ $b=\ \ 0.899774-0.523863I$	$4.70702+2.48688I$	0
$u=\ \ 0.57502-1.51305I$ $a=-0.454346-0.526607I$ $b=\ \ 0.899774+0.523863I$	$4.70702-2.48688I$	0
$u=-0.149244+0.331556I$ $a=\ \ 0.82803-2.32156I$ $b=-1.177360-0.250546I$	$-3.28766-4.15973I$	$-8.00000+11.08703I$
$u=-0.149244-0.331556I$ $a=\ \ 0.82803+2.32156I$ $b=-1.177360+0.250546I$	$-3.28766+4.15973I$	$-8.00000-11.08703I$
$u=\ \ 1.63863+0.34515I$ $a=-0.104349-0.431639I$ $b=-1.008870+0.369880I$	$-6.29651+4.37355I$	0
$u=\ \ 1.63863-0.34515I$ $a=-0.104349+0.431639I$ $b=-1.008870-0.369880I$	$-6.29651-4.37355I$	0
$u=-0.100642+0.278130I$ $a=\ \ 2.50424-0.35619I$ $b=-1.100500-0.419642I$	$0.84800-3.60935I$	$-7.67921+5.51357I$
$u=-0.100642-0.278130I$ $a=\ \ 2.50424+0.35619I$ $b=-1.100500+0.419642I$	$0.84800+3.60935I$	$-7.67921-5.51357I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.263071 + 0.107473I$ $a = 1.02619 + 1.60838I$ $b = -1.30744 + 0.56713I$	$-4.15603 + 9.18736I$	$-12.80076 - 3.67016I$
$u = 0.263071 - 0.107473I$ $a = 1.02619 - 1.60838I$ $b = -1.30744 - 0.56713I$	$-4.15603 - 9.18736I$	$-12.80076 + 3.67016I$
$u = -0.41001 + 1.66736I$ $a = -0.761819 - 0.419712I$ $b = 1.020410 + 0.455031I$	$2.38576 - 8.10255I$	0
$u = -0.41001 - 1.66736I$ $a = -0.761819 + 0.419712I$ $b = 1.020410 - 0.455031I$	$2.38576 + 8.10255I$	0

II.

$\boldsymbol{I_2^u = \langle -2.00\times 10^{82}u^{57}+5.16\times 10^{81}u^{56}+\cdots+1.43\times 10^{82}b-1.65\times 10^{82},\ 1.86\times 10^{82}u^{57}+5.01\times 10^{80}u^{56}+\cdots+1.43\times 10^{82}a-3.53\times 10^{82},\ u^{58}+18u^{56}+\cdots+u+1\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -1.29937u^{57} - 0.0349479u^{56} + \cdots + 0.438895u + 2.46387 \\ 1.39365u^{57} - 0.359873u^{56} + \cdots + 1.56259u + 1.15184 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0942751u^{57} - 0.394821u^{56} + \cdots + 2.00149u + 3.61571 \\ 1.39365u^{57} - 0.359873u^{56} + \cdots + 1.56259u + 1.15184 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.929388u^{57} - 0.195163u^{56} + \cdots - 3.61244u - 4.11910 \\ -0.730441u^{57} + 2.64211u^{56} + \cdots + 1.14011u + 1.58347 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.08717u^{57} + 0.336636u^{56} + \cdots - 8.87033u + 2.29844 \\ -0.156381u^{57} - 0.189913u^{56} + \cdots - 2.38914u + 0.543370 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.203168u^{57} - 0.178049u^{56} + \cdots + 14.8110u - 0.504967 \\ 0.614975u^{57} - 0.397352u^{56} + \cdots + 5.72661u - 0.657238 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.14133u^{57} - 2.51890u^{56} + \cdots - 5.91273u - 6.88539 \\ -0.304427u^{57} + 2.20959u^{56} + \cdots + 1.37550u + 1.14091 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.96283u^{57} - 0.167932u^{56} + \cdots - 9.59502u - 4.68356 \\ -0.328983u^{57} - 0.203661u^{56} + \cdots - 3.52975u - 1.65828 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.879717u^{57} - 0.685333u^{56} + \cdots + 9.08697u + 2.57355 \\ 1.21987u^{57} - 0.0902141u^{56} + \cdots + 5.47806u + 0.916970 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 9.51519u^{57} + 10.4247u^{56} + \cdots + 17.6490u - 2.16765$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{58} - 8u^{57} + \cdots + 60u + 19$
c_2	$u^{58} + 18u^{56} + \cdots - u + 1$
c_3	$u^{58} - 4u^{57} + \cdots + 553u + 163$
c_4	$u^{58} - 3u^{56} + \cdots + 5u + 1$
c_5	$u^{58} + 23u^{56} + \cdots - 30u + 13$
c_6	$u^{58} + 4u^{56} + \cdots - 8u + 1$
c_7	$u^{58} + 2u^{57} + \cdots + 4u + 1$
c_8	$u^{58} + 18u^{56} + \cdots + u + 1$
c_9	$u^{58} + 2u^{57} + \cdots + 50u + 41$
c_{10}	$u^{58} - 14u^{57} + \cdots - 14u^2 + 1$
c_{11}	$u^{58} - 2u^{57} + \cdots - 4u + 1$
c_{12}	$u^{58} + 23u^{56} + \cdots + 30u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{58} + 12y^{57} + \cdots + 5786y + 361$
c_2, c_8	$y^{58} + 36y^{57} + \cdots - 5y + 1$
c_3	$y^{58} + 22y^{57} + \cdots + 345539y + 26569$
c_4	$y^{58} - 6y^{57} + \cdots + 11y + 1$
c_5, c_{12}	$y^{58} + 46y^{57} + \cdots + 8746y + 169$
c_6	$y^{58} + 8y^{57} + \cdots + 48y + 1$
c_7, c_{11}	$y^{58} - 30y^{57} + \cdots - 56y + 1$
c_9	$y^{58} + 26y^{57} + \cdots + 6766y + 1681$
c_{10}	$y^{58} - 8y^{57} + \cdots - 28y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.160991 + 0.981521I$ $a = 0.32154 + 1.53380I$ $b = -1.27727 - 0.68595I$	$1.99090 - 4.68568I$	$-6.90002 + 8.84433I$
$u = 0.160991 - 0.981521I$ $a = 0.32154 - 1.53380I$ $b = -1.27727 + 0.68595I$	$1.99090 + 4.68568I$	$-6.90002 - 8.84433I$
$u = 0.279104 + 0.996557I$ $a = -0.08789 + 3.46303I$ $b = -0.531138 - 0.160497I$	$1.97676 - 7.64882I$	$-8.0000 + 13.8446I$
$u = 0.279104 - 0.996557I$ $a = -0.08789 - 3.46303I$ $b = -0.531138 + 0.160497I$	$1.97676 + 7.64882I$	$-8.0000 - 13.8446I$
$u = -0.115122 + 0.949685I$ $a = -0.691863 - 0.922290I$ $b = 1.46283 + 0.58842I$	$-0.32269 + 3.80178I$	$-3.1071 - 16.1369I$
$u = -0.115122 - 0.949685I$ $a = -0.691863 + 0.922290I$ $b = 1.46283 - 0.58842I$	$-0.32269 - 3.80178I$	$-3.1071 + 16.1369I$
$u = 1.056350 + 0.227694I$ $a = 0.520503 - 0.047973I$ $b = 0.709986 - 0.281280I$	$0.318614 - 0.338766I$	0
$u = 1.056350 - 0.227694I$ $a = 0.520503 + 0.047973I$ $b = 0.709986 + 0.281280I$	$0.318614 + 0.338766I$	0
$u = -0.101101 + 0.906113I$ $a = 1.02111 - 1.75628I$ $b = -0.98719 + 1.12468I$	$-0.53139 - 2.68565I$	$-9.79613 + 7.93845I$
$u = -0.101101 - 0.906113I$ $a = 1.02111 + 1.75628I$ $b = -0.98719 - 1.12468I$	$-0.53139 + 2.68565I$	$-9.79613 - 7.93845I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.277876+1.076230I$ $a=-0.42515+1.50324I$ $b=-0.126115-0.964713I$	$5.99197+1.18388I$	0
$u=-0.277876-1.076230I$ $a=-0.42515-1.50324I$ $b=-0.126115+0.964713I$	$5.99197-1.18388I$	0
$u=-0.189702+0.772788I$ $a=-0.701013-1.198750I$ $b=-1.302520+0.544179I$	$-3.26117+9.57971I$	$-4.86407-6.16517I$
$u=-0.189702-0.772788I$ $a=-0.701013+1.198750I$ $b=-1.302520-0.544179I$	$-3.26117-9.57971I$	$-4.86407+6.16517I$
$u=-1.211090+0.075715I$ $a=0.182344-0.750990I$ $b=1.038050+0.740618I$	$-1.88527-4.39440I$	0
$u=-1.211090-0.075715I$ $a=0.182344+0.750990I$ $b=1.038050-0.740618I$	$-1.88527+4.39440I$	0
$u=0.297866+1.178480I$ $a=-0.15561+1.45751I$ $b=-1.300960-0.407324I$	$-1.38557-6.78056I$	0
$u=0.297866-1.178480I$ $a=-0.15561-1.45751I$ $b=-1.300960+0.407324I$	$-1.38557+6.78056I$	0
$u=-0.365349+1.184620I$ $a=-0.01214+1.99878I$ $b=0.727120-0.300268I$	$4.20475+1.08391I$	0
$u=-0.365349-1.184620I$ $a=-0.01214-1.99878I$ $b=0.727120+0.300268I$	$4.20475-1.08391I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.253566+1.214290I$ $a=\ \ 0.603849-1.199580I$ $b=-0.694543-0.162374I$	$4.70007+2.02741I$	0
$u=-0.253566-1.214290I$ $a=\ \ 0.603849+1.199580I$ $b=-0.694543+0.162374I$	$4.70007-2.02741I$	0
$u=\ \ 0.187340+1.280320I$ $a=\ \ 0.07097-1.57313I$ $b=\ \ 0.480118-0.001339I$	$3.11624+5.27714I$	0
$u=\ \ 0.187340-1.280320I$ $a=\ \ 0.07097+1.57313I$ $b=\ \ 0.480118+0.001339I$	$3.11624-5.27714I$	0
$u=-0.274930+1.274350I$ $a=\ \ 0.59608+1.30510I$ $b=-0.282985-1.044190I$	$3.40441+1.84168I$	0
$u=-0.274930-1.274350I$ $a=\ \ 0.59608-1.30510I$ $b=-0.282985+1.044190I$	$3.40441-1.84168I$	0
$u=\ \ 0.140861+1.313560I$ $a=-1.29274-1.41320I$ $b=\ \ 1.065040+0.473520I$	$-0.44357-9.05534I$	0
$u=\ \ 0.140861-1.313560I$ $a=-1.29274+1.41320I$ $b=\ \ 1.065040-0.473520I$	$-0.44357+9.05534I$	0
$u=\ \ 0.086845+1.320950I$ $a=-0.608022+0.895442I$ $b=\ \ 0.810855-0.601779I$	$3.23400+2.97655I$	0
$u=\ \ 0.086845-1.320950I$ $a=-0.608022-0.895442I$ $b=\ \ 0.810855+0.601779I$	$3.23400-2.97655I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.188329+1.344460I$ $a=1.42517-0.39782I$ $b=-0.620527+0.041913I$	$2.30768+5.12989I$	0
$u=-0.188329-1.344460I$ $a=1.42517+0.39782I$ $b=-0.620527-0.041913I$	$2.30768-5.12989I$	0
$u=0.580255+1.243570I$ $a=-0.237212+1.228960I$ $b=-1.000220-0.552842I$	$3.53560-5.28879I$	0
$u=0.580255-1.243570I$ $a=-0.237212-1.228960I$ $b=-1.000220+0.552842I$	$3.53560+5.28879I$	0
$u=0.510492+0.352307I$ $a=0.631955-1.224320I$ $b=1.153200-0.298375I$	$-3.96525+3.53674I$	$-12.12534-5.11230I$
$u=0.510492-0.352307I$ $a=0.631955+1.224320I$ $b=1.153200+0.298375I$	$-3.96525-3.53674I$	$-12.12534+5.11230I$
$u=0.586436+0.093310I$ $a=1.194810-0.540485I$ $b=1.159360+0.515998I$	$-3.86470-3.69854I$	$-11.43705+4.20558I$
$u=0.586436-0.093310I$ $a=1.194810+0.540485I$ $b=1.159360-0.515998I$	$-3.86470+3.69854I$	$-11.43705-4.20558I$
$u=0.69284+1.25691I$ $a=1.08611-1.62070I$ $b=-0.74589+1.53466I$	$3.79295-3.30390I$	0
$u=0.69284-1.25691I$ $a=1.08611+1.62070I$ $b=-0.74589-1.53466I$	$3.79295+3.30390I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.44057 + 0.20380I$ $a = -0.128484 - 0.472223I$ $b = -1.047220 + 0.324650I$	$-6.55061 + 4.10715I$	0
$u = 1.44057 - 0.20380I$ $a = -0.128484 + 0.472223I$ $b = -1.047220 - 0.324650I$	$-6.55061 - 4.10715I$	0
$u = -0.60639 + 1.32540I$ $a = -0.13514 - 1.64544I$ $b = -1.134500 + 0.711805I$	$1.94304 + 10.53520I$	0
$u = -0.60639 - 1.32540I$ $a = -0.13514 + 1.64544I$ $b = -1.134500 - 0.711805I$	$1.94304 - 10.53520I$	0
$u = -0.508016 + 0.178566I$ $a = 2.36180 - 0.53424I$ $b = 0.666249 + 0.602746I$	$-2.23361 - 4.89166I$	$-14.4044 + 7.0269I$
$u = -0.508016 - 0.178566I$ $a = 2.36180 + 0.53424I$ $b = 0.666249 - 0.602746I$	$-2.23361 + 4.89166I$	$-14.4044 - 7.0269I$
$u = -0.483530 + 0.076452I$ $a = -0.01558 - 1.63673I$ $b = 0.875046 - 0.015390I$	$-2.14391 - 2.61842I$	$-8.40568 + 1.85193I$
$u = -0.483530 - 0.076452I$ $a = -0.01558 + 1.63673I$ $b = 0.875046 + 0.015390I$	$-2.14391 + 2.61842I$	$-8.40568 - 1.85193I$
$u = -1.50975 + 0.04960I$ $a = -0.683162 - 0.627250I$ $b = -0.761022 + 0.245417I$	$-5.38728 - 1.64613I$	0
$u = -1.50975 - 0.04960I$ $a = -0.683162 + 0.627250I$ $b = -0.761022 - 0.245417I$	$-5.38728 + 1.64613I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.26887 + 1.53422I$ $a = 0.0478237 + 0.0230823I$ $b = -0.361749 + 0.072045I$	$6.54164 - 5.14931I$	0
$u = 0.26887 - 1.53422I$ $a = 0.0478237 - 0.0230823I$ $b = -0.361749 - 0.072045I$	$6.54164 + 5.14931I$	0
$u = -0.29699 + 1.53560I$ $a = 1.226250 + 0.414049I$ $b = -1.065840 - 0.499477I$	$4.06517 + 1.46932I$	0
$u = -0.29699 - 1.53560I$ $a = 1.226250 - 0.414049I$ $b = -1.065840 + 0.499477I$	$4.06517 - 1.46932I$	0
$u = 0.267533 + 0.163328I$ $a = 4.11297 + 0.21587I$ $b = 0.850265 - 0.205158I$	$-2.95673 - 0.89622I$	$-17.6692 + 1.6372I$
$u = 0.267533 - 0.163328I$ $a = 4.11297 - 0.21587I$ $b = 0.850265 + 0.205158I$	$-2.95673 + 0.89622I$	$-17.6692 - 1.6372I$
$u = -0.174611 + 0.211483I$ $a = 2.77073 + 0.02141I$ $b = 1.241550 + 0.419718I$	$-4.67751 + 0.42989I$	$-16.8873 - 1.3101I$
$u = -0.174611 - 0.211483I$ $a = 2.77073 - 0.02141I$ $b = 1.241550 - 0.419718I$	$-4.67751 - 0.42989I$	$-16.8873 + 1.3101I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{58}-8u^{57}+\cdots+60u+19)$ $\cdot(u^{194}-11u^{193}+\cdots-62880330u+4090161)$
c_2	$(u^{58}+18u^{56}+\cdots-u+1)(u^{194}-u^{193}+\cdots+1651839u-790939)$
c_3	$(u^{58}-4u^{57}+\cdots+553u+163)$ $\cdot(u^{194}+11u^{193}+\cdots+408965120u+61030400)$
c_4	$(u^{58}-3u^{56}+\cdots+5u+1)(u^{194}-u^{193}+\cdots+56u-8)$
c_5	$(u^{58}+23u^{56}+\cdots-30u+13)$ $\cdot(u^{194}-3u^{193}+\cdots+190059624u+9025047)$
c_6	$(u^{58}+4u^{56}+\cdots-8u+1)$ $\cdot(u^{194}-3u^{193}+\cdots+40202554u+2009017)$
c_7	$(u^{58}+2u^{57}+\cdots+4u+1)(u^{194}-u^{193}+\cdots+455874u-98619)$
c_8	$(u^{58}+18u^{56}+\cdots+u+1)(u^{194}-u^{193}+\cdots+1651839u-790939)$
c_9	$(u^{58}+2u^{57}+\cdots+50u+41)$ $\cdot(u^{194}+7u^{193}+\cdots+1253802198507u-145931161770)$
c_{10}	$(u^{58}-14u^{57}+\cdots-14u^2+1)(u^{194}-u^{193}+\cdots-285u+44)$
c_{11}	$(u^{58}-2u^{57}+\cdots-4u+1)(u^{194}-u^{193}+\cdots+455874u-98619)$
c_{12}	$(u^{58}+23u^{56}+\cdots+30u+13)$ $\cdot(u^{194}-3u^{193}+\cdots+190059624u+9025047)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{58}+12y^{57}+\cdots+5786y+361)$ $\cdot(y^{194}+53y^{193}+\cdots+717183428110710y+16729417005921)$
c_2, c_8	$(y^{58}+36y^{57}+\cdots-5y+1)$ $\cdot(y^{194}+125y^{193}+\cdots+20930327480459y+625584501721)$
c_3	$(y^{58}+22y^{57}+\cdots+345539y+26569)$ $\cdot(y^{194}+43y^{193}+\cdots-12784941515407360 0y+3724709724160000)$
c_4	$(y^{58}-6y^{57}+\cdots+11y+1)(y^{194}-13y^{193}+\cdots+1440y+64)$
c_5, c_{12}	$(y^{58}+46y^{57}+\cdots+8746y+169)$ $\cdot(y^{194}+131y^{193}+\cdots-965532633072174y+81451473352209)$
c_6	$(y^{58}+8y^{57}+\cdots+48y+1)$ $\cdot(y^{194}+49y^{193}+\cdots+7208004183428y+4036149306289)$
c_7, c_{11}	$(y^{58}-30y^{57}+\cdots-56y+1)$ $\cdot(y^{194}-97y^{193}+\cdots-576170958396y+9725707161)$
c_9	$(y^{58}+26y^{57}+\cdots+6766y+1681)$ $\cdot(y^{194}+71y^{193}+\cdots+1.21\times10^{24}y+2.13\times10^{22})$
c_{10}	$(y^{58}-8y^{57}+\cdots-28y+1)(y^{194}-23y^{193}+\cdots-1116017y+1936)$