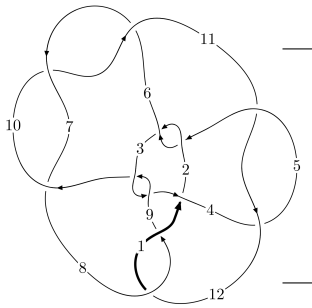
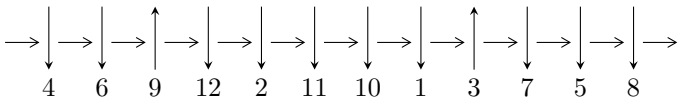
$12a_{0931}$ $(K12a_{0931})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.48358 \times 10^{325} u^{114} - 8.83956 \times 10^{325} u^{113} + \cdots + 7.90184 \times 10^{326} b + 4.90948 \times 10^{327}, \\ & - 3.66178 \times 10^{326} u^{114} + 1.68734 \times 10^{327} u^{113} + \cdots + 8.69202 \times 10^{327} a + 1.06744 \times 10^{330}, \\ & u^{115} - 4u^{114} + \cdots - 3274u - 242 \rangle \\ I_2^u = \langle & 1493260u^{25} - 2702182u^{24} + \cdots + 2800453b + 235054, \\ & - 5509815u^{25} + 13098661u^{24} + \cdots + 2800453a + 35107117,\ u^{26} - 3u^{25} + \cdots - 4u - 1 \rangle \end{aligned}$$

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

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 142 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. $\boldsymbol{I_1^u = \langle 1.48 \times 10^{325} u^{114} - 8.84 \times 10^{325} u^{113} + \cdots + 7.90 \times 10^{326} b + 4.91 \times 10^{327},\ -3.66 \times 10^{326} u^{114} + 1.69 \times 10^{327} u^{113} + \cdots + 8.69 \times 10^{327} a + 1.07 \times 10^{330},\ u^{115} - 4u^{114} + \cdots - 3274u - 242 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0421280u^{114} - 0.194125u^{113} + \cdots + 402.402u - 122.807 \\ -0.0187752u^{114} + 0.111867u^{113} + \cdots - 67.9999u - 6.21309 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0233528u^{114} - 0.0822580u^{113} + \cdots + 334.402u - 129.020 \\ -0.0187752u^{114} + 0.111867u^{113} + \cdots - 67.9999u - 6.21309 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0195044u^{114} - 0.0841949u^{113} + \cdots + 366.451u - 125.417 \\ 0.00135440u^{114} - 0.0548362u^{113} + \cdots + 98.6890u + 6.28798 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.271850u^{114} + 1.10221u^{113} + \cdots - 3237.07u + 1136.06 \\ -0.0276167u^{114} + 0.116244u^{113} + \cdots - 35.5419u + 6.29003 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2.58291u^{114} - 10.5413u^{113} + \cdots + 29654.6u - 10368.4 \\ 0.00832235u^{114} - 0.0902908u^{113} + \cdots + 304.045u - 61.6849 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.260596u^{114} + 1.06089u^{113} + \cdots - 3246.69u + 1136.50 \\ -0.0126304u^{114} + 0.0556980u^{113} + \cdots - 34.1711u + 6.56494 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.324366u^{114} + 1.30828u^{113} + \cdots - 3219.50u + 1138.13 \\ 0.0181005u^{114} - 0.0871095u^{113} + \cdots + 9.95112u + 10.1619 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.530416u^{114} - 2.22908u^{113} + \cdots + 5554.59u - 1891.64$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{115} - 2u^{114} + \cdots - 533977u - 135887$
c_2, c_5	$u^{115} - 29u^{113} + \cdots + 489u - 103$
c_3, c_9	$u^{115} - 14u^{114} + \cdots - 1475781u - 602561$
c_4, c_{11}	$u^{115} - 4u^{114} + \cdots + 5559u - 7129$
c_6, c_7, c_{10}	$u^{115} - 4u^{114} + \cdots - 3274u - 242$
c_8, c_{12}	$u^{115} - 2u^{114} + \cdots + 5984u + 161$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{115} - 36y^{114} + \cdots + 2122072013805y - 18465276769$
c_2, c_5	$y^{115} - 58y^{114} + \cdots + 1346371y - 10609$
c_3, c_9	$y^{115} - 10y^{114} + \cdots - 1560457704043y - 363079758721$
c_4, c_{11}	$y^{115} - 18y^{114} + \cdots - 1151442169y - 50822641$
c_6, c_7, c_{10}	$y^{115} + 110y^{114} + \cdots + 16205216y - 58564$
c_8, c_{12}	$y^{115} - 64y^{114} + \cdots + 53494106y - 25921$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.848760+0.535653I$ $a=\ \ 0.353637+0.142381I$ $b=\ \ 0.863015+0.497078I$	$-1.40376-2.80497I$	0
$u=-0.848760-0.535653I$ $a=\ \ 0.353637-0.142381I$ $b=\ \ 0.863015-0.497078I$	$-1.40376+2.80497I$	0
$u=\ \ 0.444128+0.862264I$ $a=-0.490281-0.258396I$ $b=\ \ 1.42270-0.07493I$	$-8.31558+2.30847I$	0
$u=\ \ 0.444128-0.862264I$ $a=-0.490281+0.258396I$ $b=\ \ 1.42270+0.07493I$	$-8.31558-2.30847I$	0
$u=-0.871451+0.401674I$ $a=-0.356059-0.600521I$ $b=-1.244120+0.593087I$	$-2.05582+7.19848I$	0
$u=-0.871451-0.401674I$ $a=-0.356059+0.600521I$ $b=-1.244120-0.593087I$	$-2.05582-7.19848I$	0
$u=\ \ 0.806197+0.515754I$ $a=-1.230610+0.036542I$ $b=-0.725232-0.335010I$	$-2.92657+3.35414I$	0
$u=\ \ 0.806197-0.515754I$ $a=-1.230610-0.036542I$ $b=-0.725232+0.335010I$	$-2.92657-3.35414I$	0
$u=-0.942893+0.152410I$ $a=\ \ 0.722614+0.211941I$ $b=\ \ 0.842318-0.416431I$	$-1.27183+1.02449I$	0
$u=-0.942893-0.152410I$ $a=\ \ 0.722614-0.211941I$ $b=\ \ 0.842318+0.416431I$	$-1.27183-1.02449I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.055710+0.208614I$		
$a=$	$0.535514+0.029917I$	$-0.09056+2.26730I$	0
$b=$	$0.831687-0.565650I$		
$u=$	$1.055710-0.208614I$		
$a=$	$0.535514-0.029917I$	$-0.09056-2.26730I$	0
$b=$	$0.831687+0.565650I$		
$u=$	$-0.819748+0.738480I$		
$a=$	$0.325821-0.558599I$	$-1.06654-1.68639I$	0
$b=$	$-1.017700-0.295821I$		
$u=$	$-0.819748-0.738480I$		
$a=$	$0.325821+0.558599I$	$-1.06654+1.68639I$	0
$b=$	$-1.017700+0.295821I$		
$u=$	$1.035380+0.387132I$		
$a=$	$-0.397265+0.551227I$	$-5.7222-13.0581I$	0
$b=$	$-1.213290-0.580536I$		
$u=$	$1.035380-0.387132I$		
$a=$	$-0.397265-0.551227I$	$-5.7222+13.0581I$	0
$b=$	$-1.213290+0.580536I$		
$u=$	$-0.720811+0.507644I$		
$a=$	$-0.007287+0.842062I$	$-5.37650+2.40064I$	0
$b=$	$1.261910-0.166931I$		
$u=$	$-0.720811-0.507644I$		
$a=$	$-0.007287-0.842062I$	$-5.37650-2.40064I$	0
$b=$	$1.261910+0.166931I$		
$u=$	$0.792446+0.355091I$		
$a=$	$0.287125-1.113030I$	$-9.78230-6.84107I$	0
$b=$	$1.267030+0.275005I$		
$u=$	$0.792446-0.355091I$		
$a=$	$0.287125+1.113030I$	$-9.78230+6.84107I$	0
$b=$	$1.267030-0.275005I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.007272+1.137120I$ $a=-0.01929+2.37332I$ $b=\ \ 0.785173-0.793722I$	$-1.08900+5.90884I$	0
$u=-0.007272-1.137120I$ $a=-0.01929-2.37332I$ $b=\ \ 0.785173+0.793722I$	$-1.08900-5.90884I$	0
$u=-0.444865+0.728686I$ $a=-0.128324-0.238843I$ $b=\ \ 0.287556+0.640106I$	$1.04492+3.26813I$	0
$u=-0.444865-0.728686I$ $a=-0.128324+0.238843I$ $b=\ \ 0.287556-0.640106I$	$1.04492-3.26813I$	0
$u=-0.667184+0.506083I$ $a=\ \ 1.08713+0.90478I$ $b=\ \ 1.072640-0.507155I$	$-1.13029+7.69736I$	0
$u=-0.667184-0.506083I$ $a=\ \ 1.08713-0.90478I$ $b=\ \ 1.072640+0.507155I$	$-1.13029-7.69736I$	0
$u=\ \ 0.133758+1.163830I$ $a=\ \ 0.90734-1.40822I$ $b=-0.726636+0.740712I$	$-1.92843+0.18544I$	0
$u=\ \ 0.133758-1.163830I$ $a=\ \ 0.90734+1.40822I$ $b=-0.726636-0.740712I$	$-1.92843-0.18544I$	0
$u=-0.820611+0.022404I$ $a=-0.831148+0.746544I$ $b=-0.871734+0.225452I$	$-0.420463+0.454049I$	0
$u=-0.820611-0.022404I$ $a=-0.831148-0.746544I$ $b=-0.871734-0.225452I$	$-0.420463-0.454049I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.342572 + 1.132270I$ $a = 1.027390 - 0.110480I$ $b = -1.309470 + 0.407989I$	$-4.24872 - 2.09284I$	0
$u = 0.342572 - 1.132270I$ $a = 1.027390 + 0.110480I$ $b = -1.309470 - 0.407989I$	$-4.24872 + 2.09284I$	0
$u = 0.164195 + 1.186280I$ $a = -0.39920 + 1.92337I$ $b = 0.335099 - 0.255524I$	$-1.21977 - 6.97522I$	0
$u = 0.164195 - 1.186280I$ $a = -0.39920 - 1.92337I$ $b = 0.335099 + 0.255524I$	$-1.21977 + 6.97522I$	0
$u = 0.777862 + 0.126290I$ $a = -0.460508 + 0.703488I$ $b = -1.170850 - 0.640764I$	$-7.30108 - 1.98752I$	0
$u = 0.777862 - 0.126290I$ $a = -0.460508 - 0.703488I$ $b = -1.170850 + 0.640764I$	$-7.30108 + 1.98752I$	0
$u = -0.024539 + 1.266100I$ $a = 0.262122 - 1.308580I$ $b = 0.366022 + 0.297777I$	$3.90810 + 2.10519I$	0
$u = -0.024539 - 1.266100I$ $a = 0.262122 + 1.308580I$ $b = 0.366022 - 0.297777I$	$3.90810 - 2.10519I$	0
$u = -0.114979 + 1.264060I$ $a = -0.19552 - 2.44022I$ $b = 0.183040 + 1.265380I$	$4.64254 + 0.78526I$	0
$u = -0.114979 - 1.264060I$ $a = -0.19552 + 2.44022I$ $b = 0.183040 - 1.265380I$	$4.64254 - 0.78526I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.593045 + 0.396313I$ $a = -0.705193 - 0.411959I$ $b = -0.148133 + 0.960454I$	$-2.59156 - 7.60766I$	$-8.00000 + 6.69285I$
$u = 0.593045 - 0.396313I$ $a = -0.705193 + 0.411959I$ $b = -0.148133 - 0.960454I$	$-2.59156 + 7.60766I$	$-8.00000 - 6.69285I$
$u = 0.051284 + 1.291940I$ $a = -1.130690 + 0.261646I$ $b = 1.98739 - 0.20444I$	$-4.87527 - 3.60685I$	0
$u = 0.051284 - 1.291940I$ $a = -1.130690 - 0.261646I$ $b = 1.98739 + 0.20444I$	$-4.87527 + 3.60685I$	0
$u = -0.319473 + 1.257690I$ $a = 0.242862 + 0.596086I$ $b = 0.669671 - 0.148467I$	$2.10936 + 3.26957I$	0
$u = -0.319473 - 1.257690I$ $a = 0.242862 - 0.596086I$ $b = 0.669671 + 0.148467I$	$2.10936 - 3.26957I$	0
$u = 0.689850 + 0.076744I$ $a = -0.307075 + 0.730969I$ $b = -0.290572 - 0.773586I$	$-4.99291 - 3.33304I$	$-13.08615 + 3.39546I$
$u = 0.689850 - 0.076744I$ $a = -0.307075 - 0.730969I$ $b = -0.290572 + 0.773586I$	$-4.99291 + 3.33304I$	$-13.08615 - 3.39546I$
$u = -0.023304 + 1.306530I$ $a = -0.59051 - 1.33130I$ $b = -1.185790 + 0.271332I$	$0.569428 + 0.425875I$	0
$u = -0.023304 - 1.306530I$ $a = -0.59051 + 1.33130I$ $b = -1.185790 - 0.271332I$	$0.569428 - 0.425875I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.334393 + 1.265360I$ $a = -0.47433 + 1.62982I$ $b = -0.312042 - 0.651579I$	$-0.88935 - 7.00364I$	0
$u = 0.334393 - 1.265360I$ $a = -0.47433 - 1.62982I$ $b = -0.312042 + 0.651579I$	$-0.88935 + 7.00364I$	0
$u = 0.145936 + 0.646760I$ $a = 1.93330 - 0.69519I$ $b = -0.431275 + 0.236192I$	$-2.29797 + 0.41180I$	$-6.91359 + 0.I$
$u = 0.145936 - 0.646760I$ $a = 1.93330 + 0.69519I$ $b = -0.431275 - 0.236192I$	$-2.29797 - 0.41180I$	$-6.91359 + 0.I$
$u = 0.045172 + 1.348770I$ $a = 0.35576 + 1.44895I$ $b = -1.025840 - 0.495040I$	$2.73002 - 1.02745I$	0
$u = 0.045172 - 1.348770I$ $a = 0.35576 - 1.44895I$ $b = -1.025840 + 0.495040I$	$2.73002 + 1.02745I$	0
$u = 0.244481 + 0.581940I$ $a = -0.337020 - 0.312300I$ $b = 0.523607 - 0.703589I$	$3.31672 + 1.01238I$	$0. - 2.79142I$
$u = 0.244481 - 0.581940I$ $a = -0.337020 + 0.312300I$ $b = 0.523607 + 0.703589I$	$3.31672 - 1.01238I$	$0. + 2.79142I$
$u = 0.317987 + 1.350110I$ $a = 0.30106 + 1.88497I$ $b = -1.052110 - 0.853041I$	$-2.64224 - 5.93833I$	0
$u = 0.317987 - 1.350110I$ $a = 0.30106 - 1.88497I$ $b = -1.052110 + 0.853041I$	$-2.64224 + 5.93833I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.905787 + 1.055960I$ $a = 0.308652 + 0.202276I$ $b = -0.998116 + 0.396976I$	$-3.92358 + 6.50991I$	0
$u = 0.905787 - 1.055960I$ $a = 0.308652 - 0.202276I$ $b = -0.998116 - 0.396976I$	$-3.92358 - 6.50991I$	0
$u = -0.203376 + 1.378930I$ $a = 0.32768 - 1.41692I$ $b = -0.606279 + 0.411879I$	$4.08974 + 2.88264I$	0
$u = -0.203376 - 1.378930I$ $a = 0.32768 + 1.41692I$ $b = -0.606279 - 0.411879I$	$4.08974 - 2.88264I$	0
$u = 0.543376 + 0.245663I$ $a = 1.50482 - 0.35020I$ $b = 0.995267 + 0.546016I$	$1.94742 - 3.73444I$	$-2.99201 + 4.54253I$
$u = 0.543376 - 0.245663I$ $a = 1.50482 + 0.35020I$ $b = 0.995267 - 0.546016I$	$1.94742 + 3.73444I$	$-2.99201 - 4.54253I$
$u = -0.180518 + 1.393110I$ $a = 0.71276 + 1.65856I$ $b = -0.69614 - 1.51255I$	$6.32602 + 3.38126I$	0
$u = -0.180518 - 1.393110I$ $a = 0.71276 - 1.65856I$ $b = -0.69614 + 1.51255I$	$6.32602 - 3.38126I$	0
$u = 0.052810 + 1.408130I$ $a = 0.95246 + 2.48551I$ $b = -0.919359 - 0.186590I$	$1.73762 - 0.50100I$	0
$u = 0.052810 - 1.408130I$ $a = 0.95246 - 2.48551I$ $b = -0.919359 + 0.186590I$	$1.73762 + 0.50100I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.20254 + 1.40986I$ $a = -0.15648 - 1.53021I$ $b = 1.26724 + 0.71966I$	$7.29078 - 6.44881I$	0
$u = 0.20254 - 1.40986I$ $a = -0.15648 + 1.53021I$ $b = 1.26724 - 0.71966I$	$7.29078 + 6.44881I$	0
$u = 0.20423 + 1.43550I$ $a = -1.04385 - 1.28519I$ $b = 1.095920 + 0.612241I$	$-2.32289 + 0.32997I$	0
$u = 0.20423 - 1.43550I$ $a = -1.04385 + 1.28519I$ $b = 1.095920 - 0.612241I$	$-2.32289 - 0.32997I$	0
$u = -0.31362 + 1.42263I$ $a = 0.060785 - 0.787387I$ $b = -1.318410 + 0.422599I$	$4.49338 + 4.70011I$	0
$u = -0.31362 - 1.42263I$ $a = 0.060785 + 0.787387I$ $b = -1.318410 - 0.422599I$	$4.49338 - 4.70011I$	0
$u = 0.51530 + 1.37670I$ $a = 0.205635 - 1.272950I$ $b = 1.123530 + 0.658322I$	$3.75436 - 8.01338I$	0
$u = 0.51530 - 1.37670I$ $a = 0.205635 + 1.272950I$ $b = 1.123530 - 0.658322I$	$3.75436 + 8.01338I$	0
$u = 0.24043 + 1.45063I$ $a = 0.47198 - 1.47656I$ $b = -0.39633 + 1.38876I$	$3.33246 - 10.74300I$	0
$u = 0.24043 - 1.45063I$ $a = 0.47198 + 1.47656I$ $b = -0.39633 - 1.38876I$	$3.33246 + 10.74300I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.273683+0.449521I$ $a=-0.935505+0.381660I$ $b=-1.143250-0.176030I$	$-3.24070+0.76614I$	$-9.29153-9.11952I$
$u=-0.273683-0.449521I$ $a=-0.935505-0.381660I$ $b=-1.143250+0.176030I$	$-3.24070-0.76614I$	$-9.29153+9.11952I$
$u=-0.512024$ $a=\ \ 1.00918$ $b=\ \ 0.104589$	-1.30525	-8.04660
$u=\ \ 0.03133+1.48977I$ $a=-0.463963+1.224590I$ $b=\ \ 0.375218-1.123290I$	$10.10420+0.16194I$	0
$u=\ \ 0.03133-1.48977I$ $a=-0.463963-1.224590I$ $b=\ \ 0.375218+1.123290I$	$10.10420-0.16194I$	0
$u=\ \ 0.30669+1.46839I$ $a=-0.59841-1.56983I$ $b=\ \ 1.141790+0.484176I$	$-3.90285-10.84020I$	0
$u=\ \ 0.30669-1.46839I$ $a=-0.59841+1.56983I$ $b=\ \ 1.141790-0.484176I$	$-3.90285+10.84020I$	0
$u=\ \ 0.15757+1.50056I$ $a=\ \ 0.194740+0.937959I$ $b=-1.282560-0.508335I$	$4.20019+0.23370I$	0
$u=\ \ 0.15757-1.50056I$ $a=\ \ 0.194740-0.937959I$ $b=-1.282560+0.508335I$	$4.20019-0.23370I$	0
$u=\ \ 0.28656+1.48163I$ $a=-0.294558+0.764011I$ $b=\ \ 0.441979-0.853938I$	$5.78605-2.39116I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.28656 - 1.48163I$ $a = -0.294558 - 0.764011I$ $b = 0.441979 + 0.853938I$	$5.78605 + 2.39116I$	0
$u = -0.24773 + 1.48985I$ $a = -0.12180 + 1.44164I$ $b = 1.28492 - 0.61531I$	$5.28274 + 11.06650I$	0
$u = -0.24773 - 1.48985I$ $a = -0.12180 - 1.44164I$ $b = 1.28492 + 0.61531I$	$5.28274 - 11.06650I$	0
$u = -0.26170 + 1.49467I$ $a = -0.70622 + 1.26852I$ $b = 1.152730 - 0.515773I$	$1.09564 + 5.97831I$	0
$u = -0.26170 - 1.49467I$ $a = -0.70622 - 1.26852I$ $b = 1.152730 + 0.515773I$	$1.09564 - 5.97831I$	0
$u = -0.33901 + 1.48133I$ $a = 0.38955 - 1.62191I$ $b = -1.31688 + 0.86138I$	$3.96448 + 11.58650I$	0
$u = -0.33901 - 1.48133I$ $a = 0.38955 + 1.62191I$ $b = -1.31688 - 0.86138I$	$3.96448 - 11.58650I$	0
$u = -0.436400 + 0.169728I$ $a = -0.859975 + 0.810724I$ $b = -0.319600 - 1.234530I$	$1.21839 + 1.05065I$	$-12.05031 - 7.14943I$
$u = -0.436400 - 0.169728I$ $a = -0.859975 - 0.810724I$ $b = -0.319600 + 1.234530I$	$1.21839 - 1.05065I$	$-12.05031 + 7.14943I$
$u = 0.313163 + 0.334163I$ $a = -1.21707 - 1.40078I$ $b = 1.53200 + 0.23250I$	$-8.16318 + 2.66336I$	$-17.8732 - 3.5049I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.313163 - 0.334163I$ $a = -1.21707 + 1.40078I$ $b = 1.53200 - 0.23250I$	$-8.16318 - 2.66336I$	$-17.8732 + 3.5049I$
$u = -0.40800 + 1.49585I$ $a = -0.015891 + 1.219100I$ $b = 1.114320 - 0.615250I$	$4.09278 + 6.12627I$	0
$u = -0.40800 - 1.49585I$ $a = -0.015891 - 1.219100I$ $b = 1.114320 + 0.615250I$	$4.09278 - 6.12627I$	0
$u = -0.09800 + 1.55477I$ $a = -0.303147 - 1.145330I$ $b = 0.176377 + 1.012480I$	$8.66726 + 5.18238I$	0
$u = -0.09800 - 1.55477I$ $a = -0.303147 + 1.145330I$ $b = 0.176377 - 1.012480I$	$8.66726 - 5.18238I$	0
$u = 0.39745 + 1.50772I$ $a = 0.25992 + 1.54249I$ $b = -1.32257 - 0.77450I$	$0.3285 - 18.1859I$	0
$u = 0.39745 - 1.50772I$ $a = 0.25992 - 1.54249I$ $b = -1.32257 + 0.77450I$	$0.3285 + 18.1859I$	0
$u = -0.16909 + 1.55843I$ $a = -0.197722 - 0.873637I$ $b = 0.455786 + 0.780270I$	$6.08178 + 0.84106I$	0
$u = -0.16909 - 1.55843I$ $a = -0.197722 + 0.873637I$ $b = 0.455786 - 0.780270I$	$6.08178 - 0.84106I$	0
$u = -0.306547 + 0.215113I$ $a = 0.613994 - 1.264500I$ $b = -0.273298 + 0.261391I$	$-0.466771 + 0.832441I$	$-9.34306 - 8.18046I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.306547-0.215113I$ $a=\ \ 0.613994+1.264500I$ $b=-0.273298-0.261391I$	$-0.466771-0.832441I$	$-9.34306+8.18046I$
$u=\ \ 0.295478$ $a=-2.56557$ $b=-0.923726$	-1.51120	-6.11550
$u=-0.12927+1.83070I$ $a=\ \ 0.436548-0.143195I$ $b=-0.629747-0.003385I$	$8.11054+2.74940I$	0
$u=-0.12927-1.83070I$ $a=\ \ 0.436548+0.143195I$ $b=-0.629747+0.003385I$	$8.11054-2.74940I$	0
$u=-0.0610581$ $a=-148.073$ $b=-0.998011$	-3.28783	-2233.10

II.

$\boldsymbol{I_2^u = \langle 1.49\times 10^6 u^{25} - 2.70\times 10^6 u^{24} + \cdots + 2.80\times 10^6 b + 2.35\times 10^5,\ -5.51\times 10^6 u^{25} + 1.31\times 10^7 u^{24} + \cdots + 2.80\times 10^6 a + 3.51\times 10^7,\ u^{26} - 3u^{25} + \cdots - 4u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.96747u^{25} - 4.67734u^{24} + \cdots + 69.2022u - 12.5362 \\ -0.533221u^{25} + 0.964909u^{24} + \cdots + 4.51107u - 0.0839343 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.43425u^{25} - 3.71243u^{24} + \cdots + 73.7132u - 12.6202 \\ -0.533221u^{25} + 0.964909u^{24} + \cdots + 4.51107u - 0.0839343 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.853886u^{25} - 2.98215u^{24} + \cdots + 72.8784u - 11.4277 \\ 2.16059u^{25} - 6.83795u^{24} + \cdots + 4.43665u + 0.140403 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -3.03930u^{25} + 9.78221u^{24} + \cdots - 156.953u + 30.0998 \\ -0.202790u^{25} + 0.516128u^{24} + \cdots - 5.94755u + 1.34461 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 9.15386u^{25} - 29.2824u^{24} + \cdots + 455.749u - 82.0067 \\ 1.35608u^{25} - 3.57950u^{24} + \cdots + 17.4512u - 3.41836 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.37500u^{25} + 11.3334u^{24} + \cdots - 155.010u + 29.0605 \\ -0.261930u^{25} + 0.671359u^{24} + \cdots - 5.99244u + 1.39090 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3.66510u^{25} + 10.1431u^{24} + \cdots - 158.439u + 30.4760 \\ 0.200453u^{25} + 0.666037u^{24} + \cdots - 12.2579u - 0.121281 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{20150746}{2800453}u^{25} - \frac{62792159}{2800453}u^{24} + \cdots - \frac{53037391}{2800453}u - \frac{6389753}{2800453}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - 8u^{25} + \cdots - 18u + 1$
c_2	$u^{26} + 8u^{25} + \cdots + 8u + 1$
c_3	$u^{26} + 2u^{25} + \cdots - 2u^2 - 1$
c_4	$u^{26} - 6u^{25} + \cdots - 6u - 1$
c_5	$u^{26} - 8u^{25} + \cdots - 8u + 1$
c_6, c_7	$u^{26} - 3u^{25} + \cdots - 4u - 1$
c_8	$u^{26} - 4u^{24} + \cdots + u + 1$
c_9	$u^{26} - 2u^{25} + \cdots - 2u^2 - 1$
c_{10}	$u^{26} + 3u^{25} + \cdots + 4u - 1$
c_{11}	$u^{26} + 6u^{25} + \cdots + 6u - 1$
c_{12}	$u^{26} - 4u^{24} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26} - 4y^{25} + \cdots - 24y + 1$
c_2, c_5	$y^{26} - 14y^{25} + \cdots - 14y + 1$
c_3, c_9	$y^{26} + 2y^{25} + \cdots + 4y + 1$
c_4, c_{11}	$y^{26} + 2y^{25} + \cdots + 6y + 1$
c_6, c_7, c_{10}	$y^{26} + 29y^{25} + \cdots - 80y + 1$
c_8, c_{12}	$y^{26} - 8y^{25} + \cdots - 13y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.022350 + 0.253702I$ $a = 0.508058 - 0.107953I$ $b = 0.853195 - 0.491735I$	$0.82630 + 2.02782I$	$-2.36814 - 2.16024I$
$u = 1.022350 - 0.253702I$ $a = 0.508058 + 0.107953I$ $b = 0.853195 + 0.491735I$	$0.82630 - 2.02782I$	$-2.36814 + 2.16024I$
$u = -0.582985 + 0.723697I$ $a = 0.956069 + 0.934757I$ $b = 0.553255 + 0.301462I$	$-2.86288 - 4.78908I$	$-11.61798 + 4.38458I$
$u = -0.582985 - 0.723697I$ $a = 0.956069 - 0.934757I$ $b = 0.553255 - 0.301462I$	$-2.86288 + 4.78908I$	$-11.61798 - 4.38458I$
$u = -0.083523 + 1.159990I$ $a = -1.49397 - 0.36700I$ $b = 1.76591 + 0.22313I$	$-5.89328 + 3.52834I$	$-12.99598 - 3.39359I$
$u = -0.083523 - 1.159990I$ $a = -1.49397 + 0.36700I$ $b = 1.76591 - 0.22313I$	$-5.89328 - 3.52834I$	$-12.99598 + 3.39359I$
$u = -0.154629 + 0.758239I$ $a = -0.471018 - 0.141461I$ $b = 1.60502 - 0.09946I$	$-7.44849 - 2.63349I$	$-5.61229 + 3.04325I$
$u = -0.154629 - 0.758239I$ $a = -0.471018 + 0.141461I$ $b = 1.60502 + 0.09946I$	$-7.44849 + 2.63349I$	$-5.61229 - 3.04325I$
$u = -0.279851 + 1.199860I$ $a = 0.49662 + 2.30062I$ $b = 0.581004 - 0.609255I$	$-1.01003 + 7.92983I$	$-7.6104 - 12.8473I$
$u = -0.279851 - 1.199860I$ $a = 0.49662 - 2.30062I$ $b = 0.581004 + 0.609255I$	$-1.01003 - 7.92983I$	$-7.6104 + 12.8473I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.070272 + 1.263510I$ $a = -0.01250 - 2.36542I$ $b = -0.328377 + 1.088510I$	$4.91270 - 1.29414I$	$0.03674 + 6.12038I$
$u = 0.070272 - 1.263510I$ $a = -0.01250 + 2.36542I$ $b = -0.328377 - 1.088510I$	$4.91270 + 1.29414I$	$0.03674 - 6.12038I$
$u = 0.666934$ $a = -0.961805$ $b = -0.907540$	-2.55505	-15.8240
$u = 0.286679 + 1.303990I$ $a = 0.041146 + 0.871686I$ $b = -0.917561 - 0.260224I$	$1.58302 - 3.44755I$	$-12.62203 + 4.30317I$
$u = 0.286679 - 1.303990I$ $a = 0.041146 - 0.871686I$ $b = -0.917561 + 0.260224I$	$1.58302 + 3.44755I$	$-12.62203 - 4.30317I$
$u = -0.048601 + 1.400770I$ $a = 0.33641 - 2.10155I$ $b = -1.014690 + 0.252640I$	$1.58255 + 0.57861I$	$-23.2535 + 3.7221I$
$u = -0.048601 - 1.400770I$ $a = 0.33641 + 2.10155I$ $b = -1.014690 - 0.252640I$	$1.58255 - 0.57861I$	$-23.2535 - 3.7221I$
$u = 0.16241 + 1.46616I$ $a = -0.250247 + 1.193130I$ $b = 0.349283 - 1.115370I$	$7.70610 - 1.53146I$	$-2.18281 + 0.62008I$
$u = 0.16241 - 1.46616I$ $a = -0.250247 - 1.193130I$ $b = 0.349283 + 1.115370I$	$7.70610 + 1.53146I$	$-2.18281 - 0.62008I$
$u = 0.43090 + 1.42470I$ $a = 0.040439 - 1.239340I$ $b = 1.185480 + 0.621504I$	$4.91798 - 7.37448I$	$-4.18561 + 5.89150I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.43090 - 1.42470I$ $a = 0.040439 + 1.239340I$ $b = 1.185480 - 0.621504I$	$4.91798 + 7.37448I$	$-4.18561 - 5.89150I$
$u = 0.247020 + 0.282950I$ $a = 2.00027 + 0.29611I$ $b = -0.074835 - 0.938362I$	$1.63619 + 0.26621I$	$-5.54784 + 0.64673I$
$u = 0.247020 - 0.282950I$ $a = 2.00027 - 0.29611I$ $b = -0.074835 + 0.938362I$	$1.63619 - 0.26621I$	$-5.54784 - 0.64673I$
$u = 0.14925 + 1.77210I$ $a = -0.0373743 + 0.1349400I$ $b = 0.386753 - 0.174816I$	$8.47595 - 2.61606I$	0
$u = 0.14925 - 1.77210I$ $a = -0.0373743 - 0.1349400I$ $b = 0.386753 + 0.174816I$	$8.47595 + 2.61606I$	0
$u = -0.105509$ $a = -23.2660$ $b = -0.981330$	-3.26808	-0.186870

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -1.00000$	-3.28987	-12.0000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^{26}-8u^{25}+\cdots-18u+1)$ $\cdot(u^{115}-2u^{114}+\cdots-533977u-135887)$
c_2	$(u-1)(u^{26}+8u^{25}+\cdots+8u+1)(u^{115}-29u^{113}+\cdots+489u-103)$
c_3	$(u-1)(u^{26}+2u^{25}+\cdots-2u^2-1)$ $\cdot(u^{115}-14u^{114}+\cdots-1475781u-602561)$
c_4	$(u-1)(u^{26}-6u^{25}+\cdots-6u-1)(u^{115}-4u^{114}+\cdots+5559u-7129)$
c_5	$(u+1)(u^{26}-8u^{25}+\cdots-8u+1)(u^{115}-29u^{113}+\cdots+489u-103)$
c_6, c_7	$u(u^{26}-3u^{25}+\cdots-4u-1)(u^{115}-4u^{114}+\cdots-3274u-242)$
c_8	$(u-1)(u^{26}-4u^{24}+\cdots+u+1)(u^{115}-2u^{114}+\cdots+5984u+161)$
c_9	$(u+1)(u^{26}-2u^{25}+\cdots-2u^2-1)$ $\cdot(u^{115}-14u^{114}+\cdots-1475781u-602561)$
c_{10}	$u(u^{26}+3u^{25}+\cdots+4u-1)(u^{115}-4u^{114}+\cdots-3274u-242)$
c_{11}	$(u+1)(u^{26}+6u^{25}+\cdots+6u-1)(u^{115}-4u^{114}+\cdots+5559u-7129)$
c_{12}	$(u+1)(u^{26}-4u^{24}+\cdots-u+1)(u^{115}-2u^{114}+\cdots+5984u+161)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^{26}-4y^{25}+\cdots-24y+1)$ $\cdot(y^{115}-36y^{114}+\cdots+2122072013805y-18465276769)$
c_2, c_5	$(y-1)(y^{26}-14y^{25}+\cdots-14y+1)$ $\cdot(y^{115}-58y^{114}+\cdots+1346371y-10609)$
c_3, c_9	$(y-1)(y^{26}+2y^{25}+\cdots+4y+1)$ $\cdot(y^{115}-10y^{114}+\cdots-1560457704043y-363079758721)$
c_4, c_{11}	$(y-1)(y^{26}+2y^{25}+\cdots+6y+1)$ $\cdot(y^{115}-18y^{114}+\cdots-1151442169y-50822641)$
c_6, c_7, c_{10}	$y(y^{26}+29y^{25}+\cdots-80y+1)$ $\cdot(y^{115}+110y^{114}+\cdots+16205216y-58564)$
c_8, c_{12}	$(y-1)(y^{26}-8y^{25}+\cdots-13y+1)$ $\cdot(y^{115}-64y^{114}+\cdots+53494106y-25921)$