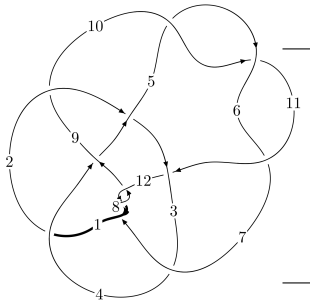
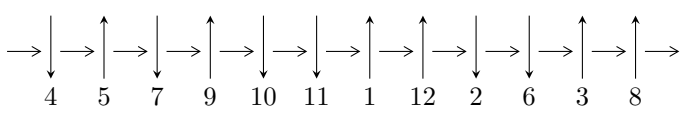
$12a_{0820}$ $(K12a_{0820})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.40939 \times 10^{253} u^{113} - 2.02595 \times 10^{253} u^{112} + \cdots + 4.76921 \times 10^{252} b + 1.39224 \times 10^{253}, \\ & - 5.54737 \times 10^{253} u^{113} - 8.27027 \times 10^{253} u^{112} + \cdots + 4.76921 \times 10^{252} a + 2.16515 \times 10^{254}, \\ & u^{114} + u^{113} + \cdots - 17u + 1 \rangle \\ I_2^u = \langle & 1390u^{24} - 1230u^{23} + \cdots + 3407b - 2014,\ 97u^{24} - 2733u^{23} + \cdots + 3407a + 6095, \\ & u^{25} - 14u^{23} + \cdots - 2u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 139 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. $\boldsymbol{I_1^u = \langle -1.41 \times 10^{253} u^{113} - 2.03 \times 10^{253} u^{112} + \cdots + 4.77 \times 10^{252} b + 1.39 \times 10^{253},\ -5.55 \times 10^{253} u^{113} - 8.27 \times 10^{253} u^{112} + \cdots + 4.77 \times 10^{252} a + 2.17 \times 10^{254},\ u^{114} + u^{113} + \cdots - 17u + 1 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 11.6316u^{113} + 17.3410u^{112} + \cdots + 401.267u - 45.3985 \\ 2.95519u^{113} + 4.24799u^{112} + \cdots + 59.4230u - 2.91923 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -27.6647u^{113} - 41.0174u^{112} + \cdots - 972.586u + 85.2806 \\ -4.76338u^{113} - 5.86579u^{112} + \cdots - 156.987u + 9.92136 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 8.67645u^{113} + 13.0930u^{112} + \cdots + 341.844u - 42.4792 \\ 2.95519u^{113} + 4.24799u^{112} + \cdots + 59.4230u - 2.91923 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -21.0401u^{113} - 28.9104u^{112} + \cdots - 655.353u + 67.2492 \\ -4.35621u^{113} - 6.54646u^{112} + \cdots - 150.939u + 9.08524 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 13.1028u^{113} + 20.6472u^{112} + \cdots + 487.758u - 52.3250 \\ 3.40344u^{113} + 5.57151u^{112} + \cdots + 89.2902u - 4.94819 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -24.3708u^{113} - 38.2365u^{112} + \cdots - 776.120u + 38.6407 \\ -6.35400u^{113} - 9.86861u^{112} + \cdots - 249.572u + 17.7461 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 7.70870u^{113} + 8.88631u^{112} + \cdots + 180.088u - 2.90069 \\ 3.10824u^{113} + 3.34002u^{112} + \cdots + 77.4664u - 6.10232 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -31.5841u^{113} - 47.8132u^{112} + \cdots - 1054.21u + 82.8491$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{114} + 9u^{113} + \cdots - 1176u + 10199$
c_2	$u^{114} + 13u^{112} + \cdots + 23139u + 2413$
c_3	$u^{114} + u^{113} + \cdots - 4818480u + 4468393$
c_4	$u^{114} - 4u^{112} + \cdots + 3u - 1$
c_5, c_6, c_{10}	$u^{114} - u^{113} + \cdots + 17u + 1$
c_7, c_8, c_{12}	$u^{114} + 56u^{112} + \cdots - 19u + 1$
c_9	$u^{114} - u^{113} + \cdots - 38970u + 6329$
c_{11}	$u^{114} + 20u^{112} + \cdots - 4121492u - 493777$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{114} - 41y^{113} + \cdots - 15341392906y + 104019601$
c_2	$y^{114} + 26y^{113} + \cdots + 99866841y + 5822569$
c_3	$y^{114} - 55y^{113} + \cdots - 760130663350652y + 19966536002449$
c_4	$y^{114} - 8y^{113} + \cdots - 193y + 1$
c_5, c_6, c_{10}	$y^{114} - 121y^{113} + \cdots - 237y + 1$
c_7, c_8, c_{12}	$y^{114} + 112y^{113} + \cdots - 139y + 1$
c_9	$y^{114} - 37y^{113} + \cdots - 2516693568y + 40056241$
c_{11}	$y^{114} + 40y^{113} + \cdots + 9893819447934y + 243815725729$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.504390+0.859932I$ $a=-0.318445+0.156899I$ $b=-0.019841+1.001800I$	$-9.00028+4.07227I$	0
$u=-0.504390-0.859932I$ $a=-0.318445-0.156899I$ $b=-0.019841-1.001800I$	$-9.00028-4.07227I$	0
$u=0.627792+0.808125I$ $a=0.504608+0.487111I$ $b=-0.735286+0.803959I$	$-1.68248-4.28082I$	0
$u=0.627792-0.808125I$ $a=0.504608-0.487111I$ $b=-0.735286-0.803959I$	$-1.68248+4.28082I$	0
$u=-0.624670+0.747433I$ $a=0.745136-0.536061I$ $b=-0.459020-0.938010I$	$-9.48244+1.28540I$	0
$u=-0.624670-0.747433I$ $a=0.745136+0.536061I$ $b=-0.459020+0.938010I$	$-9.48244-1.28540I$	0
$u=0.648355+0.795879I$ $a=0.385231+0.691676I$ $b=-0.951220+1.028110I$	$-7.2766-13.7621I$	0
$u=0.648355-0.795879I$ $a=0.385231-0.691676I$ $b=-0.951220-1.028110I$	$-7.2766+13.7621I$	0
$u=-0.648247+0.798822I$ $a=0.407999-0.595360I$ $b=-0.894448-0.909448I$	$-0.89385+9.60187I$	0
$u=-0.648247-0.798822I$ $a=0.407999+0.595360I$ $b=-0.894448+0.909448I$	$-0.89385-9.60187I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.469837 + 0.938728I$ $a = -0.404972 + 0.279102I$ $b = -0.567103 - 0.722810I$	$-6.66315 + 8.11811I$	0
$u = 0.469837 - 0.938728I$ $a = -0.404972 - 0.279102I$ $b = -0.567103 + 0.722810I$	$-6.66315 - 8.11811I$	0
$u = -1.023880 + 0.242312I$ $a = 1.41856 + 0.48183I$ $b = 0.790054 - 0.125048I$	$-5.01066 + 0.32843I$	0
$u = -1.023880 - 0.242312I$ $a = 1.41856 - 0.48183I$ $b = 0.790054 + 0.125048I$	$-5.01066 - 0.32843I$	0
$u = -0.840937 + 0.428235I$ $a = 1.45683 - 0.06660I$ $b = 0.576258 - 0.637825I$	$-5.65724 - 0.96064I$	0
$u = -0.840937 - 0.428235I$ $a = 1.45683 + 0.06660I$ $b = 0.576258 + 0.637825I$	$-5.65724 + 0.96064I$	0
$u = 0.684025 + 0.608244I$ $a = 0.108560 - 0.218368I$ $b = 0.374450 - 0.458339I$	$-1.22956 - 1.97374I$	0
$u = 0.684025 - 0.608244I$ $a = 0.108560 + 0.218368I$ $b = 0.374450 + 0.458339I$	$-1.22956 + 1.97374I$	0
$u = -0.480454 + 0.988671I$ $a = -0.237939 - 0.221262I$ $b = -0.424825 + 0.602509I$	$-0.26142 - 3.85934I$	0
$u = -0.480454 - 0.988671I$ $a = -0.237939 + 0.221262I$ $b = -0.424825 - 0.602509I$	$-0.26142 + 3.85934I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.847240 + 0.275289I$ $a = 1.307420 - 0.150491I$ $b = 0.546342 + 0.345590I$	$-0.653113 + 0.203450I$	0
$u = 0.847240 - 0.275289I$ $a = 1.307420 + 0.150491I$ $b = 0.546342 - 0.345590I$	$-0.653113 - 0.203450I$	0
$u = 1.12255$ $a = 0.954007$ $b = -0.662366$	-1.71869	0
$u = 0.637119 + 0.961400I$ $a = -0.140987 + 0.024677I$ $b = -0.116157 - 0.576022I$	$-1.37866 - 1.56456I$	0
$u = 0.637119 - 0.961400I$ $a = -0.140987 - 0.024677I$ $b = -0.116157 + 0.576022I$	$-1.37866 + 1.56456I$	0
$u = -0.268034 + 0.682036I$ $a = -0.243151 + 0.202685I$ $b = 0.83284 + 1.16863I$	$-3.87371 + 4.99652I$	0
$u = -0.268034 - 0.682036I$ $a = -0.243151 - 0.202685I$ $b = 0.83284 - 1.16863I$	$-3.87371 - 4.99652I$	0
$u = 0.215671 + 0.695262I$ $a = 0.802229 - 0.072153I$ $b = -0.362588 + 0.284379I$	$-0.01282 - 1.97773I$	0
$u = 0.215671 - 0.695262I$ $a = 0.802229 + 0.072153I$ $b = -0.362588 - 0.284379I$	$-0.01282 + 1.97773I$	0
$u = 0.492943 + 0.502644I$ $a = 0.344711 - 0.916714I$ $b = 1.051700 - 0.405957I$	$-1.76151 - 1.77369I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.492943 - 0.502644I$ $a = 0.344711 + 0.916714I$ $b = 1.051700 + 0.405957I$	$-1.76151 + 1.77369I$	0
$u = -0.606585 + 0.331100I$ $a = 0.257474 + 0.237231I$ $b = -1.212140 + 0.308455I$	$-6.71204 - 3.43393I$	0
$u = -0.606585 - 0.331100I$ $a = 0.257474 - 0.237231I$ $b = -1.212140 - 0.308455I$	$-6.71204 + 3.43393I$	0
$u = 0.544241 + 0.423178I$ $a = -0.52745 - 1.60285I$ $b = 0.97691 - 1.08962I$	$-3.11521 - 4.90569I$	0
$u = 0.544241 - 0.423178I$ $a = -0.52745 + 1.60285I$ $b = 0.97691 + 1.08962I$	$-3.11521 + 4.90569I$	0
$u = -0.483700 + 0.484947I$ $a = -0.344554 + 1.058150I$ $b = 0.934790 + 0.863090I$	$1.47204 + 3.21737I$	0
$u = -0.483700 - 0.484947I$ $a = -0.344554 - 1.058150I$ $b = 0.934790 - 0.863090I$	$1.47204 - 3.21737I$	0
$u = 0.641724 + 0.077644I$ $a = 0.749700 - 0.145346I$ $b = -0.578203 - 0.240264I$	$-1.43760 - 0.04845I$	$-6.99647 + 0.I$
$u = 0.641724 - 0.077644I$ $a = 0.749700 + 0.145346I$ $b = -0.578203 + 0.240264I$	$-1.43760 + 0.04845I$	$-6.99647 + 0.I$
$u = 1.354950 + 0.073307I$ $a = 0.502957 + 1.294070I$ $b = 0.001361 + 0.562562I$	$-3.08633 - 0.14371I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.354950 - 0.073307I$ $a = 0.502957 - 1.294070I$ $b = 0.001361 - 0.562562I$	$-3.08633 + 0.14371I$	0
$u = -1.356960 + 0.261061I$ $a = 0.535902 - 0.852694I$ $b = -0.694855 - 0.462533I$	$-4.99408 + 5.47655I$	0
$u = -1.356960 - 0.261061I$ $a = 0.535902 + 0.852694I$ $b = -0.694855 + 0.462533I$	$-4.99408 - 5.47655I$	0
$u = 0.264417 + 0.558492I$ $a = -0.528334 - 0.121740I$ $b = 0.879406 - 0.976250I$	$1.10020 - 3.44919I$	$7.33497 + 9.15225I$
$u = 0.264417 - 0.558492I$ $a = -0.528334 + 0.121740I$ $b = 0.879406 + 0.976250I$	$1.10020 + 3.44919I$	$7.33497 - 9.15225I$
$u = -1.401100 + 0.022072I$ $a = 0.60160 + 1.55230I$ $b = 0.159019 + 1.035610I$	$-8.01156 + 2.83142I$	0
$u = -1.401100 - 0.022072I$ $a = 0.60160 - 1.55230I$ $b = 0.159019 - 1.035610I$	$-8.01156 - 2.83142I$	0
$u = -1.402530 + 0.127614I$ $a = 0.15023 - 1.68921I$ $b = -0.165522 - 0.371500I$	$-4.20035 + 4.68431I$	0
$u = -1.402530 - 0.127614I$ $a = 0.15023 + 1.68921I$ $b = -0.165522 + 0.371500I$	$-4.20035 - 4.68431I$	0
$u = -0.312958 + 0.484410I$ $a = 0.68470 - 2.52421I$ $b = -0.647033 - 0.214427I$	$-5.73034 + 6.37831I$	$-0.93847 - 10.47810I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.312958-0.484410I$ $a=\ \ 0.68470+2.52421I$ $b=-0.647033+0.214427I$	$-5.73034-6.37831I$	$-0.93847+10.47810I$
$u=\ \ 1.42402+0.19507I$ $a=\ \ 0.18091-2.16307I$ $b=\ \ 0.95293-1.81419I$	$-9.28920-8.06698I$	0
$u=\ \ 1.42402-0.19507I$ $a=\ \ 0.18091+2.16307I$ $b=\ \ 0.95293+1.81419I$	$-9.28920+8.06698I$	0
$u=\ \ 1.43696+0.07142I$ $a=\ \ 0.50611-1.59958I$ $b=\ \ 1.41616-1.19115I$	$-7.09296-3.71047I$	0
$u=\ \ 1.43696-0.07142I$ $a=\ \ 0.50611+1.59958I$ $b=\ \ 1.41616+1.19115I$	$-7.09296+3.71047I$	0
$u=\ \ 0.149924+0.540211I$ $a=\ \ 1.52053+1.40815I$ $b=-0.523492+0.034626I$	$0.73545-2.45150I$	$7.79919+8.48403I$
$u=\ \ 0.149924-0.540211I$ $a=\ \ 1.52053-1.40815I$ $b=-0.523492-0.034626I$	$0.73545+2.45150I$	$7.79919-8.48403I$
$u=-1.44341$ $a=\ \ 0.0236738$ $b=\ \ 1.32265$	-4.28765	0
$u=-1.44154+0.14492I$ $a=\ \ 0.35936+2.03022I$ $b=\ \ 1.12170+1.62153I$	$-4.43773+5.84177I$	0
$u=-1.44154-0.14492I$ $a=\ \ 0.35936-2.03022I$ $b=\ \ 1.12170-1.62153I$	$-4.43773-5.84177I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.45794 + 0.12566I$ $a = -0.40239 + 1.93795I$ $b = -0.195324 + 0.429208I$	$-11.5157 - 8.4504I$	0
$u = 1.45794 - 0.12566I$ $a = -0.40239 - 1.93795I$ $b = -0.195324 - 0.429208I$	$-11.5157 + 8.4504I$	0
$u = -0.439200 + 0.298658I$ $a = 0.993486 + 0.633929I$ $b = 0.780963 - 0.210476I$	$1.51577 - 0.17955I$	$6.48644 - 0.46789I$
$u = -0.439200 - 0.298658I$ $a = 0.993486 - 0.633929I$ $b = 0.780963 + 0.210476I$	$1.51577 + 0.17955I$	$6.48644 + 0.46789I$
$u = 1.46868 + 0.04128I$ $a = -0.04562 - 1.41394I$ $b = 1.057150 - 0.865190I$	$-7.16622 - 3.90834I$	0
$u = 1.46868 - 0.04128I$ $a = -0.04562 + 1.41394I$ $b = 1.057150 + 0.865190I$	$-7.16622 + 3.90834I$	0
$u = -1.50091 + 0.05304I$ $a = -1.17889 + 2.04349I$ $b = -1.60569 + 1.96668I$	$-13.9951 + 6.9232I$	0
$u = -1.50091 - 0.05304I$ $a = -1.17889 - 2.04349I$ $b = -1.60569 - 1.96668I$	$-13.9951 - 6.9232I$	0
$u = 1.50232 + 0.04092I$ $a = -0.76440 - 1.75414I$ $b = -1.23649 - 1.62891I$	$-8.15068 - 3.87708I$	0
$u = 1.50232 - 0.04092I$ $a = -0.76440 + 1.75414I$ $b = -1.23649 + 1.62891I$	$-8.15068 + 3.87708I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.51959+0.02383I$ $a=-0.46121+1.97396I$ $b=\ \ 0.553037+1.032860I$	$-14.7160+5.6858I$	0
$u=-1.51959-0.02383I$ $a=-0.46121-1.97396I$ $b=\ \ 0.553037-1.032860I$	$-14.7160-5.6858I$	0
$u=\ \ 0.478423+0.013444I$ $a=-2.02485-3.24717I$ $b=\ \ 0.112636-0.976226I$	$-7.97267-5.43473I$	$-12.51083+5.12901I$
$u=\ \ 0.478423-0.013444I$ $a=-2.02485+3.24717I$ $b=\ \ 0.112636+0.976226I$	$-7.97267+5.43473I$	$-12.51083-5.12901I$
$u=-1.52521+0.01741I$ $a=-0.506949+1.014550I$ $b=-1.11422+0.89488I$	$-8.52935+0.38383I$	0
$u=-1.52521-0.01741I$ $a=-0.506949-1.014550I$ $b=-1.11422-0.89488I$	$-8.52935-0.38383I$	0
$u=\ \ 1.52396+0.14016I$ $a=\ \ 0.45909-2.03397I$ $b=\ \ 0.98148-1.47676I$	$-5.21863-5.44789I$	0
$u=\ \ 1.52396-0.14016I$ $a=\ \ 0.45909+2.03397I$ $b=\ \ 0.98148+1.47676I$	$-5.21863+5.44789I$	0
$u=-0.438957+0.119226I$ $a=\ \ 0.960231+0.801247I$ $b=-0.524651+1.117990I$	$-1.65555+3.25950I$	$-8.15736-8.85887I$
$u=-0.438957-0.119226I$ $a=\ \ 0.960231-0.801247I$ $b=-0.524651-1.117990I$	$-1.65555-3.25950I$	$-8.15736+8.85887I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.54161+0.12665I$ $a=\ \ 0.40347+2.26598I$ $b=\ \ 0.93018+1.54252I$	$-10.10470+6.91096I$	0
$u=-1.54161-0.12665I$ $a=\ \ 0.40347-2.26598I$ $b=\ \ 0.93018-1.54252I$	$-10.10470-6.91096I$	0
$u=-1.54474+0.14832I$ $a=\ \ 0.71374+1.71782I$ $b=\ \ 1.06815+1.34991I$	$-8.65341+4.05651I$	0
$u=-1.54474-0.14832I$ $a=\ \ 0.71374-1.71782I$ $b=\ \ 1.06815-1.34991I$	$-8.65341-4.05651I$	0
$u=\ \ 1.55267+0.05487I$ $a=-1.28419-0.59457I$ $b=-1.87290-0.60942I$	$-13.9907+2.2313I$	0
$u=\ \ 1.55267-0.05487I$ $a=-1.28419+0.59457I$ $b=-1.87290+0.60942I$	$-13.9907-2.2313I$	0
$u=-1.56260$ $a=\ \ 0.0873587$ $b=-0.700466$	-8.57207	0
$u=-0.041627+0.430998I$ $a=-0.489627-1.060360I$ $b=\ \ 1.073510+0.717562I$	$-2.07764+2.42432I$	$0.50120-1.46569I$
$u=-0.041627-0.430998I$ $a=-0.489627+1.060360I$ $b=\ \ 1.073510-0.717562I$	$-2.07764-2.42432I$	$0.50120+1.46569I$
$u=\ \ 0.388339+0.174789I$ $a=\ \ 0.695122-1.172320I$ $b=-0.89212-1.44065I$	$-7.61463-6.10438I$	$-12.9267+9.7942I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.388339 - 0.174789I$ $a = 0.695122 + 1.172320I$ $b = -0.89212 + 1.44065I$	$-7.61463 + 6.10438I$	$-12.9267 - 9.7942I$
$u = 1.56257 + 0.24563I$ $a = 0.21949 + 1.50423I$ $b = -0.789212 + 1.115810I$	$-16.6601 - 4.9317I$	0
$u = 1.56257 - 0.24563I$ $a = 0.21949 - 1.50423I$ $b = -0.789212 - 1.115810I$	$-16.6601 + 4.9317I$	0
$u = 1.58321 + 0.04226I$ $a = 0.675518 + 0.554970I$ $b = -0.246897 + 0.415423I$	$-13.88100 - 0.23649I$	0
$u = 1.58321 - 0.04226I$ $a = 0.675518 - 0.554970I$ $b = -0.246897 - 0.415423I$	$-13.88100 + 0.23649I$	0
$u = 1.55592 + 0.30385I$ $a = -0.412535 - 1.349550I$ $b = 0.255020 - 1.333670I$	$-15.7486 - 8.3628I$	0
$u = 1.55592 - 0.30385I$ $a = -0.412535 + 1.349550I$ $b = 0.255020 + 1.333670I$	$-15.7486 + 8.3628I$	0
$u = -1.57225 + 0.26757I$ $a = -0.06011 - 1.49912I$ $b = -1.03443 - 1.12243I$	$-8.88839 + 8.23460I$	0
$u = -1.57225 - 0.26757I$ $a = -0.06011 + 1.49912I$ $b = -1.03443 + 1.12243I$	$-8.88839 - 8.23460I$	0
$u = 1.58087 + 0.26673I$ $a = -0.18210 + 1.65020I$ $b = -1.13316 + 1.25352I$	$-8.2065 - 13.5471I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.58087 - 0.26673I$ $a = -0.18210 - 1.65020I$ $b = -1.13316 - 1.25352I$	$-8.2065 + 13.5471I$	0
$u = -1.58155 + 0.26297I$ $a = -0.088612 + 1.236220I$ $b = 0.471617 + 1.173650I$	$-8.85937 + 5.71237I$	0
$u = -1.58155 - 0.26297I$ $a = -0.088612 - 1.236220I$ $b = 0.471617 - 1.173650I$	$-8.85937 - 5.71237I$	0
$u = -1.58397 + 0.26594I$ $a = -0.19736 - 1.79258I$ $b = -1.14412 - 1.37328I$	$-14.6118 + 17.7008I$	0
$u = -1.58397 - 0.26594I$ $a = -0.19736 + 1.79258I$ $b = -1.14412 + 1.37328I$	$-14.6118 - 17.7008I$	0
$u = -0.320167 + 0.129550I$ $a = -3.41155 + 1.82601I$ $b = 0.460992 + 0.721575I$	$-1.18275 + 3.26451I$	$-8.32520 - 9.80871I$
$u = -0.320167 - 0.129550I$ $a = -3.41155 - 1.82601I$ $b = 0.460992 - 0.721575I$	$-1.18275 - 3.26451I$	$-8.32520 + 9.80871I$
$u = 0.308722 + 0.104106I$ $a = 2.23335 - 0.40665I$ $b = 0.872428 + 0.841118I$	$-2.39042 + 2.48410I$	$-1.71886 - 0.82985I$
$u = 0.308722 - 0.104106I$ $a = 2.23335 + 0.40665I$ $b = 0.872428 - 0.841118I$	$-2.39042 - 2.48410I$	$-1.71886 + 0.82985I$
$u = 1.66839 + 0.27586I$ $a = -0.011716 - 0.748707I$ $b = 0.422971 - 0.783040I$	$-7.69229 - 1.29973I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.66839 - 0.27586I$ $a = -0.011716 + 0.748707I$ $b = 0.422971 + 0.783040I$	$-7.69229 + 1.29973I$	0
$u = -1.66111 + 0.36507I$ $a = -0.322556 + 0.519156I$ $b = 0.121268 + 0.685806I$	$-13.52450 - 2.96645I$	0
$u = -1.66111 - 0.36507I$ $a = -0.322556 - 0.519156I$ $b = 0.121268 - 0.685806I$	$-13.52450 + 2.96645I$	0
$u = 0.0747493$ $a = -15.6526$ $b = 0.771425$	1.02759	9.77740

II. $I_2^u = \langle 1390u^{24} - 1230u^{23} + \cdots + 3407b - 2014,\ 97u^{24} - 2733u^{23} + \cdots + 3407a + 6095,\ u^{25} - 14u^{23} + \cdots - 2u - 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0284708u^{24} + 0.802172u^{23} + \cdots + 1.89903u - 1.78896 \\ -0.407984u^{24} + 0.361021u^{23} + \cdots + 3.67684u + 0.591136 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.632228u^{24} - 0.145583u^{23} + \cdots + 8.33519u + 2.66569 \\ 0.156736u^{24} - 0.117112u^{23} + \cdots + 0.741415u + 1.18873 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.379513u^{24} + 0.441151u^{23} + \cdots - 1.77781u - 2.38010 \\ -0.407984u^{24} + 0.361021u^{23} + \cdots + 3.67684u + 0.591136 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.03229u^{24} + 0.136484u^{23} + \cdots + 4.06076u - 0.874083 \\ -0.558849u^{24} + 0.271500u^{23} + \cdots + 3.37893u + 1.37951 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.379513u^{24} + 0.441151u^{23} + \cdots - 1.77781u - 1.38010 \\ -0.136484u^{24} - 0.195773u^{23} + \cdots + 3.93866u + 0.0322865 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.971529u^{24} - 0.197828u^{23} + \cdots - 3.10097u - 0.788964 \\ 0.480188u^{24} - 0.302612u^{23} + \cdots - 3.12181u - 1.67273 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.502495u^{24} + 0.512181u^{23} + \cdots + 0.163487u + 1.44027 \\ -0.0636924u^{24} + 0.0419724u^{23} + \cdots - 1.76196u + 1.34840 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{5911}{3407}u^{24} - \frac{11824}{3407}u^{23} + \cdots - \frac{64985}{3407}u - \frac{20668}{3407}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} - 14u^{24} + \cdots + 19u - 1$
c_2	$u^{25} + 11u^{24} + \cdots - 8u - 1$
c_3	$u^{25} - 3u^{23} + \cdots - u - 1$
c_4	$u^{25} + u^{24} + \cdots - 4u^2 + 1$
c_5, c_6	$u^{25} - 14u^{23} + \cdots - 2u - 1$
c_7, c_8	$u^{25} - u^{24} + \cdots + 5u^2 + 1$
c_9	$u^{25} - 4u^{23} + \cdots + u - 1$
c_{10}	$u^{25} - 14u^{23} + \cdots - 2u + 1$
c_{11}	$u^{25} - 3u^{24} + \cdots - 3u - 1$
c_{12}	$u^{25} + u^{24} + \cdots - 5u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} + 4y^{24} + \cdots + 41y - 1$
c_2	$y^{25} + 7y^{24} + \cdots - 2y - 1$
c_3	$y^{25} - 6y^{24} + \cdots + 7y - 1$
c_4	$y^{25} - 11y^{24} + \cdots + 8y - 1$
c_5, c_6, c_{10}	$y^{25} - 28y^{24} + \cdots - 12y - 1$
c_7, c_8, c_{12}	$y^{25} + 25y^{24} + \cdots - 10y - 1$
c_9	$y^{25} - 8y^{24} + \cdots + 11y - 1$
c_{11}	$y^{25} + 9y^{24} + \cdots + 9y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.941687$ $a = 1.54580$ $b = 0.837962$	-0.220934	9.54410
$u = -1.093780 + 0.137366I$ $a = 1.54500 - 0.47819I$ $b = 1.065480 - 0.643321I$	$-4.50219 - 1.57529I$	$-2.66273 + 4.13422I$
$u = -1.093780 - 0.137366I$ $a = 1.54500 + 0.47819I$ $b = 1.065480 + 0.643321I$	$-4.50219 + 1.57529I$	$-2.66273 - 4.13422I$
$u = 0.820714 + 0.760595I$ $a = 0.333429 - 0.255851I$ $b = 0.231620 + 0.369953I$	$-0.98047 - 1.37887I$	$1.28976 - 5.46340I$
$u = 0.820714 - 0.760595I$ $a = 0.333429 + 0.255851I$ $b = 0.231620 - 0.369953I$	$-0.98047 + 1.37887I$	$1.28976 + 5.46340I$
$u = 1.19989$ $a = -1.19456$ $b = 0.714432$	-1.46983	18.1470
$u = 0.331239 + 0.603619I$ $a = -0.728328 - 0.308839I$ $b = 0.685792 - 0.755265I$	$0.15114 - 3.06296I$	$-0.61786 + 6.65070I$
$u = 0.331239 - 0.603619I$ $a = -0.728328 + 0.308839I$ $b = 0.685792 + 0.755265I$	$0.15114 + 3.06296I$	$-0.61786 - 6.65070I$
$u = -1.351150 + 0.210789I$ $a = -0.581209 + 1.120070I$ $b = 0.732501 + 0.522575I$	$-4.71449 + 5.70154I$	$2.92146 - 13.06056I$
$u = -1.351150 - 0.210789I$ $a = -0.581209 - 1.120070I$ $b = 0.732501 - 0.522575I$	$-4.71449 - 5.70154I$	$2.92146 + 13.06056I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.094069+0.600711I$ $a=-0.892012+0.745912I$ $b=\ \ 0.214706-0.504419I$	$-0.30424-2.81283I$	$-1.73624+5.46052I$
$u=-0.094069-0.600711I$ $a=-0.892012-0.745912I$ $b=\ \ 0.214706+0.504419I$	$-0.30424+2.81283I$	$-1.73624-5.46052I$
$u=\ \ 1.46925+0.10979I$ $a=-0.40826-2.24898I$ $b=-0.09859-1.46020I$	$-12.3788-7.3139I$	$-8.54241+5.48065I$
$u=\ \ 1.46925-0.10979I$ $a=-0.40826+2.24898I$ $b=-0.09859+1.46020I$	$-12.3788+7.3139I$	$-8.54241-5.48065I$
$u=-0.381935+0.344053I$ $a=-0.494369+0.866243I$ $b=\ \ 1.15443+1.13622I$	$-2.41584+3.33287I$	$-3.08728-9.21606I$
$u=-0.381935-0.344053I$ $a=-0.494369-0.866243I$ $b=\ \ 1.15443-1.13622I$	$-2.41584-3.33287I$	$-3.08728+9.21606I$
$u=-1.49080+0.14084I$ $a=\ \ 0.15432+1.99457I$ $b=\ \ 0.77611+1.40990I$	$-5.83898+5.46868I$	$-8.14989-6.84342I$
$u=-1.49080-0.14084I$ $a=\ \ 0.15432-1.99457I$ $b=\ \ 0.77611-1.40990I$	$-5.83898-5.46868I$	$-8.14989+6.84342I$
$u=\ \ 1.52294+0.11980I$ $a=\ \ 0.77521-2.14767I$ $b=\ \ 1.33263-1.74662I$	$-8.93919-5.07108I$	$-7.16885+6.43261I$
$u=\ \ 1.52294-0.11980I$ $a=\ \ 0.77521+2.14767I$ $b=\ \ 1.33263+1.74662I$	$-8.93919+5.07108I$	$-7.16885-6.43261I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.58301+0.15032I$ $a=-0.322252+0.108211I$ $b=-0.757531-0.166104I$	$-12.55570-3.26438I$	$-6.04746+4.28066I$
$u=-1.58301-0.15032I$ $a=-0.322252-0.108211I$ $b=-0.757531+0.166104I$	$-12.55570+3.26438I$	$-6.04746-4.28066I$
$u=-0.045461+0.373634I$ $a=-2.53005+0.03838I$ $b=-0.313199+0.884889I$	$-6.95819+5.66496I$	$-3.14069-4.58202I$
$u=-0.045461-0.373634I$ $a=-2.53005-0.03838I$ $b=-0.313199-0.884889I$	$-6.95819-5.66496I$	$-3.14069+4.58202I$
$u=\ \ 1.65054$ $a=-0.0542121$ $b=-0.600291$	-7.74024	-2.80640

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{25}-14u^{24}+\cdots+19u-1)(u^{114}+9u^{113}+\cdots-1176u+10199)$
c_2	$(u^{25}+11u^{24}+\cdots-8u-1)(u^{114}+13u^{112}+\cdots+23139u+2413)$
c_3	$(u^{25}-3u^{23}+\cdots-u-1)(u^{114}+u^{113}+\cdots-4818480u+4468393)$
c_4	$(u^{25}+u^{24}+\cdots-4u^2+1)(u^{114}-4u^{112}+\cdots+3u-1)$
c_5, c_6	$(u^{25}-14u^{23}+\cdots-2u-1)(u^{114}-u^{113}+\cdots+17u+1)$
c_7, c_8	$(u^{25}-u^{24}+\cdots+5u^2+1)(u^{114}+56u^{112}+\cdots-19u+1)$
c_9	$(u^{25}-4u^{23}+\cdots+u-1)(u^{114}-u^{113}+\cdots-38970u+6329)$
c_{10}	$(u^{25}-14u^{23}+\cdots-2u+1)(u^{114}-u^{113}+\cdots+17u+1)$
c_{11}	$(u^{25}-3u^{24}+\cdots-3u-1)(u^{114}+20u^{112}+\cdots-4121492u-493777)$
c_{12}	$(u^{25}+u^{24}+\cdots-5u^2-1)(u^{114}+56u^{112}+\cdots-19u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{25}+4y^{24}+\cdots+41y-1)$ $\cdot(y^{114}-41y^{113}+\cdots-15341392906y+104019601)$
c_2	$(y^{25}+7y^{24}+\cdots-2y-1)$ $\cdot(y^{114}+26y^{113}+\cdots+99866841y+5822569)$
c_3	$(y^{25}-6y^{24}+\cdots+7y-1)$ $\cdot(y^{114}-55y^{113}+\cdots-760130663350652y+19966536002449)$
c_4	$(y^{25}-11y^{24}+\cdots+8y-1)(y^{114}-8y^{113}+\cdots-193y+1)$
c_5, c_6, c_{10}	$(y^{25}-28y^{24}+\cdots-12y-1)(y^{114}-121y^{113}+\cdots-237y+1)$
c_7, c_8, c_{12}	$(y^{25}+25y^{24}+\cdots-10y-1)(y^{114}+112y^{113}+\cdots-139y+1)$
c_9	$(y^{25}-8y^{24}+\cdots+11y-1)$ $\cdot(y^{114}-37y^{113}+\cdots-2516693568y+40056241)$
c_{11}	$(y^{25}+9y^{24}+\cdots+9y-1)$ $\cdot(y^{114}+40y^{113}+\cdots+9893819447934y+243815725729)$