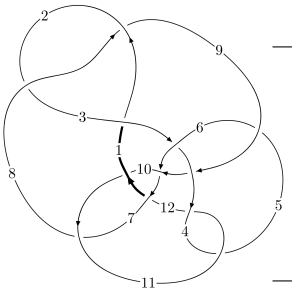
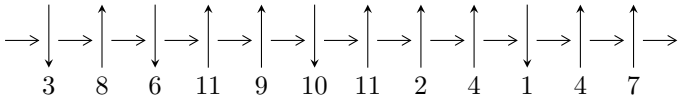
$12n_{0632}$ $(K12n_{0632})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 2.90187 \times 10^{41} u^{47} - 3.78001 \times 10^{41} u^{46} + \cdots + 1.28153 \times 10^{42} b + 4.17139 \times 10^{42},$$
$$3.62446 \times 10^{41} u^{47} - 9.89184 \times 10^{41} u^{46} + \cdots + 5.12610 \times 10^{42} a + 3.33997 \times 10^{42},\ u^{48} - 3u^{47} + \cdots - 72u +$$
$$I_2^u = \langle -2.03008 \times 10^{16} a u^{32} + 2.90523 \times 10^{16} u^{32} + \cdots - 2.34244 \times 10^{17} a + 2.23321 \times 10^{17},$$
$$-1.75837 \times 10^{15} a u^{32} - 3.99178 \times 10^{16} u^{32} + \cdots - 3.28264 \times 10^{17} a + 3.99087 \times 10^{17},$$
$$u^{33} + u^{32} + \cdots - 7u + 11\rangle$$
$$I_3^u = \langle 825341 u^{37} + 1493 u^{36} + \cdots + 121486 b - 2500187,$$
$$2974391 u^{37} - 2651575 u^{36} + \cdots + 607430 a - 22087770,\ u^{38} + 11 u^{36} + \cdots + 12 u^2 + 5\rangle$$

$$I_1^v = \langle a,\ v^2 + b + 2v,\ v^3 + 3v^2 + 2v + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 155 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. $I_1^u =$
$\langle \mathbf{2.90\times10^{41}u^{47}-3.78\times10^{41}u^{46}+\cdots+1.28\times10^{42}b+4.17\times10^{42},\ 3.62\times10^{41}u^{47}-9.89\times10^{41}u^{46}+\cdots+5.13\times10^{42}a+3.34\times10^{42},\ u^{48}-3u^{47}+\cdots-72u+16}\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0707059u^{47}+0.192970u^{46}+\cdots+2.02201u-0.651561\\-0.226439u^{47}+0.294962u^{46}+\cdots+10.9693u-3.25501\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.510598u^{47}+1.08091u^{46}+\cdots-13.9117u+2.18945\\-0.454714u^{47}+0.887793u^{46}+\cdots+1.07657u-2.81659\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.294663u^{47}+0.316302u^{46}+\cdots+9.54700u-3.10520\\0.0653557u^{47}-0.679568u^{46}+\cdots+37.0059u-9.89112\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^2+1\\-u^4\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.155733u^{47}+0.101992u^{46}+\cdots+8.94734u-2.60345\\-0.0000489054u^{47}-0.477796u^{46}+\cdots+34.7725u-9.09833\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.155684u^{47}-0.579788u^{46}+\cdots+25.8252u-6.49488\\-0.0000489054u^{47}-0.477796u^{46}+\cdots+34.7725u-9.09833\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0.700023u^{47}-1.69491u^{46}+\cdots+31.7696u-6.01626\\0.500164u^{47}-1.27854u^{46}+\cdots+19.1631u-1.82344\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.569045u^{47}-0.934017u^{46}+\cdots+6.75968u+0.801632\\-0.0171747u^{47}+0.560556u^{46}+\cdots-33.6917u+10.3628\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.71002u^{47}+7.94048u^{46}+\cdots-215.263u+55.9379$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{48} + 23u^{47} + \cdots + 832u + 256$
c_2, c_8	$u^{48} + 3u^{47} + \cdots + 72u + 16$
c_3, c_{10}	$u^{48} - u^{47} + \cdots - 3u + 1$
c_4, c_{11}	$u^{48} - 5u^{47} + \cdots - 1329u + 160$
c_5, c_7	$u^{48} - 22u^{46} + \cdots + 700u + 200$
c_6	$u^{48} + 6u^{47} + \cdots - 2475u + 918$
c_9, c_{12}	$u^{48} - 16u^{46} + \cdots - 154u + 17$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{48} + 11y^{47} + \cdots + 675840y + 65536$
c_2, c_8	$y^{48} + 23y^{47} + \cdots + 832y + 256$
c_3, c_{10}	$y^{48} - y^{47} + \cdots + 27y + 1$
c_4, c_{11}	$y^{48} - 37y^{47} + \cdots - 197281y + 25600$
c_5, c_7	$y^{48} - 44y^{47} + \cdots + 2167600y + 40000$
c_6	$y^{48} + 2y^{47} + \cdots - 1509921y + 842724$
c_9, c_{12}	$y^{48} - 32y^{47} + \cdots - 15386y + 289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.072234+1.009590I$ $a=-1.22324+0.93575I$ $b=-0.322776+0.234343I$	$-3.79904+3.93017I$	$-1.59134-4.51288I$
$u=-0.072234-1.009590I$ $a=-1.22324-0.93575I$ $b=-0.322776-0.234343I$	$-3.79904-3.93017I$	$-1.59134+4.51288I$
$u=-0.750282+0.624427I$ $a=0.877939-0.849112I$ $b=1.83705+0.04183I$	$1.29000+4.48373I$	$7.58276-2.87666I$
$u=-0.750282-0.624427I$ $a=0.877939+0.849112I$ $b=1.83705-0.04183I$	$1.29000-4.48373I$	$7.58276+2.87666I$
$u=0.613049+0.734079I$ $a=0.34365+2.29466I$ $b=1.075750+0.555261I$	$6.97125+0.95587I$	$6.61091-4.11301I$
$u=0.613049-0.734079I$ $a=0.34365-2.29466I$ $b=1.075750-0.555261I$	$6.97125-0.95587I$	$6.61091+4.11301I$
$u=0.713580+0.617959I$ $a=0.903291+0.979506I$ $b=1.020980+0.018093I$	$1.77056-2.17781I$	$4.82468+3.78261I$
$u=0.713580-0.617959I$ $a=0.903291-0.979506I$ $b=1.020980-0.018093I$	$1.77056+2.17781I$	$4.82468-3.78261I$
$u=-0.106932+1.050970I$ $a=0.513607+0.490726I$ $b=-0.13366+1.43900I$	$2.12023+1.00595I$	$5.23912-2.50505I$
$u=-0.106932-1.050970I$ $a=0.513607-0.490726I$ $b=-0.13366-1.43900I$	$2.12023-1.00595I$	$5.23912+2.50505I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.998142 + 0.481752I$ $a = -0.639140 - 1.033170I$ $b = -1.61536 + 0.35291I$	$7.2965 - 12.6756I$	$6.45387 + 5.95608I$
$u = 0.998142 - 0.481752I$ $a = -0.639140 + 1.033170I$ $b = -1.61536 - 0.35291I$	$7.2965 + 12.6756I$	$6.45387 - 5.95608I$
$u = -0.745488 + 0.467501I$ $a = -0.40070 + 1.92827I$ $b = -1.63796 - 0.07983I$	$7.04207 + 2.69361I$	$12.38588 - 5.07908I$
$u = -0.745488 - 0.467501I$ $a = -0.40070 - 1.92827I$ $b = -1.63796 + 0.07983I$	$7.04207 - 2.69361I$	$12.38588 + 5.07908I$
$u = 0.364690 + 1.059660I$ $a = -0.117822 - 0.681542I$ $b = 0.234019 - 0.185992I$	$-3.73555 + 0.62051I$	0
$u = 0.364690 - 1.059660I$ $a = -0.117822 + 0.681542I$ $b = 0.234019 + 0.185992I$	$-3.73555 - 0.62051I$	0
$u = 0.451904 + 1.026910I$ $a = -1.33410 - 1.30797I$ $b = -1.32090 - 0.59244I$	$-3.32273 + 6.10549I$	$0. - 6.61286I$
$u = 0.451904 - 1.026910I$ $a = -1.33410 + 1.30797I$ $b = -1.32090 + 0.59244I$	$-3.32273 - 6.10549I$	$0. + 6.61286I$
$u = 0.640017 + 0.942419I$ $a = -0.820679 - 0.511384I$ $b = -1.96429 - 0.04776I$	$6.31587 + 4.00200I$	$6.45296 - 3.11892I$
$u = 0.640017 - 0.942419I$ $a = -0.820679 + 0.511384I$ $b = -1.96429 + 0.04776I$	$6.31587 - 4.00200I$	$6.45296 + 3.11892I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.298498 + 0.789976I$ $a = 0.379370 + 0.964150I$ $b = 1.56784 + 1.18772I$	$-2.12114 - 2.96147I$	$-3.25494 + 1.48217I$
$u = 0.298498 - 0.789976I$ $a = 0.379370 - 0.964150I$ $b = 1.56784 - 1.18772I$	$-2.12114 + 2.96147I$	$-3.25494 - 1.48217I$
$u = -0.463720 + 1.068040I$ $a = 0.874078 - 0.695825I$ $b = 0.872961 - 0.051243I$	$-1.10916 - 3.41423I$	0
$u = -0.463720 - 1.068040I$ $a = 0.874078 + 0.695825I$ $b = 0.872961 + 0.051243I$	$-1.10916 + 3.41423I$	0
$u = 0.637391 + 0.990955I$ $a = -0.45612 - 1.38999I$ $b = -1.52449 - 1.28957I$	$0.68173 + 7.36598I$	$0. - 8.55059I$
$u = 0.637391 - 0.990955I$ $a = -0.45612 + 1.38999I$ $b = -1.52449 + 1.28957I$	$0.68173 - 7.36598I$	$0. + 8.55059I$
$u = -0.663005 + 1.024610I$ $a = -0.75487 + 1.93333I$ $b = -1.74471 + 1.01235I$	$0.08239 - 9.87726I$	0
$u = -0.663005 - 1.024610I$ $a = -0.75487 - 1.93333I$ $b = -1.74471 - 1.01235I$	$0.08239 + 9.87726I$	0
$u = -1.056260 + 0.636872I$ $a = -0.032565 - 1.010660I$ $b = 0.789001 - 0.401945I$	$8.12208 - 6.43854I$	0
$u = -1.056260 - 0.636872I$ $a = -0.032565 + 1.010660I$ $b = 0.789001 + 0.401945I$	$8.12208 + 6.43854I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.606495+1.075940I$ $a=\ \ 1.00711-1.81965I$ $b=\ \ 2.69461-1.04799I$	$5.24428-7.84216I$	0
$u=-0.606495-1.075940I$ $a=\ \ 1.00711+1.81965I$ $b=\ \ 2.69461+1.04799I$	$5.24428+7.84216I$	0
$u=\ \ 0.648933+0.372189I$ $a=-1.15793+1.69242I$ $b=\ \ 0.844553+0.510508I$	$6.95234+0.39618I$	$12.53507-4.08831I$
$u=\ \ 0.648933-0.372189I$ $a=-1.15793-1.69242I$ $b=\ \ 0.844553-0.510508I$	$6.95234-0.39618I$	$12.53507+4.08831I$
$u=\ \ 0.563635+1.174740I$ $a=-0.951010-0.642156I$ $b=-1.75643+0.28005I$	$4.46125+4.40033I$	0
$u=\ \ 0.563635-1.174740I$ $a=-0.951010+0.642156I$ $b=-1.75643-0.28005I$	$4.46125-4.40033I$	0
$u=\ \ 0.705215+1.162730I$ $a=\ \ 0.82971+1.66340I$ $b=\ \ 2.21819+1.08373I$	$5.1858+18.8530I$	0
$u=\ \ 0.705215-1.162730I$ $a=\ \ 0.82971-1.66340I$ $b=\ \ 2.21819-1.08373I$	$5.1858-18.8530I$	0
$u=\ \ 0.613806+0.078399I$ $a=\ \ 0.529727-0.797181I$ $b=\ \ 0.548360-0.505925I$	$-0.74503+2.83022I$	$7.38869-2.36983I$
$u=\ \ 0.613806-0.078399I$ $a=\ \ 0.529727+0.797181I$ $b=\ \ 0.548360+0.505925I$	$-0.74503-2.83022I$	$7.38869+2.36983I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.500797+0.350954I$ $a=\ \ 0.320846+0.457891I$ $b=-0.431234+0.483909I$	$0.956146-0.504632I$	$9.17940+3.83818I$
$u=-0.500797-0.350954I$ $a=\ \ 0.320846-0.457891I$ $b=-0.431234-0.483909I$	$0.956146+0.504632I$	$9.17940-3.83818I$
$u=\ \ 0.001378+1.393570I$ $a=\ \ 0.499786+0.079532I$ $b=\ \ 0.035284-0.688867I$	$0.18184-9.53195I$	0
$u=\ \ 0.001378-1.393570I$ $a=\ \ 0.499786-0.079532I$ $b=\ \ 0.035284+0.688867I$	$0.18184+9.53195I$	0
$u=-0.870155+1.110250I$ $a=-0.623696+0.359289I$ $b=-1.309200+0.026773I$	$6.69908-0.43812I$	0
$u=-0.870155-1.110250I$ $a=-0.623696-0.359289I$ $b=-1.309200-0.026773I$	$6.69908+0.43812I$	0
$u=\ \ 0.08513+1.42831I$ $a=\ \ 0.182771-0.302780I$ $b=\ \ 0.522416-0.131488I$	$-4.72528-0.59037I$	0
$u=\ \ 0.08513-1.42831I$ $a=\ \ 0.182771+0.302780I$ $b=\ \ 0.522416+0.131488I$	$-4.72528+0.59037I$	0

II. $I_2^u = \langle -2.03 \times 10^{16} a u^{32} + 2.91 \times 10^{16} u^{32} + \cdots - 2.34 \times 10^{17} a + 2.23 \times 10^{17},\ -1.76 \times 10^{15} a u^{32} - 3.99 \times 10^{16} u^{32} + \cdots - 3.28 \times 10^{17} a + 3.99 \times 10^{17},\ u^{33} + u^{32} + \cdots - 7u + 11 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a \\ 0.391169au^{32} - 0.559799u^{32} + \cdots + 4.51357a - 4.30309 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.364219au^{32} + 0.464300u^{32} + \cdots + 2.24836a - 22.1496 \\ 0.234314au^{32} + 0.527041u^{32} + \cdots - 0.198158a - 16.6316 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -0.264790au^{32} + 0.618972u^{32} + \cdots - 2.62489a - 3.56836 \\ -0.780172au^{32} - 0.142686u^{32} + \cdots - 8.71610a - 3.79069 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.391169au^{32} - 0.114073u^{32} + \cdots - 3.51357a - 4.91800 \\ -0.908717au^{32} - 0.584667u^{32} + \cdots - 9.91583a + 0.416754 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.517548au^{32} + 0.341193u^{32} + \cdots + 6.40225a - 2.21651 \\ 0.908717au^{32} - 0.218606u^{32} + \cdots + 9.91583a - 6.51960 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.908250au^{32} + 2.38664u^{32} + \cdots + 5.60633a + 2.84026 \\ 0.989039au^{32} + 2.76675u^{32} + \cdots + 0.911866a - 0.529176 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.620353au^{32} + 0.737707u^{32} + \cdots + 10.6936a + 9.69735 \\ 0.315026au^{32} + 1.68970u^{32} + \cdots + 17.0382a + 7.83841 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$$= \frac{903243108544774}{625274099350525}u^{32} + \frac{1805117122242941}{625274099350525}u^{31} + \cdots + \frac{4314310509574099}{125054819870105}u - \frac{11096996532907333}{625274099350525}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{33}+13u^{32}+\cdots-941u-121)^2$
c_2, c_8	$(u^{33}-u^{32}+\cdots-7u-11)^2$
c_3, c_{10}	$u^{66}-7u^{65}+\cdots+47u+29$
c_4, c_{11}	$(u^{33}+2u^{32}+\cdots-8u-1)^2$
c_5, c_7	$u^{66}+12u^{64}+\cdots-1048425u-638825$
c_6	$(u^{33}-u^{32}+\cdots-4u-1)^2$
c_9, c_{12}	$u^{66}-2u^{65}+\cdots-52649u-9793$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{33}+17y^{32}+\cdots+5327y-14641)^2$
c_2, c_8	$(y^{33}+13y^{32}+\cdots-941y-121)^2$
c_3, c_{10}	$y^{66}-31y^{65}+\cdots-76101y+841$
c_4, c_{11}	$(y^{33}-28y^{32}+\cdots+16y-1)^2$
c_5, c_7	$y^{66}+24y^{65}+\cdots-2888276776775y+408097380625$
c_6	$(y^{33}+11y^{32}+\cdots-36y-1)^2$
c_9, c_{12}	$y^{66}+14y^{65}+\cdots-2701564289y+95902849$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00045$ $a=-0.729229$ $b=\ \ 0.0710552$	4.51725	-4.11620
$u=-1.00045$ $a=\ \ 0.192294$ $b=-1.64543$	4.51725	-4.11620
$u=-0.597418+0.770414I$ $a=-1.47977-0.11392I$ $b=\ \ 0.64936-1.68170I$	$2.56250+2.10521I$	$4.05719-1.95522I$
$u=-0.597418+0.770414I$ $a=-1.65555+0.70942I$ $b=-2.06179-0.12173I$	$2.56250+2.10521I$	$4.05719-1.95522I$
$u=-0.597418-0.770414I$ $a=-1.47977+0.11392I$ $b=\ \ 0.64936+1.68170I$	$2.56250-2.10521I$	$4.05719+1.95522I$
$u=-0.597418-0.770414I$ $a=-1.65555-0.70942I$ $b=-2.06179+0.12173I$	$2.56250-2.10521I$	$4.05719+1.95522I$
$u=-0.342707+0.887603I$ $a=-0.117440-0.661580I$ $b=-0.933048+0.344357I$	$0.46246+2.22160I$	$-0.67965+7.70078I$
$u=-0.342707+0.887603I$ $a=\ \ 1.15472+3.54214I$ $b=-1.18973+3.08181I$	$0.46246+2.22160I$	$-0.67965+7.70078I$
$u=-0.342707-0.887603I$ $a=-0.117440+0.661580I$ $b=-0.933048-0.344357I$	$0.46246-2.22160I$	$-0.67965-7.70078I$
$u=-0.342707-0.887603I$ $a=\ \ 1.15472-3.54214I$ $b=-1.18973-3.08181I$	$0.46246-2.22160I$	$-0.67965-7.70078I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.465782 + 0.820583I$ $a = -0.460215 - 0.465452I$ $b = 0.728090 + 0.267934I$	$-3.34705 + 1.85137I$	$0.37014 - 4.45962I$
$u = 0.465782 + 0.820583I$ $a = 0.56208 - 1.48869I$ $b = -0.199876 - 1.369340I$	$-3.34705 + 1.85137I$	$0.37014 - 4.45962I$
$u = 0.465782 - 0.820583I$ $a = -0.460215 + 0.465452I$ $b = 0.728090 - 0.267934I$	$-3.34705 - 1.85137I$	$0.37014 + 4.45962I$
$u = 0.465782 - 0.820583I$ $a = 0.56208 + 1.48869I$ $b = -0.199876 + 1.369340I$	$-3.34705 - 1.85137I$	$0.37014 + 4.45962I$
$u = 0.340868 + 0.868108I$ $a = 1.72849 - 0.71719I$ $b = -0.26299 - 1.56255I$	$-6.94338 + 1.45144I$	$-11.05813 + 8.16791I$
$u = 0.340868 + 0.868108I$ $a = 0.56285 - 2.49869I$ $b = 0.96111 - 1.98923I$	$-6.94338 + 1.45144I$	$-11.05813 + 8.16791I$
$u = 0.340868 - 0.868108I$ $a = 1.72849 + 0.71719I$ $b = -0.26299 + 1.56255I$	$-6.94338 - 1.45144I$	$-11.05813 - 8.16791I$
$u = 0.340868 - 0.868108I$ $a = 0.56285 + 2.49869I$ $b = 0.96111 + 1.98923I$	$-6.94338 - 1.45144I$	$-11.05813 - 8.16791I$
$u = 0.877130 + 0.632782I$ $a = -0.859094 - 0.991814I$ $b = -1.58978 + 0.49196I$	$7.73449 - 4.44776I$	$7.97575 + 3.52690I$
$u = 0.877130 + 0.632782I$ $a = 0.12562 + 1.63949I$ $b = 0.732208 + 0.525068I$	$7.73449 - 4.44776I$	$7.97575 + 3.52690I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.877130 - 0.632782I$ $a = -0.859094 + 0.991814I$ $b = -1.58978 - 0.49196I$	$7.73449 + 4.44776I$	$7.97575 - 3.52690I$
$u = 0.877130 - 0.632782I$ $a = 0.12562 - 1.63949I$ $b = 0.732208 - 0.525068I$	$7.73449 + 4.44776I$	$7.97575 - 3.52690I$
$u = -0.589753 + 0.928082I$ $a = -1.73599 - 0.14226I$ $b = 0.09197 - 1.95154I$	$2.05867 - 6.80913I$	$1.26696 + 6.58532I$
$u = -0.589753 + 0.928082I$ $a = 0.65806 - 2.31545I$ $b = 1.65447 - 1.66316I$	$2.05867 - 6.80913I$	$1.26696 + 6.58532I$
$u = -0.589753 - 0.928082I$ $a = -1.73599 + 0.14226I$ $b = 0.09197 + 1.95154I$	$2.05867 + 6.80913I$	$1.26696 - 6.58532I$
$u = -0.589753 - 0.928082I$ $a = 0.65806 + 2.31545I$ $b = 1.65447 + 1.66316I$	$2.05867 + 6.80913I$	$1.26696 - 6.58532I$
$u = -0.707500 + 0.842770I$ $a = 1.083330 - 0.781583I$ $b = 1.53847 + 0.05298I$	$2.97003 - 2.70098I$	$7.24456 + 2.95734I$
$u = -0.707500 + 0.842770I$ $a = -0.19373 + 1.60853I$ $b = -1.31935 + 1.13429I$	$2.97003 - 2.70098I$	$7.24456 + 2.95734I$
$u = -0.707500 - 0.842770I$ $a = 1.083330 + 0.781583I$ $b = 1.53847 - 0.05298I$	$2.97003 + 2.70098I$	$7.24456 - 2.95734I$
$u = -0.707500 - 0.842770I$ $a = -0.19373 - 1.60853I$ $b = -1.31935 - 1.13429I$	$2.97003 + 2.70098I$	$7.24456 - 2.95734I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.652684 + 0.906130I$ $a = -0.764661 + 1.011010I$ $b = 0.41659 + 1.49322I$	$-5.08911 + 2.59734I$	$20.4704 - 1.6035I$
$u = 0.652684 + 0.906130I$ $a = 0.32173 - 1.51230I$ $b = 0.595386 - 0.907775I$	$-5.08911 + 2.59734I$	$20.4704 - 1.6035I$
$u = 0.652684 - 0.906130I$ $a = -0.764661 - 1.011010I$ $b = 0.41659 - 1.49322I$	$-5.08911 - 2.59734I$	$20.4704 + 1.6035I$
$u = 0.652684 - 0.906130I$ $a = 0.32173 + 1.51230I$ $b = 0.595386 + 0.907775I$	$-5.08911 - 2.59734I$	$20.4704 + 1.6035I$
$u = -0.158057 + 0.822377I$ $a = 1.068300 - 0.739457I$ $b = -0.127946 - 0.917269I$	$0.67336 - 4.65501I$	$6.88596 + 4.94477I$
$u = -0.158057 + 0.822377I$ $a = 2.34677 + 1.51286I$ $b = 1.23347 + 2.33699I$	$0.67336 - 4.65501I$	$6.88596 + 4.94477I$
$u = -0.158057 - 0.822377I$ $a = 1.068300 + 0.739457I$ $b = -0.127946 + 0.917269I$	$0.67336 + 4.65501I$	$6.88596 - 4.94477I$
$u = -0.158057 - 0.822377I$ $a = 2.34677 - 1.51286I$ $b = 1.23347 - 2.33699I$	$0.67336 + 4.65501I$	$6.88596 - 4.94477I$
$u = -0.328934 + 1.152340I$ $a = 0.342623 - 0.656443I$ $b = -0.167331 - 0.931796I$	$0.28979 - 4.24121I$	$-0.93669 + 2.38496I$
$u = -0.328934 + 1.152340I$ $a = 1.69573 - 0.60375I$ $b = 1.77371 + 0.88068I$	$0.28979 - 4.24121I$	$-0.93669 + 2.38496I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.328934-1.152340I$ $a=\ 0.342623+0.656443I$ $b=-0.167331+0.931796I$	$0.28979+4.24121I$	$-0.93669-2.38496I$
$u=-0.328934-1.152340I$ $a=\ 1.69573+0.60375I$ $b=\ 1.77371-0.88068I$	$0.28979+4.24121I$	$-0.93669-2.38496I$
$u=\ 0.746312+0.156222I$ $a=\ 0.68113+1.59984I$ $b=\ 0.968791-0.000898I$	$-0.88161-3.55819I$	$10.41631+1.44599I$
$u=\ 0.746312+0.156222I$ $a=\ 0.189806-0.098680I$ $b=-0.662830-0.345267I$	$-0.88161-3.55819I$	$10.41631+1.44599I$
$u=\ 0.746312-0.156222I$ $a=\ 0.68113-1.59984I$ $b=\ 0.968791+0.000898I$	$-0.88161+3.55819I$	$10.41631-1.44599I$
$u=\ 0.746312-0.156222I$ $a=\ 0.189806+0.098680I$ $b=-0.662830+0.345267I$	$-0.88161+3.55819I$	$10.41631-1.44599I$
$u=\ 0.517462+1.145100I$ $a=\ 0.978528+0.630302I$ $b=\ 1.030270-0.240789I$	$-3.68423+8.21577I$	$11.87745-6.40774I$
$u=\ 0.517462+1.145100I$ $a=-1.09370-1.69249I$ $b=-2.08161-1.71106I$	$-3.68423+8.21577I$	$11.87745-6.40774I$
$u=\ 0.517462-1.145100I$ $a=\ 0.978528-0.630302I$ $b=\ 1.030270+0.240789I$	$-3.68423-8.21577I$	$11.87745+6.40774I$
$u=\ 0.517462-1.145100I$ $a=-1.09370+1.69249I$ $b=-2.08161+1.71106I$	$-3.68423-8.21577I$	$11.87745+6.40774I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.313499 + 1.230020I$ $a = 0.636502 + 0.239794I$ $b = 0.588471 - 0.064522I$	$-5.04001 + 0.17984I$	$5.54847 - 5.83488I$
$u = 0.313499 + 1.230020I$ $a = 0.107016 - 0.514574I$ $b = 0.875372 - 0.007078I$	$-5.04001 + 0.17984I$	$5.54847 - 5.83488I$
$u = 0.313499 - 1.230020I$ $a = 0.636502 - 0.239794I$ $b = 0.588471 + 0.064522I$	$-5.04001 - 0.17984I$	$5.54847 + 5.83488I$
$u = 0.313499 - 1.230020I$ $a = 0.107016 + 0.514574I$ $b = 0.875372 + 0.007078I$	$-5.04001 - 0.17984I$	$5.54847 + 5.83488I$
$u = 0.713732 + 1.055730I$ $a = -1.058950 - 0.263864I$ $b = -1.93542 + 0.00811I$	$6.42259 + 10.34510I$	$5.95668 - 7.97490I$
$u = 0.713732 + 1.055730I$ $a = 0.47134 + 1.74355I$ $b = 1.98496 + 1.22183I$	$6.42259 + 10.34510I$	$5.95668 - 7.97490I$
$u = 0.713732 - 1.055730I$ $a = -1.058950 + 0.263864I$ $b = -1.93542 - 0.00811I$	$6.42259 - 10.34510I$	$5.95668 + 7.97490I$
$u = 0.713732 - 1.055730I$ $a = 0.47134 - 1.74355I$ $b = 1.98496 - 1.22183I$	$6.42259 - 10.34510I$	$5.95668 + 7.97490I$
$u = -1.120990 + 0.632875I$ $a = -0.589746 + 0.616213I$ $b = -1.66096 + 0.05310I$	$4.75175 + 1.67559I$	$-5.3856 - 18.6967I$
$u = -1.120990 + 0.632875I$ $a = 0.363061 - 0.260468I$ $b = 0.410493 + 0.504110I$	$4.75175 + 1.67559I$	$-5.3856 - 18.6967I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.120990-0.632875I$ $a=-0.589746-0.616213I$ $b=-1.66096-0.05310I$	$4.75175-1.67559I$	$-5.3856+18.6967I$
$u=-1.120990-0.632875I$ $a=\ \ 0.363061+0.260468I$ $b=\ \ 0.410493-0.504110I$	$4.75175-1.67559I$	$-5.3856+18.6967I$
$u=-0.781881+1.147150I$ $a=-0.013605+0.873166I$ $b=-0.973573+1.021480I$	$3.02581-8.44326I$	$2.04839+11.24887I$
$u=-0.781881+1.147150I$ $a=\ \ 0.80411-1.41781I$ $b=\ \ 1.72024-0.59211I$	$3.02581-8.44326I$	$2.04839+11.24887I$
$u=-0.781881-1.147150I$ $a=-0.013605-0.873166I$ $b=-0.973573-1.021480I$	$3.02581+8.44326I$	$2.04839-11.24887I$
$u=-0.781881-1.147150I$ $a=\ \ 0.80411+1.41781I$ $b=\ \ 1.72024+0.59211I$	$3.02581+8.44326I$	$2.04839-11.24887I$

III.

$\boldsymbol{I_3^u = \langle 8.25\times 10^5 u^{37} + 1493u^{36} + \cdots + 1.21\times 10^5 b - 2.50\times 10^6,\ 2.97\times 10^6 u^{37} - 2.65\times 10^6 u^{36} + \cdots + 6.07\times 10^5 a - 2.21\times 10^7,\ u^{38} + 11u^{36} + \cdots + 12u^2 + 5\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.89668u^{37} + 4.36524u^{36} + \cdots - 4.73488u + 36.3627 \\ -6.79371u^{37} - 0.0122895u^{36} + \cdots - 19.1902u + 20.5800 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.750223u^{37} + 0.126130u^{36} + \cdots + 27.5052u + 19.7683 \\ -0.470779u^{37} + 3.34656u^{36} + \cdots + 11.7018u + 38.8313 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -0.246216u^{37} + 4.43502u^{36} + \cdots - 3.76343u + 19.1382 \\ -4.19156u^{37} + 3.25454u^{36} + \cdots - 15.0226u + 3.70453 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.89703u^{37} + 4.37752u^{36} + \cdots - 14.4553u + 15.7826 \\ -7.39878u^{37} + 3.17167u^{36} + \cdots - 28.6753u + 1.30758 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -5.50175u^{37} + 1.20586u^{36} + \cdots - 14.2200u + 14.4750 \\ -7.39878u^{37} - 3.17167u^{36} + \cdots - 28.6753u - 1.30758 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 4.83075u^{37} + 2.32200u^{36} + \cdots + 10.4724u + 54.5491 \\ 1.36238u^{37} + 6.38517u^{36} + \cdots - 36.9868u + 69.3406 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -9.34683u^{37} - u^{36} + \cdots - 3u^2 - 75.0552u \\ -12.7102u^{37} - 1.25452u^{36} + \cdots - 80.7911u - 20.9993 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1814189}{60743}u^{36} + \frac{20378303}{60743}u^{34} + \cdots + \frac{23815231}{60743}u^2 + \frac{17876866}{60743}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{19} - 11u^{18} + \cdots + 12u - 5)^2$
c_2, c_8	$u^{38} + 11u^{36} + \cdots + 12u^2 + 5$
c_3, c_{10}	$u^{38} - 12u^{37} + \cdots - 13u + 1$
c_4	$(u^{19} + u^{18} + \cdots + 5u + 1)^2$
c_5, c_7	$u^{38} - 3u^{37} + \cdots - 111u + 17$
c_6	$(u^{19} + u^{18} + \cdots - 4u + 1)^2$
c_9, c_{12}	$u^{38} + 3u^{37} + \cdots + 3u + 1$
c_{11}	$(u^{19} - u^{18} + \cdots + 5u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{19}+3y^{18}+\cdots+264y-25)^2$
c_2, c_8	$(y^{19}+11y^{18}+\cdots+12y+5)^2$
c_3, c_{10}	$y^{38}-26y^{37}+\cdots+5y+1$
c_4, c_{11}	$(y^{19}-5y^{18}+\cdots+y-1)^2$
c_5, c_7	$y^{38}+31y^{37}+\cdots+1857y+289$
c_6	$(y^{19}+5y^{18}+\cdots+26y-1)^2$
c_9, c_{12}	$y^{38}+21y^{37}+\cdots+23y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.412022 + 0.881902I$ $a = 0.91095 - 2.39633I$ $b = 0.93616 - 2.12443I$	$-6.74183 + 1.70912I$	$4.33338 - 10.64212I$
$u = 0.412022 - 0.881902I$ $a = 0.91095 + 2.39633I$ $b = 0.93616 + 2.12443I$	$-6.74183 - 1.70912I$	$4.33338 + 10.64212I$
$u = -0.412022 + 0.881902I$ $a = 1.76553 + 0.44609I$ $b = -0.18455 + 1.63121I$	$-6.74183 - 1.70912I$	$4.33338 + 10.64212I$
$u = -0.412022 - 0.881902I$ $a = 1.76553 - 0.44609I$ $b = -0.18455 - 1.63121I$	$-6.74183 + 1.70912I$	$4.33338 - 10.64212I$
$u = 0.308023 + 0.983770I$ $a = -2.99688 + 0.63338I$ $b = -1.76257 + 2.08605I$	$0.11792 + 5.16769I$	$-1.68971 - 10.61691I$
$u = 0.308023 - 0.983770I$ $a = -2.99688 - 0.63338I$ $b = -1.76257 - 2.08605I$	$0.11792 - 5.16769I$	$-1.68971 + 10.61691I$
$u = -0.308023 + 0.983770I$ $a = 0.987481 - 0.977692I$ $b = 0.298884 - 1.033670I$	$0.11792 - 5.16769I$	$-1.68971 + 10.61691I$
$u = -0.308023 - 0.983770I$ $a = 0.987481 + 0.977692I$ $b = 0.298884 + 1.033670I$	$0.11792 + 5.16769I$	$-1.68971 - 10.61691I$
$u = 0.301511 + 0.867567I$ $a = -1.44033 + 3.01293I$ $b = 1.08165 + 3.15481I$	$0.54600 - 2.63207I$	$2.61608 + 10.31253I$
$u = 0.301511 - 0.867567I$ $a = -1.44033 - 3.01293I$ $b = 1.08165 - 3.15481I$	$0.54600 + 2.63207I$	$2.61608 - 10.31253I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.301511+0.867567I$ $a=-0.396244-0.323286I$ $b=-1.246010+0.558485I$	$0.54600+2.63207I$	$2.61608-10.31253I$
$u=-0.301511-0.867567I$ $a=-0.396244+0.323286I$ $b=-1.246010-0.558485I$	$0.54600-2.63207I$	$2.61608+10.31253I$
$u=0.654757+0.936084I$ $a=0.218014-1.382120I$ $b=0.626544-0.757798I$	$-5.29049+2.63486I$	$-18.6643-8.9200I$
$u=0.654757-0.936084I$ $a=0.218014+1.382120I$ $b=0.626544+0.757798I$	$-5.29049-2.63486I$	$-18.6643+8.9200I$
$u=-0.654757+0.936084I$ $a=-0.612791-1.018590I$ $b=0.42764-1.38058I$	$-5.29049-2.63486I$	$-18.6643+8.9200I$
$u=-0.654757-0.936084I$ $a=-0.612791+1.018590I$ $b=0.42764+1.38058I$	$-5.29049+2.63486I$	$-18.6643-8.9200I$
$u=0.988310+0.636554I$ $a=0.420116+0.468776I$ $b=0.415480-0.511395I$	$4.92585-1.43262I$	$11.51701-4.11370I$
$u=0.988310-0.636554I$ $a=0.420116-0.468776I$ $b=0.415480+0.511395I$	$4.92585+1.43262I$	$11.51701+4.11370I$
$u=-0.988310+0.636554I$ $a=-0.626874+0.768484I$ $b=-1.65233+0.05159I$	$4.92585+1.43262I$	$11.51701+4.11370I$
$u=-0.988310-0.636554I$ $a=-0.626874-0.768484I$ $b=-1.65233-0.05159I$	$4.92585-1.43262I$	$11.51701-4.11370I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.180900I$ $a = -0.262609 - 0.624739I$ $b = 0.444400 - 0.583923I$	-5.22359	-7.30670
$u = -1.180900I$ $a = -0.262609 + 0.624739I$ $b = 0.444400 + 0.583923I$	-5.22359	-7.30670
$u = 0.518632 + 1.121930I$ $a = -1.11559 - 1.77534I$ $b = -2.03858 - 1.72144I$	$-4.06549 + 8.24393I$	$-9.26811 - 8.48381I$
$u = 0.518632 - 1.121930I$ $a = -1.11559 + 1.77534I$ $b = -2.03858 + 1.72144I$	$-4.06549 - 8.24393I$	$-9.26811 + 8.48381I$
$u = -0.518632 + 1.121930I$ $a = -0.986285 + 0.809459I$ $b = -1.023710 - 0.070351I$	$-4.06549 - 8.24393I$	$-9.26811 + 8.48381I$
$u = -0.518632 - 1.121930I$ $a = -0.986285 - 0.809459I$ $b = -1.023710 + 0.070351I$	$-4.06549 + 8.24393I$	$-9.26811 - 8.48381I$
$u = 0.680045 + 1.043770I$ $a = 0.133297 - 1.121200I$ $b = -1.35595 - 1.37943I$	$3.55683 + 7.38660I$	$5.87432 - 6.02042I$
$u = 0.680045 - 1.043770I$ $a = 0.133297 + 1.121200I$ $b = -1.35595 + 1.37943I$	$3.55683 - 7.38660I$	$5.87432 + 6.02042I$
$u = -0.680045 + 1.043770I$ $a = 0.84713 - 1.68780I$ $b = 1.94384 - 0.96634I$	$3.55683 - 7.38660I$	$5.87432 + 6.02042I$
$u = -0.680045 - 1.043770I$ $a = 0.84713 + 1.68780I$ $b = 1.94384 + 0.96634I$	$3.55683 + 7.38660I$	$5.87432 - 6.02042I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.282784 + 1.238480I$ $a = 0.155319 - 0.640260I$ $b = 0.832997 - 0.212290I$	$-5.36306 - 0.09786I$	$-9.78999 + 5.82362I$
$u = 0.282784 - 1.238480I$ $a = 0.155319 + 0.640260I$ $b = 0.832997 + 0.212290I$	$-5.36306 + 0.09786I$	$-9.78999 - 5.82362I$
$u = -0.282784 + 1.238480I$ $a = -0.415626 + 0.102162I$ $b = -0.048557 - 0.183010I$	$-5.36306 + 0.09786I$	$-9.78999 - 5.82362I$
$u = -0.282784 - 1.238480I$ $a = -0.415626 - 0.102162I$ $b = -0.048557 + 0.183010I$	$-5.36306 - 0.09786I$	$-9.78999 + 5.82362I$
$u = 0.552086 + 0.135216I$ $a = 0.81856 + 1.97918I$ $b = 1.060820 + 0.290884I$	$-1.52328 - 3.84579I$	$-0.27531 + 6.74900I$
$u = 0.552086 - 0.135216I$ $a = 0.81856 - 1.97918I$ $b = 1.060820 - 0.290884I$	$-1.52328 + 3.84579I$	$-0.27531 - 6.74900I$
$u = -0.552086 + 0.135216I$ $a = 0.096843 + 0.214273I$ $b = 0.743843 - 0.536748I$	$-1.52328 + 3.84579I$	$-0.27531 - 6.74900I$
$u = -0.552086 - 0.135216I$ $a = 0.096843 - 0.214273I$ $b = 0.743843 + 0.536748I$	$-1.52328 - 3.84579I$	$-0.27531 + 6.74900I$

IV. $I_1^v = \langle a,\ v^2 + b + 2v,\ v^3 + 3v^2 + 2v + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -v^2 - 2v \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -v^2 - 3v - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ v^2 + 2v \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -v^2 - 2v - 1 \\ v^2 + 2v \end{pmatrix}$$
$$a_5 = \begin{pmatrix} v^2 + v + 1 \\ -v^2 - 2v \end{pmatrix}$$
$$a_7 = \begin{pmatrix} v^2 + 2v \\ v + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ v^2 + 2v + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6v^2 - 17v - 5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v=-0.337641+0.562280I$ $a=\quad 0$ $b=\quad 0.877439-0.744862I$	$-1.45094+3.77083I$	$1.95284-7.28057I$
$v=-0.337641-0.562280I$ $a=\quad 0$ $b=\quad 0.877439+0.744862I$	$-1.45094-3.77083I$	$1.95284+7.28057I$
$v=-2.32472$ $a=\quad 0$ $b=-0.754878$	6.19175	2.09430

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^3(u^{19}-11u^{18}+\cdots+12u-5)^2(u^{33}+13u^{32}+\cdots-941u-121)^2$ $\cdot(u^{48}+23u^{47}+\cdots+832u+256)$
c_2, c_8	$u^3(u^{33}-u^{32}+\cdots-7u-11)^2(u^{38}+11u^{36}+\cdots+12u^2+5)$ $\cdot(u^{48}+3u^{47}+\cdots+72u+16)$
c_3, c_{10}	$(u^3-u^2+1)(u^{38}-12u^{37}+\cdots-13u+1)(u^{48}-u^{47}+\cdots-3u+1)$ $\cdot(u^{66}-7u^{65}+\cdots+47u+29)$
c_4	$(u^3-2u^2+u-1)(u^{19}+u^{18}+\cdots+5u+1)^2$ $\cdot((u^{33}+2u^{32}+\cdots-8u-1)^2)(u^{48}-5u^{47}+\cdots-1329u+160)$
c_5, c_7	$(u^3+2u^2+u+1)(u^{38}-3u^{37}+\cdots-111u+17)$ $\cdot(u^{48}-22u^{46}+\cdots+700u+200)$ $\cdot(u^{66}+12u^{64}+\cdots-1048425u-638825)$
c_6	$(u^3-u^2+1)(u^{19}+u^{18}+\cdots-4u+1)^2(u^{33}-u^{32}+\cdots-4u-1)^2$ $\cdot(u^{48}+6u^{47}+\cdots-2475u+918)$
c_9, c_{12}	$(u^3-u+1)(u^{38}+3u^{37}+\cdots+3u+1)(u^{48}-16u^{46}+\cdots-154u+17)$ $\cdot(u^{66}-2u^{65}+\cdots-52649u-9793)$
c_{11}	$(u^3+2u^2+u+1)(u^{19}-u^{18}+\cdots+5u-1)^2$ $\cdot((u^{33}+2u^{32}+\cdots-8u-1)^2)(u^{48}-5u^{47}+\cdots-1329u+160)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^3(y^{19}+3y^{18}+\cdots+264y-25)^2$ $\cdot(y^{33}+17y^{32}+\cdots+5327y-14641)^2$ $\cdot(y^{48}+11y^{47}+\cdots+675840y+65536)$
c_2, c_8	$y^3(y^{19}+11y^{18}+\cdots+12y+5)^2(y^{33}+13y^{32}+\cdots-941y-121)^2$ $\cdot(y^{48}+23y^{47}+\cdots+832y+256)$
c_3, c_{10}	$(y^3-y^2+2y-1)(y^{38}-26y^{37}+\cdots+5y+1)(y^{48}-y^{47}+\cdots+27y+1)$ $\cdot(y^{66}-31y^{65}+\cdots-76101y+841)$
c_4, c_{11}	$(y^3-2y^2-3y-1)(y^{19}-5y^{18}+\cdots+y-1)^2$ $\cdot(y^{33}-28y^{32}+\cdots+16y-1)^2$ $\cdot(y^{48}-37y^{47}+\cdots-197281y+25600)$
c_5, c_7	$(y^3-2y^2-3y-1)(y^{38}+31y^{37}+\cdots+1857y+289)$ $\cdot(y^{48}-44y^{47}+\cdots+2167600y+40000)$ $\cdot(y^{66}+24y^{65}+\cdots-2888276776775y+408097380625)$
c_6	$(y^3-y^2+2y-1)(y^{19}+5y^{18}+\cdots+26y-1)^2$ $\cdot(y^{33}+11y^{32}+\cdots-36y-1)^2$ $\cdot(y^{48}+2y^{47}+\cdots-1509921y+842724)$
c_9, c_{12}	$(y^3-2y^2+y-1)(y^{38}+21y^{37}+\cdots+23y+1)$ $\cdot(y^{48}-32y^{47}+\cdots-15386y+289)$ $\cdot(y^{66}+14y^{65}+\cdots-2701564289y+95902849)$