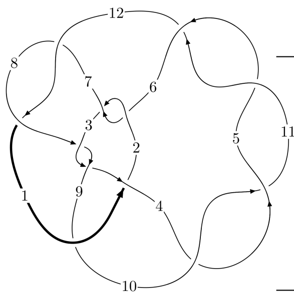
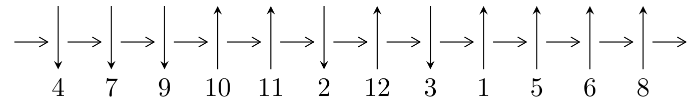
$12a_{1047}$ $(K12a_{1047})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I_1^u = \langle & 1.72909 \times 10^{126} u^{87} + 4.77505 \times 10^{125} u^{86} + \cdots + 3.37799 \times 10^{126} b + 4.51740 \times 10^{127}, \\
& 5.89706 \times 10^{126} u^{87} - 1.19259 \times 10^{127} u^{86} + \cdots + 1.01340 \times 10^{127} a - 3.38574 \times 10^{128},\ u^{88} - u^{87} + \cdots - 39u \\
I_2^u = \langle & -u^{13} + 10u^{11} + 2u^{10} - 37u^9 - 15u^8 + 59u^7 + 37u^6 - 32u^5 - 29u^4 - 3u^3 - 3u^2 + b - u + 1, \\
& u^{14} + u^{13} - 11u^{12} - 12u^{11} + 45u^{10} + 54u^9 - 81u^8 - 111u^7 + 54u^6 + 98u^5 - u^4 - 23u^3 + 4u^2 + a - 2u - 3, \\
& u^{15} + 2u^{14} - 9u^{13} - 21u^{12} + 25u^{11} + 81u^{10} - 7u^9 - 134u^8 - 67u^7 + 73u^6 + 75u^5 + 14u^4 - u^3 + u^2 - u - 1\rangle \\
I_3^u = \langle & b + a + 1,\ a^2 + a - 1,\ u - 1\rangle
\end{aligned}
$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 105 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. $I^u_1 = \langle 1.73 \times 10^{126}u^{87} + 4.78 \times 10^{125}u^{86} + \cdots + 3.38 \times 10^{126}b + 4.52 \times 10^{127},\ 5.90 \times 10^{126}u^{87} - 1.19 \times 10^{127}u^{86} + \cdots + 1.01 \times 10^{127}a - 3.39 \times 10^{128},\ u^{88} - u^{87} + \cdots - 39u - 9\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.581911u^{87} + 1.17683u^{86} + \cdots + 115.370u + 33.4098 \\ -0.511869u^{87} - 0.141358u^{86} + \cdots - 53.8841u - 13.3731 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0734218u^{87} + 0.473497u^{86} + \cdots + 30.4353u + 7.86884 \\ 0.0107578u^{87} + 0.392321u^{86} + \cdots + 19.7593u + 8.34879 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.09378u^{87} + 1.03547u^{86} + \cdots + 61.4864u + 20.0368 \\ -0.511869u^{87} - 0.141358u^{86} + \cdots - 53.8841u - 13.3731 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.0591516u^{87} + 0.559425u^{86} + \cdots - 85.4131u - 24.0817 \\ -0.195623u^{87} + 0.127976u^{86} + \cdots + 17.9905u + 5.97919 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.734242u^{87} - 0.261255u^{86} + \cdots + 81.8451u + 23.0218 \\ 0.245238u^{87} - 0.171240u^{86} + \cdots - 33.3568u - 11.2988 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.225229u^{87} - 0.569456u^{86} + \cdots - 48.8124u - 13.9685 \\ -0.0267257u^{87} - 0.516094u^{86} + \cdots - 19.8640u - 9.48832 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^3 + 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.05002u^{87} + 1.35659u^{86} + \cdots + 167.292u + 51.3039$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{88} - 2u^{87} + \cdots - 245u + 49$
c_2, c_6	$u^{88} - 2u^{87} + \cdots - 288u + 32$
c_3, c_8	$u^{88} + u^{87} + \cdots - 46u + 41$
c_4, c_5, c_{10} c_{11}	$u^{88} - u^{87} + \cdots - 39u - 9$
c_7, c_{12}	$u^{88} + 2u^{87} + \cdots - 7u + 1$
c_9	$u^{88} - 2u^{87} + \cdots - 224u + 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{88} + 2y^{87} + \cdots + 155967y + 2401$
c_2, c_6	$y^{88} - 50y^{87} + \cdots - 30208y + 1024$
c_3, c_8	$y^{88} - 61y^{87} + \cdots - 33850y + 1681$
c_4, c_5, c_{10} c_{11}	$y^{88} - 109y^{87} + \cdots - 4077y + 81$
c_7, c_{12}	$y^{88} - 58y^{87} + \cdots - 165y + 1$
c_9	$y^{88} - 22y^{87} + \cdots - 111616y + 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.998937$ $a = -1.49905$ $b = \ \ 0.753833$	-4.40347	0
$u = \ \ 0.854468 + 0.452941I$ $a = -0.024901 + 1.322860I$ $b = \ \ 1.30651 - 1.01094I$	$-4.26425 + 6.50157I$	0
$u = \ \ 0.854468 - 0.452941I$ $a = -0.024901 - 1.322860I$ $b = \ \ 1.30651 + 1.01094I$	$-4.26425 - 6.50157I$	0
$u = -0.988389 + 0.302465I$ $a = \ \ 0.573158 - 0.806046I$ $b = \ \ 0.516057 + 0.734460I$	$6.01796 - 1.94925I$	0
$u = -0.988389 - 0.302465I$ $a = \ \ 0.573158 + 0.806046I$ $b = \ \ 0.516057 - 0.734460I$	$6.01796 + 1.94925I$	0
$u = \ \ 0.948493 + 0.063667I$ $a = \ \ 0.752167 + 0.532122I$ $b = -0.916241 - 0.735839I$	$2.21145 + 0.85741I$	0
$u = \ \ 0.948493 - 0.063667I$ $a = \ \ 0.752167 - 0.532122I$ $b = -0.916241 + 0.735839I$	$2.21145 - 0.85741I$	0
$u = -0.878362 + 0.596346I$ $a = \ \ 0.304863 - 1.160660I$ $b = \ \ 1.11506 + 0.98368I$	$-0.69878 - 13.36100I$	0
$u = -0.878362 - 0.596346I$ $a = \ \ 0.304863 + 1.160660I$ $b = \ \ 1.11506 - 0.98368I$	$-0.69878 + 13.36100I$	0
$u = \ \ 0.249913 + 0.895625I$ $a = \ \ 0.307031 - 0.093746I$ $b = -0.084975 - 0.628944I$	$1.56940 - 1.74873I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.249913 - 0.895625I$ $a = 0.307031 + 0.093746I$ $b = -0.084975 + 0.628944I$	$1.56940 + 1.74873I$	0
$u = 0.859303 + 0.642777I$ $a = -0.350047 - 0.725789I$ $b = -0.549384 + 0.933116I$	$3.59516 + 6.91928I$	0
$u = 0.859303 - 0.642777I$ $a = -0.350047 + 0.725789I$ $b = -0.549384 - 0.933116I$	$3.59516 - 6.91928I$	0
$u = 0.834522 + 0.322778I$ $a = -0.90185 - 1.49057I$ $b = -0.889748 + 0.869352I$	$2.46924 + 6.85078I$	0
$u = 0.834522 - 0.322778I$ $a = -0.90185 + 1.49057I$ $b = -0.889748 - 0.869352I$	$2.46924 - 6.85078I$	0
$u = -0.570040 + 0.687850I$ $a = 0.466040 + 0.062972I$ $b = -0.476615 + 0.734731I$	$-0.017816 + 0.569418I$	0
$u = -0.570040 - 0.687850I$ $a = 0.466040 - 0.062972I$ $b = -0.476615 - 0.734731I$	$-0.017816 - 0.569418I$	0
$u = -0.038739 + 0.848726I$ $a = 0.168263 - 0.340433I$ $b = 0.870180 - 0.689966I$	$-3.24044 + 8.60005I$	0
$u = -0.038739 - 0.848726I$ $a = 0.168263 + 0.340433I$ $b = 0.870180 + 0.689966I$	$-3.24044 - 8.60005I$	0
$u = -1.15717$ $a = -0.505176$ $b = 1.62002$	3.09271	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.744595 + 0.304158I$ $a = -1.27287 - 1.09874I$ $b = 0.527480 - 0.166828I$	$-4.32922 - 0.33311I$	0
$u = -0.744595 - 0.304158I$ $a = -1.27287 + 1.09874I$ $b = 0.527480 + 0.166828I$	$-4.32922 + 0.33311I$	0
$u = -0.678503 + 0.404644I$ $a = -0.38232 + 1.46006I$ $b = -0.649867 - 0.842257I$	$0.02617 - 3.76806I$	$0. + 6.77861I$
$u = -0.678503 - 0.404644I$ $a = -0.38232 - 1.46006I$ $b = -0.649867 + 0.842257I$	$0.02617 + 3.76806I$	$0. - 6.77861I$
$u = -0.650029 + 0.417033I$ $a = -0.74926 + 1.50782I$ $b = -0.738579 - 0.848295I$	$-0.04139 - 3.82932I$	$0. + 6.18502I$
$u = -0.650029 - 0.417033I$ $a = -0.74926 - 1.50782I$ $b = -0.738579 + 0.848295I$	$-0.04139 + 3.82932I$	$0. - 6.18502I$
$u = -0.732255 + 0.167781I$ $a = 0.00553 + 1.47664I$ $b = 0.46126 - 1.62387I$	$0.98190 - 5.26171I$	$7.81547 + 8.17533I$
$u = -0.732255 - 0.167781I$ $a = 0.00553 - 1.47664I$ $b = 0.46126 + 1.62387I$	$0.98190 + 5.26171I$	$7.81547 - 8.17533I$
$u = 1.055740 + 0.673668I$ $a = -0.499970 + 0.195382I$ $b = 0.405565 + 0.427305I$	$-0.06479 - 3.54458I$	0
$u = 1.055740 - 0.673668I$ $a = -0.499970 - 0.195382I$ $b = 0.405565 - 0.427305I$	$-0.06479 + 3.54458I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.640184 + 0.083883I$ $a = -0.236577 + 1.043320I$ $b = -1.25194 - 0.76543I$	$1.70609 + 1.10867I$	$8.06517 - 0.80088I$
$u = 0.640184 - 0.083883I$ $a = -0.236577 - 1.043320I$ $b = -1.25194 + 0.76543I$	$1.70609 - 1.10867I$	$8.06517 + 0.80088I$
$u = 0.494877 + 0.412991I$ $a = 0.24307 + 2.27066I$ $b = 0.479241 + 0.176637I$	$-2.00611 + 5.04484I$	$-1.60270 - 7.75507I$
$u = 0.494877 - 0.412991I$ $a = 0.24307 - 2.27066I$ $b = 0.479241 - 0.176637I$	$-2.00611 - 5.04484I$	$-1.60270 + 7.75507I$
$u = 0.390023 + 0.495315I$ $a = 1.37825 - 0.36397I$ $b = 0.972961 - 0.236521I$	$-2.29925 - 1.82595I$	$-1.88330 - 0.58425I$
$u = 0.390023 - 0.495315I$ $a = 1.37825 + 0.36397I$ $b = 0.972961 + 0.236521I$	$-2.29925 + 1.82595I$	$-1.88330 + 0.58425I$
$u = 0.010173 + 0.629162I$ $a = 0.191644 + 0.730496I$ $b = 1.052450 + 0.576914I$	$-6.81322 - 2.83909I$	$-5.34505 + 2.54610I$
$u = 0.010173 - 0.629162I$ $a = 0.191644 - 0.730496I$ $b = 1.052450 - 0.576914I$	$-6.81322 + 2.83909I$	$-5.34505 - 2.54610I$
$u = 0.545983 + 0.140096I$ $a = 1.105450 + 0.833442I$ $b = 0.055792 - 0.508473I$	$1.041190 + 0.384617I$	$8.38778 - 1.10548I$
$u = 0.545983 - 0.140096I$ $a = 1.105450 - 0.833442I$ $b = 0.055792 + 0.508473I$	$1.041190 - 0.384617I$	$8.38778 + 1.10548I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43793$ $a=\ 0.00568837$ $b=\ 1.30250$	3.29940	0
$u=-0.528904$ $a=\ 2.61210$ $b=\ 1.03366$	-5.57260	12.4710
$u=\ 1.49834$ $a=\ 0.660208$ $b=-1.15559$	4.20522	0
$u=-0.273905+0.415579I$ $a=-1.72187+0.69026I$ $b=-0.660974-0.946200I$	$-0.49896-4.40059I$	$1.20105+5.18432I$
$u=-0.273905-0.415579I$ $a=-1.72187-0.69026I$ $b=-0.660974+0.946200I$	$-0.49896+4.40059I$	$1.20105-5.18432I$
$u=-0.192100+0.450003I$ $a=-0.431020+0.521070I$ $b=-0.719892+0.590298I$	$-1.32103+0.79018I$	$-2.08735+0.06199I$
$u=-0.192100-0.450003I$ $a=-0.431020-0.521070I$ $b=-0.719892-0.590298I$	$-1.32103-0.79018I$	$-2.08735-0.06199I$
$u=-0.220328+0.430806I$ $a=-0.129719+0.288690I$ $b=-0.727657+0.434029I$	$-1.26666+0.75817I$	$-4.08598-0.13948I$
$u=-0.220328-0.430806I$ $a=-0.129719-0.288690I$ $b=-0.727657-0.434029I$	$-1.26666-0.75817I$	$-4.08598+0.13948I$
$u=-1.53128+0.16711I$ $a=\ 0.377740-1.062390I$ $b=\ 0.304647+0.728682I$	$7.26023-1.72868I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.53128 - 0.16711I$ $a = 0.377740 + 1.062390I$ $b = 0.304647 - 0.728682I$	$7.26023 + 1.72868I$	0
$u = -1.56068 + 0.07667I$ $a = -0.21446 - 1.62948I$ $b = 0.099406 + 0.191439I$	$4.96810 - 6.57928I$	0
$u = -1.56068 - 0.07667I$ $a = -0.21446 + 1.62948I$ $b = 0.099406 - 0.191439I$	$4.96810 + 6.57928I$	0
$u = 0.427703 + 0.041691I$ $a = 2.08448 - 1.57847I$ $b = -0.252159 + 0.565060I$	$1.147500 - 0.461667I$	$9.77334 - 1.83051I$
$u = 0.427703 - 0.041691I$ $a = 2.08448 + 1.57847I$ $b = -0.252159 - 0.565060I$	$1.147500 + 0.461667I$	$9.77334 + 1.83051I$
$u = 1.58144 + 0.03409I$ $a = 0.43481 - 2.15940I$ $b = -1.08556 + 1.53925I$	$6.41159 + 5.04502I$	0
$u = 1.58144 - 0.03409I$ $a = 0.43481 + 2.15940I$ $b = -1.08556 - 1.53925I$	$6.41159 - 5.04502I$	0
$u = 1.59232 + 0.05635I$ $a = -0.504072 + 0.981597I$ $b = -0.056624 - 0.195985I$	$3.50186 + 1.58071I$	0
$u = 1.59232 - 0.05635I$ $a = -0.504072 - 0.981597I$ $b = -0.056624 + 0.195985I$	$3.50186 - 1.58071I$	0
$u = 1.59532$ $a = 0.161565$ $b = 1.31081$	1.92921	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.59312 + 0.11495I$ $a = 0.01656 - 1.91542I$ $b = -0.762201 + 1.087410I$	$7.60157 + 5.77110I$	0
$u = 1.59312 - 0.11495I$ $a = 0.01656 + 1.91542I$ $b = -0.762201 - 1.087410I$	$7.60157 - 5.77110I$	0
$u = -1.59908 + 0.00978I$ $a = 0.13106 - 1.64152I$ $b = 0.421854 + 1.131700I$	$8.53544 - 0.67096I$	0
$u = -1.59908 - 0.00978I$ $a = 0.13106 + 1.64152I$ $b = 0.421854 - 1.131700I$	$8.53544 + 0.67096I$	0
$u = -1.61942 + 0.02208I$ $a = 1.01379 - 1.19740I$ $b = -1.72755 + 1.01451I$	$9.65685 - 1.49225I$	0
$u = -1.61942 - 0.02208I$ $a = 1.01379 + 1.19740I$ $b = -1.72755 - 1.01451I$	$9.65685 + 1.49225I$	0
$u = 1.62064 + 0.10826I$ $a = 0.19014 - 1.86867I$ $b = -0.63333 + 1.30010I$	$7.96001 + 5.64360I$	0
$u = 1.62064 - 0.10826I$ $a = 0.19014 + 1.86867I$ $b = -0.63333 - 1.30010I$	$7.96001 - 5.64360I$	0
$u = 1.63286 + 0.04842I$ $a = -0.58591 - 2.12417I$ $b = 0.81861 + 1.96064I$	$9.24227 + 6.09298I$	0
$u = 1.63286 - 0.04842I$ $a = -0.58591 + 2.12417I$ $b = 0.81861 - 1.96064I$	$9.24227 - 6.09298I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.65294 + 0.09305I$ $a = 0.09950 + 1.58032I$ $b = -1.14502 - 0.97361I$	$11.09150 - 8.47037I$	0
$u = -1.65294 - 0.09305I$ $a = 0.09950 - 1.58032I$ $b = -1.14502 + 0.97361I$	$11.09150 + 8.47037I$	0
$u = -1.66694 + 0.12969I$ $a = -0.83066 - 1.83068I$ $b = 1.52994 + 1.37393I$	$4.45620 - 8.76412I$	0
$u = -1.66694 - 0.12969I$ $a = -0.83066 + 1.83068I$ $b = 1.52994 - 1.37393I$	$4.45620 + 8.76412I$	0
$u = 1.65618 + 0.23619I$ $a = 0.311417 + 0.918858I$ $b = 0.050725 - 0.904165I$	$7.58119 + 3.18569I$	0
$u = 1.65618 - 0.23619I$ $a = 0.311417 - 0.918858I$ $b = 0.050725 + 0.904165I$	$7.58119 - 3.18569I$	0
$u = -1.66753 + 0.18347I$ $a = 0.06371 + 1.55994I$ $b = -0.78014 - 1.28995I$	$12.1997 - 10.0873I$	0
$u = -1.66753 - 0.18347I$ $a = 0.06371 - 1.55994I$ $b = -0.78014 + 1.28995I$	$12.1997 + 10.0873I$	0
$u = 1.67040 + 0.17672I$ $a = -0.39843 + 1.75629I$ $b = 1.28410 - 1.24158I$	$7.9981 + 16.3766I$	0
$u = 1.67040 - 0.17672I$ $a = -0.39843 - 1.75629I$ $b = 1.28410 + 1.24158I$	$7.9981 - 16.3766I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.68403 + 0.08568I$ $a = -0.148951 + 1.277720I$ $b = 0.921894 - 1.012870I$	$15.2907 + 3.5156I$	0
$u = 1.68403 - 0.08568I$ $a = -0.148951 - 1.277720I$ $b = 0.921894 + 1.012870I$	$15.2907 - 3.5156I$	0
$u = -0.298917 + 0.080015I$ $a = -2.35798 + 3.38880I$ $b = -0.458188 - 1.178420I$	$-0.59427 - 4.45712I$	$1.47394 + 3.43689I$
$u = -0.298917 - 0.080015I$ $a = -2.35798 - 3.38880I$ $b = -0.458188 + 1.178420I$	$-0.59427 + 4.45712I$	$1.47394 - 3.43689I$
$u = -1.70136 + 0.02179I$ $a = 0.806645 + 1.132370I$ $b = -1.06634 - 1.06351I$	$11.65750 + 0.82210I$	0
$u = -1.70136 - 0.02179I$ $a = 0.806645 - 1.132370I$ $b = -1.06634 + 1.06351I$	$11.65750 - 0.82210I$	0
$u = 1.74247$ $a = -1.75918$ $b = 2.38981$	13.4096	0
$u = -1.86712$ $a = 0.0882886$ $b = -0.376543$	11.1684	0

II.

$\boldsymbol{I_2^u = \langle -u^{13}+10u^{11}+\cdots+b+1,\ u^{14}+u^{13}+\cdots+a-3,\ u^{15}+2u^{14}+\cdots-u-1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^{14}-u^{13}+\cdots+2u+3\\u^{13}-10u^{11}+\cdots+u-1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u^2+1\\u^4-2u^2\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^{12}-10u^{10}+\cdots+7u+2\\2u^{14}+2u^{13}+\cdots+u-1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^{14}+11u^{12}+\cdots+3u+2\\u^{13}-10u^{11}+\cdots+u-1\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^{14}+9u^{12}+\cdots-3u-3\\-u^{14}-u^{13}+\cdots-u+1\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-3u^{13}-u^{12}+\cdots-20u^2-8u\\u^{14}+u^{13}+\cdots-u-2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^{14}+u^{13}+\cdots+7u+1\\u^{14}+u^{13}+\cdots+2u^2+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u^3+2u\\u^5-3u^3+u\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -5u^{14}-13u^{13}+49u^{12}+134u^{11}-156u^{10}-513u^9+120u^8+860u^7+233u^6-524u^5-307u^4-6u^3-37u^2-17u+9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 4u^{14} + \cdots - 2u + 1$
c_2	$u^{15} - 7u^{13} + \cdots - 2u + 1$
c_3	$u^{15} + u^{14} + \cdots - 5u + 1$
c_4, c_5	$u^{15} + 2u^{14} + \cdots - u - 1$
c_6	$u^{15} - 7u^{13} + \cdots - 2u - 1$
c_7	$u^{15} + 2u^{14} + \cdots + 7u^2 - 1$
c_8	$u^{15} - u^{14} + \cdots - 5u - 1$
c_9	$u^{15} - u^{14} + \cdots + 3u + 1$
c_{10}, c_{11}	$u^{15} - 2u^{14} + \cdots - u + 1$
c_{12}	$u^{15} - 2u^{14} + \cdots - 7u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} - 2y^{14} + \cdots - 2y - 1$
c_2, c_6	$y^{15} - 14y^{14} + \cdots + 14y - 1$
c_3, c_8	$y^{15} - 13y^{14} + \cdots + 27y - 1$
c_4, c_5, c_{10} c_{11}	$y^{15} - 22y^{14} + \cdots + 3y - 1$
c_7, c_{12}	$y^{15} - 14y^{14} + \cdots + 14y - 1$
c_9	$y^{15} - 7y^{14} + \cdots + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.807406+0.479432I$ $a=-0.0727835-0.1091620I$ $b=-0.012561+0.692921I$	$0.32346+2.80612I$	$5.02416-0.99301I$
$u=-0.807406-0.479432I$ $a=-0.0727835+0.1091620I$ $b=-0.012561-0.692921I$	$0.32346-2.80612I$	$5.02416+0.99301I$
$u=-0.537971+0.281409I$ $a=-1.10179+2.45462I$ $b=-0.392045-1.201560I$	$-0.39153-5.27000I$	$3.01978+11.73102I$
$u=-0.537971-0.281409I$ $a=-1.10179-2.45462I$ $b=-0.392045+1.201560I$	$-0.39153+5.27000I$	$3.01978-11.73102I$
$u=1.46099$ $a=0.243441$ $b=-1.05115$	5.02988	8.61170
$u=-1.55528$ $a=0.402992$ $b=1.18205$	1.02905	-3.49670
$u=-1.56756+0.15866I$ $a=0.478741-1.171290I$ $b=-0.115203+0.736770I$	$6.52033-3.28353I$	$3.23204+3.30162I$
$u=-1.56756-0.15866I$ $a=0.478741+1.171290I$ $b=-0.115203-0.736770I$	$6.52033+3.28353I$	$3.23204-3.30162I$
$u=1.58958+0.08373I$ $a=0.05801-2.32096I$ $b=-0.57777+1.43436I$	$7.04264+6.60131I$	$4.24341-9.09890I$
$u=1.58958-0.08373I$ $a=0.05801+2.32096I$ $b=-0.57777-1.43436I$	$7.04264-6.60131I$	$4.24341+9.09890I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.107035 + 0.393704I$ $a = 1.35457 - 1.16588I$ $b = -0.622089 - 0.331373I$	$0.373372 + 0.922807I$	$1.18179 - 1.95700I$
$u = 0.107035 - 0.393704I$ $a = 1.35457 + 1.16588I$ $b = -0.622089 + 0.331373I$	$0.373372 - 0.922807I$	$1.18179 + 1.95700I$
$u = 0.404988$ $a = 3.63922$ $b = 0.977374$	-5.86405	-15.8290
$u = -1.72706$ $a = 1.74748$ $b = -2.35793$	13.7545	19.7830
$u = 1.84901$ $a = -0.466606$ $b = 0.688997$	10.9519	-12.4710

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$ $a = \quad 0.618034$ $b = -1.61803$	3.94784	13.0000
$u = \quad 1.00000$ $a = -1.61803$ $b = \quad 0.618034$	−3.94784	13.0000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u-1)(u^{15}-4u^{14}+\cdots-2u+1)(u^{88}-2u^{87}+\cdots-245u+49)$
c_2	$(u^2-u-1)(u^{15}-7u^{13}+\cdots-2u+1)(u^{88}-2u^{87}+\cdots-288u+32)$
c_3	$(u^2-u-1)(u^{15}+u^{14}+\cdots-5u+1)(u^{88}+u^{87}+\cdots-46u+41)$
c_4, c_5	$((u-1)^2)(u^{15}+2u^{14}+\cdots-u-1)(u^{88}-u^{87}+\cdots-39u-9)$
c_6	$(u^2+u-1)(u^{15}-7u^{13}+\cdots-2u-1)(u^{88}-2u^{87}+\cdots-288u+32)$
c_7	$(u^2-u-1)(u^{15}+2u^{14}+\cdots+7u^2-1)(u^{88}+2u^{87}+\cdots-7u+1)$
c_8	$(u^2+u-1)(u^{15}-u^{14}+\cdots-5u-1)(u^{88}+u^{87}+\cdots-46u+41)$
c_9	$((u-1)^2)(u^{15}-u^{14}+\cdots+3u+1)(u^{88}-2u^{87}+\cdots-224u+64)$
c_{10}, c_{11}	$((u+1)^2)(u^{15}-2u^{14}+\cdots-u+1)(u^{88}-u^{87}+\cdots-39u-9)$
c_{12}	$(u^2+u-1)(u^{15}-2u^{14}+\cdots-7u^2+1)(u^{88}+2u^{87}+\cdots-7u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2-3y+1)(y^{15}-2y^{14}+\cdots-2y-1)$ $\cdot(y^{88}+2y^{87}+\cdots+155967y+2401)$
c_2, c_6	$(y^2-3y+1)(y^{15}-14y^{14}+\cdots+14y-1)$ $\cdot(y^{88}-50y^{87}+\cdots-30208y+1024)$
c_3, c_8	$(y^2-3y+1)(y^{15}-13y^{14}+\cdots+27y-1)$ $\cdot(y^{88}-61y^{87}+\cdots-33850y+1681)$
c_4, c_5, c_{10} c_{11}	$((y-1)^2)(y^{15}-22y^{14}+\cdots+3y-1)(y^{88}-109y^{87}+\cdots-4077y+81)$
c_7, c_{12}	$(y^2-3y+1)(y^{15}-14y^{14}+\cdots+14y-1)(y^{88}-58y^{87}+\cdots-165y+1)$
c_9	$((y-1)^2)(y^{15}-7y^{14}+\cdots+5y-1)$ $\cdot(y^{88}-22y^{87}+\cdots-111616y+4096)$