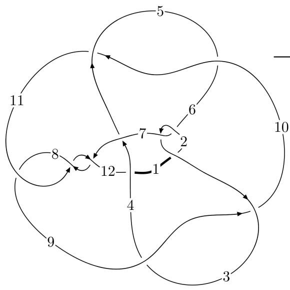
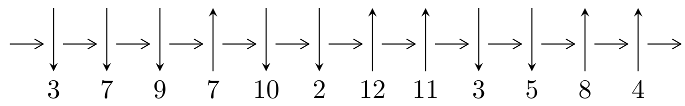
$12n_{0611}$ ($K12n_{0611}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I_1^u &= \langle -u^{21} + 2u^{20} + \cdots + 2b + 2,\ 3u^{21} - 14u^{20} + \cdots + 4a - 36,\ u^{22} - 4u^{21} + \cdots - 22u + 4\rangle \\
I_2^u &= \langle 2u^{12} + u^{11} + 10u^{10} + 3u^9 + 15u^8 + u^7 + 3u^6 - 4u^5 - 3u^4 - 4u^3 + 5u^2 + b - 2u, \\
&\quad - 2u^{10} - 2u^9 - 11u^8 - 9u^7 - 20u^6 - 13u^5 - 11u^4 - 4u^3 + a + 3u - 3, \\
&\quad u^{13} + u^{12} + 7u^{11} + 6u^{10} + 18u^9 + 13u^8 + 19u^7 + 10u^6 + 5u^5 - 2u^4 - u^3 - 4u^2 + 2u + 1\rangle \\
I_3^u &= \langle -4a^3u^2 - 19a^3u + 8a^2u^2 + 9a^3 - 17a^2u - 8u^2a + 4a^2 + 28au - 17u^2 + 22b - 15a - u - 25, \\
&\quad a^3u^2 + a^4 + 2a^2u^2 + 3a^3 + 2a^2u + 25u^2a + 5a^2 + 12au + 15u^2 + 55a + 7u + 33,\ u^3 + 2u - 1\rangle \\
I_4^u &= \langle -6a^3u^3 - 8u^3a^2 + \cdots - 27a + 12, \\
&\quad 2a^3u^3 + a^3u^2 + u^3a^2 + a^4 + 4a^3u + a^2u^2 - 4u^3a + a^3 + a^2u - 5u^2a + 2u^3 + 2a^2 - 4au + 2u^2 - 6a + 2u, \\
&\quad u^4 + u^3 + 2u^2 + 2u + 1\rangle
\end{aligned}
$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 63 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. $I^u_1 = \langle -u^{21}+2u^{20}+\cdots+2b+2,\ 3u^{21}-14u^{20}+\cdots+4a-36,\ u^{22}-4u^{21}+\cdots-22u+4\rangle$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix}-\frac{3}{4}u^{21}+\frac{7}{2}u^{20}+\cdots-\frac{151}{4}u+9\\ \frac{1}{2}u^{21}-u^{20}+\cdots+\frac{3}{2}u-1\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}-\frac{5}{4}u^{21}+\frac{11}{2}u^{20}+\cdots-\frac{213}{4}u+12\\ \frac{1}{2}u^{21}+2u^{19}+\cdots-\frac{1}{2}u-1\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}u\\u\end{pmatrix}$$

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

$$a_5 = \begin{pmatrix}-\frac{3}{4}u^{21}+\frac{5}{2}u^{20}+\cdots-\frac{47}{4}u+1\\ -\frac{1}{2}u^{21}+2u^{20}+\cdots+\frac{31}{2}u-5\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-\frac{17}{4}u^{21}+\frac{29}{2}u^{20}+\cdots-\frac{289}{4}u+14\\ -\frac{5}{2}u^{21}+10u^{20}+\cdots-\frac{81}{2}u+7\end{pmatrix}$$

$$a_1 = \begin{pmatrix}\frac{3}{2}u^{21}-\frac{11}{2}u^{20}+\cdots+\frac{73}{2}u-\frac{15}{2}\\ \frac{1}{2}u^{21}-3u^{20}+\cdots+\frac{27}{2}u-2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-\frac{5}{2}u^{21}+\frac{17}{2}u^{20}+\cdots-\frac{83}{2}u+\frac{19}{2}\\ -\frac{3}{2}u^{21}+6u^{20}+\cdots-\frac{91}{2}u+10\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-\frac{1}{2}u^{20}+u^{19}+\cdots+7u-\frac{3}{2}\\ \frac{1}{2}u^{21}-2u^{20}+\cdots+\frac{19}{2}u-2\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -3u^{21}+6u^{20}-38u^{19}+66u^{18}-203u^{17}+302u^{16}-585u^{15}+720u^{14}-948u^{13}+889u^{12}-769u^{11}+404u^{10}-114u^{9}-165u^{8}+169u^{7}-85u^{6}-97u^{5}+171u^{4}-190u^{3}+104u^{2}-36u-2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} + 18u^{21} + \cdots - 4096u + 16384$
c_2, c_6	$u^{22} - 12u^{21} + \cdots - 576u + 128$
c_3, c_5, c_9 c_{10}	$u^{22} - u^{20} + \cdots + u + 1$
c_4, c_{12}	$u^{22} + 4u^{21} + \cdots + u + 1$
c_7, c_8, c_{11}	$u^{22} + 4u^{21} + \cdots + 22u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - 34y^{21} + \cdots + 83886080y + 268435456$
c_2, c_6	$y^{22} - 18y^{21} + \cdots + 4096y + 16384$
c_3, c_5, c_9 c_{10}	$y^{22} - 2y^{21} + \cdots + 5y + 1$
c_4, c_{12}	$y^{22} + 26y^{21} + \cdots + 53y + 1$
c_7, c_8, c_{11}	$y^{22} + 20y^{21} + \cdots + 36y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.113355 + 1.047390I$ $a = -0.249378 + 0.867554I$ $b = -0.12451 + 1.46269I$	$-0.89584 - 1.46775I$	$-2.56568 + 4.64859I$
$u = -0.113355 - 1.047390I$ $a = -0.249378 - 0.867554I$ $b = -0.12451 - 1.46269I$	$-0.89584 + 1.46775I$	$-2.56568 - 4.64859I$
$u = 0.616202 + 0.646773I$ $a = -1.102880 - 0.376255I$ $b = -1.397390 - 0.117675I$	$-7.62299 - 5.54296I$	$-4.40972 + 2.06977I$
$u = 0.616202 - 0.646773I$ $a = -1.102880 + 0.376255I$ $b = -1.397390 + 0.117675I$	$-7.62299 + 5.54296I$	$-4.40972 - 2.06977I$
$u = 0.764482 + 0.400206I$ $a = 0.05821 - 2.20084I$ $b = -0.292901 - 0.229775I$	$-6.80118 + 10.22180I$	$-2.84650 - 6.91774I$
$u = 0.764482 - 0.400206I$ $a = 0.05821 + 2.20084I$ $b = -0.292901 + 0.229775I$	$-6.80118 - 10.22180I$	$-2.84650 + 6.91774I$
$u = -0.761299 + 0.247632I$ $a = -0.069067 + 1.023690I$ $b = -0.281528 + 0.013910I$	$1.16275 - 1.85731I$	$3.99806 - 0.12476I$
$u = -0.761299 - 0.247632I$ $a = -0.069067 - 1.023690I$ $b = -0.281528 - 0.013910I$	$1.16275 + 1.85731I$	$3.99806 + 0.12476I$
$u = 0.686555 + 0.284442I$ $a = 0.25180 + 1.77617I$ $b = -0.119863 - 0.209977I$	$0.31091 + 4.61412I$	$-2.14647 - 8.90403I$
$u = 0.686555 - 0.284442I$ $a = 0.25180 - 1.77617I$ $b = -0.119863 + 0.209977I$	$0.31091 - 4.61412I$	$-2.14647 + 8.90403I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.311371 + 0.544088I$ $a = -0.100430 + 0.264067I$ $b = 0.670256 + 0.493905I$	$-0.97447 - 1.03210I$	$-5.19046 + 2.87964I$
$u = 0.311371 - 0.544088I$ $a = -0.100430 - 0.264067I$ $b = 0.670256 - 0.493905I$	$-0.97447 + 1.03210I$	$-5.19046 - 2.87964I$
$u = -0.358815 + 1.338970I$ $a = 0.157826 - 0.737154I$ $b = 0.60731 - 1.77839I$	$-3.79504 - 5.99391I$	$-0.31044 + 7.14857I$
$u = -0.358815 - 1.338970I$ $a = 0.157826 + 0.737154I$ $b = 0.60731 + 1.77839I$	$-3.79504 + 5.99391I$	$-0.31044 - 7.14857I$
$u = 0.13972 + 1.42206I$ $a = 0.802494 + 0.162707I$ $b = 0.846933 - 0.294845I$	$-6.97755 + 0.69684I$	$-7.99990 + 2.38959I$
$u = 0.13972 - 1.42206I$ $a = 0.802494 - 0.162707I$ $b = 0.846933 + 0.294845I$	$-6.97755 - 0.69684I$	$-7.99990 - 2.38959I$
$u = 0.26914 + 1.41520I$ $a = -1.10275 - 1.22518I$ $b = -2.25955 - 2.13113I$	$-5.12121 + 8.09916I$	$-6.73561 - 9.40400I$
$u = 0.26914 - 1.41520I$ $a = -1.10275 + 1.22518I$ $b = -2.25955 + 2.13113I$	$-5.12121 - 8.09916I$	$-6.73561 + 9.40400I$
$u = 0.28842 + 1.47378I$ $a = 1.05609 + 1.33953I$ $b = 2.19735 + 3.10840I$	$-12.8364 + 14.0560I$	$-6.34753 - 6.94319I$
$u = 0.28842 - 1.47378I$ $a = 1.05609 - 1.33953I$ $b = 2.19735 - 3.10840I$	$-12.8364 - 14.0560I$	$-6.34753 + 6.94319I$

	Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.15759+1.53295I$		
$a=$	$0.048081-0.334870I$	$-14.8442-2.8448I$	$-8.44574+2.22597I$
$b=$	$1.153890+0.023955I$		
$u=$	$0.15759-1.53295I$		
$a=$	$0.048081+0.334870I$	$-14.8442+2.8448I$	$-8.44574-2.22597I$
$b=$	$1.153890-0.023955I$		

II.

$$\boldsymbol{I_2^u = \langle 2u^{12}+u^{11}+\cdots+b-2u,\ -2u^{10}-2u^9+\cdots+a-3,\ u^{13}+u^{12}+\cdots+2u+1\rangle}$$

(i) Arc colorings

$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}2u^{10}+2u^9+11u^8+9u^7+20u^6+13u^5+11u^4+4u^3-3u+3\\-2u^{12}-u^{11}+\cdots-5u^2+2u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^{11}+u^{10}+\cdots-5u+3\\-2u^{12}-2u^{11}+\cdots-u^2-1\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^2+1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u^{10}+u^9+6u^8+5u^7+12u^6+8u^5+8u^4+3u^3+u^2-2u+2\\-u^{12}+u^{11}+\cdots-5u^2+3u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}u^{10}+u^9+6u^8+5u^7+12u^6+8u^5+8u^4+4u^3+u^2+2\\-u^{12}-5u^{10}+u^9-7u^8+4u^7+4u^5+2u^4+2u^3-4u^2+3u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^{12}-8u^{10}+\cdots+9u-6\\2u^{12}+2u^{11}+\cdots-u^2+2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u^{12}+u^{11}+7u^{10}+5u^9+17u^8+8u^7+15u^6+2u^5-6u^3-2u^2-5u+3\\2u^{11}+u^{10}+9u^9+3u^8+12u^7+2u^6+2u^5-2u^4-u^3-3u^2+3u-1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u^{11}+u^{10}+6u^9+5u^8+13u^7+9u^6+11u^5+5u^4+2u^3-2u^2-2\\u^{12}+2u^{11}+\cdots-2u^2+1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -8u^{12}-9u^{11}-49u^{10}-45u^9-108u^8-76u^7-97u^6-34u^5-29u^4+19u^3-7u^2+8u-9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} - 15u^{12} + \cdots + 33u - 4$
c_2	$u^{13} - 3u^{12} + \cdots + u - 2$
c_3, c_{10}	$u^{13} + 5u^{11} + u^{10} + 7u^9 + 4u^8 + 4u^6 - 4u^5 - u^4 - 2u^2 - 1$
c_4, c_{12}	$u^{13} - 2u^{12} + \cdots - 4u - 1$
c_5, c_9	$u^{13} + 5u^{11} - u^{10} + 7u^9 - 4u^8 - 4u^6 - 4u^5 + u^4 + 2u^2 + 1$
c_6	$u^{13} + 3u^{12} + \cdots + u + 2$
c_7, c_8	$u^{13} + u^{12} + \cdots + 2u + 1$
c_{11}	$u^{13} - u^{12} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} - 27y^{12} + \cdots - 79y - 16$
c_2, c_6	$y^{13} - 15y^{12} + \cdots + 33y - 4$
c_3, c_5, c_9 c_{10}	$y^{13} + 10y^{12} + \cdots - 4y - 1$
c_4, c_{12}	$y^{13} - 10y^{12} + \cdots - 4y - 1$
c_7, c_8, c_{11}	$y^{13} + 13y^{12} + \cdots + 12y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.773550 + 0.446076I$ $a = -0.305684 + 0.776454I$ $b = -0.221370 + 0.094049I$	$1.27688 - 2.47819I$	$8.06933 + 11.56907I$
$u = -0.773550 - 0.446076I$ $a = -0.305684 - 0.776454I$ $b = -0.221370 - 0.094049I$	$1.27688 + 2.47819I$	$8.06933 - 11.56907I$
$u = 0.098733 + 1.212320I$ $a = 1.13507 + 1.02542I$ $b = 1.70497 + 2.47623I$	$1.58553 + 1.07079I$	$1.79491 + 0.89145I$
$u = 0.098733 - 1.212320I$ $a = 1.13507 - 1.02542I$ $b = 1.70497 - 2.47623I$	$1.58553 - 1.07079I$	$1.79491 - 0.89145I$
$u = -0.125906 + 1.364640I$ $a = -1.26556 - 0.79157I$ $b = -1.18557 - 2.02372I$	$-8.30588 - 1.59896I$	$-12.80035 + 0.14504I$
$u = -0.125906 - 1.364640I$ $a = -1.26556 + 0.79157I$ $b = -1.18557 + 2.02372I$	$-8.30588 + 1.59896I$	$-12.80035 - 0.14504I$
$u = 0.218616 + 1.386220I$ $a = -1.009230 - 0.765658I$ $b = -2.45521 - 2.30542I$	$-0.64678 + 3.91620I$	$-4.73840 - 4.05034I$
$u = 0.218616 - 1.386220I$ $a = -1.009230 + 0.765658I$ $b = -2.45521 + 2.30542I$	$-0.64678 - 3.91620I$	$-4.73840 + 4.05034I$
$u = 0.542233 + 0.204630I$ $a = 0.95589 + 2.90373I$ $b = 0.500761 + 0.448666I$	$4.46035 + 1.08841I$	$0.69467 - 6.25717I$
$u = 0.542233 - 0.204630I$ $a = 0.95589 - 2.90373I$ $b = 0.500761 - 0.448666I$	$4.46035 - 1.08841I$	$0.69467 + 6.25717I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.30546 + 1.45345I$ $a = \quad 0.544780 - 0.691123I$ $b = \quad 1.25789 - 1.48118I$	$-4.73020 - 6.43920I$	$-5.54584 + 8.97180I$
$u = -0.30546 - 1.45345I$ $a = \quad 0.544780 + 0.691123I$ $b = \quad 1.25789 + 1.48118I$	$-4.73020 + 6.43920I$	$-5.54584 - 8.97180I$
$u = -0.309328$ $a = \quad 3.88946$ $b = -1.20295$	-3.72913	-12.9490

III.
$\boldsymbol{I_3^u = \langle -4a^3u^2+8a^2u^2+\cdots-15a-25,\ a^3u^2+2a^2u^2+\cdots+55a+33,\ u^3+2u-1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 0.181818a^3u^2 - 0.363636a^2u^2 + \cdots + 0.681818a + 1.13636 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.181818a^3u^2 + 0.363636a^2u^2 + \cdots + 0.318182a - 1.13636 \\ -0.590909a^3u^2 + 0.181818a^2u^2 + \cdots - 0.590909a + 1.18182 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.181818a^3u^2 - 0.363636a^2u^2 + \cdots + 0.681818a + 1.13636 \\ -\frac{1}{2}a^3u^2 - \frac{3}{2}a^2u^2 + \cdots - a + \frac{3}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.04545a^3u^2 + 0.409091a^2u^2 + \cdots + 2.04545a + 1.90909 \\ 1.81818a^3u^2 - 0.136364a^2u^2 + \cdots + 2.31818a + 1.86364 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.727273a^3u^2 + 0.0454545a^2u^2 + \cdots + 0.727273a + 2.54545 \\ a^3u^2 - \frac{1}{2}u^2a + \cdots + a - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.36364a^3u^2 - 0.772727a^2u^2 + \cdots - 1.36364a - 1.27273 \\ -2.27273a^3u^2 - 0.454545a^2u^2 + \cdots - 2.27273a - 2.45455 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.136364a^3u^2 + 0.272727a^2u^2 + \cdots - 0.136364a + 0.272727 \\ 0.272727a^3u^2 + 1.45455a^2u^2 + \cdots + 0.272727a + 1.45455 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^2 + 4u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+3u+1)^6$
c_2, c_6	$(u^2+u-1)^6$
c_3, c_5, c_9 c_{10}	$u^{12}+u^{10}+u^9+6u^8+6u^7+8u^6+20u^5+4u^4+7u^3+19u^2+2u-4$
c_4, c_{12}	$u^{12}+2u^{11}+\cdots-18u+44$
c_7, c_8, c_{11}	$(u^3+2u+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2 - 7y + 1)^6$
c_2, c_6	$(y^2 - 3y + 1)^6$
c_3, c_5, c_9 c_{10}	$y^{12} + 2y^{11} + \cdots - 156y + 16$
c_4, c_{12}	$y^{12} + 6y^{11} + \cdots + 820y + 1936$
c_7, c_8, c_{11}	$(y^3 + 4y^2 + 4y - 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.22670 + 1.46771I$ $a = 0.854692 - 0.614486I$ $b = 1.58719 - 1.61371I$	$-5.49289 - 5.13794I$	$-7.31793 + 3.20902I$
$u = -0.22670 + 1.46771I$ $a = -0.263183 - 0.362701I$ $b = -1.65920 + 0.15080I$	$-13.3886 - 5.1379I$	$-7.31793 + 3.20902I$
$u = -0.22670 + 1.46771I$ $a = -0.300182 + 0.203211I$ $b = -0.007380 + 0.210795I$	$-5.49289 - 5.13794I$	$-7.31793 + 3.20902I$
$u = -0.22670 + 1.46771I$ $a = -1.18854 + 1.43943I$ $b = -2.47679 + 3.52208I$	$-13.3886 - 5.1379I$	$-7.31793 + 3.20902I$
$u = -0.22670 - 1.46771I$ $a = 0.854692 + 0.614486I$ $b = 1.58719 + 1.61371I$	$-5.49289 + 5.13794I$	$-7.31793 - 3.20902I$
$u = -0.22670 - 1.46771I$ $a = -0.263183 + 0.362701I$ $b = -1.65920 - 0.15080I$	$-13.3886 + 5.1379I$	$-7.31793 - 3.20902I$
$u = -0.22670 - 1.46771I$ $a = -0.300182 - 0.203211I$ $b = -0.007380 - 0.210795I$	$-5.49289 + 5.13794I$	$-7.31793 - 3.20902I$
$u = -0.22670 - 1.46771I$ $a = -1.18854 - 1.43943I$ $b = -2.47679 - 3.52208I$	$-13.3886 + 5.1379I$	$-7.31793 - 3.20902I$
$u = 0.453398$ $a = -0.626782$ $b = 1.23526$	-3.16064	4.63590
$u = 0.453398$ $a = 0.99058 + 3.57131I$ $b = -0.343740 + 0.608968I$	4.73504	4.63590

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.453398$ $a = 0.99058 - 3.57131I$ $b = -0.343740 - 0.608968I$	4.73504	4.63590
$u = 0.453398$ $a = -4.55994$ $b = 0.564588$	−3.16064	4.63590

IV. $\boldsymbol{I^u_4 = \langle -6a^3u^3 - 8u^3a^2 + \cdots - 27a + 12,\ 2a^3u^3 + u^3a^2 + \cdots + 2a^2 - 6a,\ u^4 + u^3 + 2u^2 + 2u + 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 0.176471a^3u^3 + 0.235294a^2u^3 + \cdots + 0.794118a - 0.352941 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.176471a^3u^3 - 0.235294a^2u^3 + \cdots + 0.205882a + 0.352941 \\ 0.264706a^2u^3 - 0.264706au^3 + \cdots + 0.441176a - 0.764706 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.558824a^3u^3 + 0.676471a^2u^3 + \cdots - 0.117647a + 0.529412 \\ -0.0882353a^3u^3 + 0.500000a^2u^3 + \cdots - 0.117647a + 0.0588235 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.117647a^3u^3 + 0.647059a^2u^3 + \cdots + 2.58824a - 0.235294 \\ 0.0588235a^3u^3 + 0.617647a^2u^3 + \cdots + 0.941176a + 0.176471 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.0294118a^3u^3 + 0.0882353a^2u^3 + \cdots + 0.852941a + 0.0588235 \\ -0.147059a^3u^3 + 0.294118a^2u^3 + \cdots - 0.705882a + 0.470588 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.264706a^3u^3 - 1.20588a^2u^3 + \cdots - 2.32353a + 0.529412 \\ \frac{3}{34}a^3u^3 - \frac{8}{17}u^3a^2 + \cdots - a - \frac{10}{17} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.294118a^2u^3 + 0.294118au^3 + \cdots + 0.676471a + 1.29412 \\ -0.117647a^3u^3 - 0.176471a^2u^3 + \cdots + 0.882353a + 0.588235 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^3 + 4u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+3u+1)^8$
c_2, c_6	$(u^2+u-1)^8$
c_3, c_5, c_9 c_{10}	$u^{16}-u^{15}+\cdots-4u+1$
c_4, c_{12}	$u^{16}+5u^{15}+\cdots+50u+19$
c_7, c_8, c_{11}	$(u^4-u^3+2u^2-2u+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2-7y+1)^8$
c_2, c_6	$(y^2-3y+1)^8$
c_3, c_5, c_9 c_{10}	$y^{16}+5y^{15}+\cdots-8y+1$
c_4, c_{12}	$y^{16}-7y^{15}+\cdots-752y+361$
c_7, c_8, c_{11}	$(y^4+3y^3+2y^2+1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.621744 + 0.440597I$ $a = -0.542830 + 1.141380I$ $b = -0.231778 + 0.327115I$	$0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -0.621744 + 0.440597I$ $a = 1.35588 - 0.69513I$ $b = 1.316260 - 0.130390I$	$-7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -0.621744 + 0.440597I$ $a = -0.106754 + 0.135093I$ $b = -0.417805 - 0.121114I$	$0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -0.621744 + 0.440597I$ $a = 0.34475 - 2.64671I$ $b = 0.384377 - 0.408927I$	$-7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -0.621744 - 0.440597I$ $a = -0.542830 - 1.141380I$ $b = -0.231778 - 0.327115I$	$0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = -0.621744 - 0.440597I$ $a = 1.35588 + 0.69513I$ $b = 1.316260 + 0.130390I$	$-7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = -0.621744 - 0.440597I$ $a = -0.106754 - 0.135093I$ $b = -0.417805 + 0.121114I$	$0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = -0.621744 - 0.440597I$ $a = 0.34475 + 2.64671I$ $b = 0.384377 + 0.408927I$	$-7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 0.121744 + 1.306620I$ $a = 0.904436 - 0.255157I$ $b = 0.193308 - 0.950380I$	$-7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 0.121744 + 1.306620I$ $a = 0.630729 + 1.205030I$ $b = 1.45960 + 3.32611I$	$0.65797 + 2.02988I$	$-4.00000 - 3.46410I$

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.121744 + 1.306620I$ $a = -1.52623 - 0.46379I$ $b = -2.35510 - 1.51441I$	$0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 0.121744 + 1.306620I$ $a = 1.44002 - 1.68542I$ $b = 2.15115 - 3.79271I$	$-7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 0.121744 - 1.306620I$ $a = 0.904436 + 0.255157I$ $b = 0.193308 + 0.950380I$	$-7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 0.121744 - 1.306620I$ $a = 0.630729 - 1.205030I$ $b = 1.45960 - 3.32611I$	$0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 0.121744 - 1.306620I$ $a = -1.52623 + 0.46379I$ $b = -2.35510 + 1.51441I$	$0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 0.121744 - 1.306620I$ $a = 1.44002 + 1.68542I$ $b = 2.15115 + 3.79271I$	$-7.23771 - 2.02988I$	$-4.00000 + 3.46410I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+3u+1)^{14})(u^{13}-15u^{12}+\cdots+33u-4)$ $\cdot\,(u^{22}+18u^{21}+\cdots-4096u+16384)$
c_2	$((u^2+u-1)^{14})(u^{13}-3u^{12}+\cdots+u-2)$ $\cdot\,(u^{22}-12u^{21}+\cdots-576u+128)$
c_3, c_{10}	$(u^{12}+u^{10}+u^9+6u^8+6u^7+8u^6+20u^5+4u^4+7u^3+19u^2+2u-4)$ $\cdot\,(u^{13}+5u^{11}+u^{10}+7u^9+4u^8+4u^6-4u^5-u^4-2u^2-1)$ $\cdot\,(u^{16}-u^{15}+\cdots-4u+1)(u^{22}-u^{20}+\cdots+u+1)$
c_4, c_{12}	$(u^{12}+2u^{11}+\cdots-18u+44)(u^{13}-2u^{12}+\cdots-4u-1)$ $\cdot\,(u^{16}+5u^{15}+\cdots+50u+19)(u^{22}+4u^{21}+\cdots+u+1)$
c_5, c_9	$(u^{12}+u^{10}+u^9+6u^8+6u^7+8u^6+20u^5+4u^4+7u^3+19u^2+2u-4)$ $\cdot\,(u^{13}+5u^{11}-u^{10}+7u^9-4u^8-4u^6-4u^5+u^4+2u^2+1)$ $\cdot\,(u^{16}-u^{15}+\cdots-4u+1)(u^{22}-u^{20}+\cdots+u+1)$
c_6	$((u^2+u-1)^{14})(u^{13}+3u^{12}+\cdots+u+2)$ $\cdot\,(u^{22}-12u^{21}+\cdots-576u+128)$
c_7, c_8	$((u^3+2u+1)^4)(u^4-u^3+2u^2-2u+1)^4(u^{13}+u^{12}+\cdots+2u+1)$ $\cdot\,(u^{22}+4u^{21}+\cdots+22u+4)$
c_{11}	$((u^3+2u+1)^4)(u^4-u^3+2u^2-2u+1)^4(u^{13}-u^{12}+\cdots+2u-1)$ $\cdot\,(u^{22}+4u^{21}+\cdots+22u+4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2-7y+1)^{14})(y^{13}-27y^{12}+\cdots-79y-16)$ $\cdot(y^{22}-34y^{21}+\cdots+83886080y+268435456)$
c_2, c_6	$((y^2-3y+1)^{14})(y^{13}-15y^{12}+\cdots+33y-4)$ $\cdot(y^{22}-18y^{21}+\cdots+4096y+16384)$
c_3, c_5, c_9 c_{10}	$(y^{12}+2y^{11}+\cdots-156y+16)(y^{13}+10y^{12}+\cdots-4y-1)$ $\cdot(y^{16}+5y^{15}+\cdots-8y+1)(y^{22}-2y^{21}+\cdots+5y+1)$
c_4, c_{12}	$(y^{12}+6y^{11}+\cdots+820y+1936)(y^{13}-10y^{12}+\cdots-4y-1)$ $\cdot(y^{16}-7y^{15}+\cdots-752y+361)(y^{22}+26y^{21}+\cdots+53y+1)$
c_7, c_8, c_{11}	$(y^3+4y^2+4y-1)^4(y^4+3y^3+2y^2+1)^4$ $\cdot(y^{13}+13y^{12}+\cdots+12y-1)(y^{22}+20y^{21}+\cdots+36y+16)$