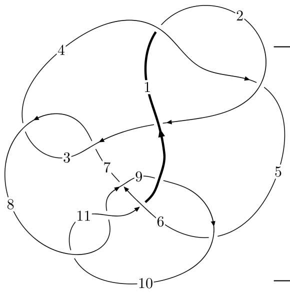
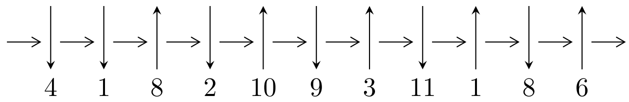
$11n_{39}$ ($K11n_{39}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & u^9+4u^8+5u^7-2u^6-9u^5-4u^4+2u^3+b-u,\ -u^9-4u^8-6u^7+9u^5+8u^4-2u^3-4u^2+a+u+2,\\
& u^{12}+5u^{11}+9u^{10}-21u^8-22u^7+10u^6+26u^5+4u^4-11u^3-3u^2+2u+1\rangle\\
I_2^u = \langle & u^4+u^3-u^2+b-2u-1,\ -u^5-2u^4+2u^2+a+u,\ u^6+u^5-u^4-2u^3+u+1\rangle\\
I_3^u = \langle & 10a^5-46a^4+69a^3+18a^2+13b-18a-12,\ a^6-5a^5+9a^4-2a^3-2a^2-a+1,\ u-1\rangle\\
I_4^u = \langle & u^{11}+3u^{10}+11u^9+10u^8+19u^7-16u^6+8u^5-48u^4+50u^3-15u^2+16b+63u-6,\\
& -7u^{11}-22u^{10}-58u^9-55u^8-65u^7+41u^6+6u^5+108u^4-134u^3-73u^2+32a-174u-79,\\
& u^{12}+3u^{11}+8u^{10}+7u^9+8u^8-8u^7-u^6-14u^5+22u^4+9u^3+25u^2+3u+1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 36 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.

$\boldsymbol{I_1^u = \langle u^9 + 4u^8 + \cdots + b - u,\ -u^9 - 4u^8 + \cdots + a + 2,\ u^{12} + 5u^{11} + \cdots + 2u + 1 \rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^9 + 4u^8 + 6u^7 - 9u^5 - 8u^4 + 2u^3 + 4u^2 - u - 2 \\ -u^9 - 4u^8 - 5u^7 + 2u^6 + 9u^5 + 4u^4 - 2u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^{11} + 4u^{10} + 6u^9 - 8u^7 - 6u^6 + 2u^5 - u^3 + 2u^2 - 2 \\ -u^{11} - 5u^{10} - 8u^9 + u^8 + 16u^7 + 10u^6 - 10u^5 - 9u^4 + 5u^3 + 5u^2 - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3 - 2u^2 + 2 \\ u^5 + 2u^4 + u^3 - 2u^2 - u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^5 + 2u^4 - 4u^2 - u + 2 \\ u^5 + 2u^4 + u^3 - 2u^2 - u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^{11} + 4u^{10} + 4u^9 - 8u^8 - 18u^7 + 24u^5 + 8u^4 - 15u^3 - 4u^2 + 4u \\ u^{11} + 4u^{10} + 5u^9 - 4u^8 - 14u^7 - 6u^6 + 11u^5 + 8u^4 - 3u^3 - 2u^2 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{10} + 4u^9 + 5u^8 - 2u^7 - 8u^6 - 2u^5 + 3u^4 - 2u^3 - u^2 - 1 \\ u^{11} + 5u^{10} + \cdots + 2u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^9 + 2u^8 - 4u^6 - u^5 + 2u^4 + 2u^2 + u - 2 \\ -u^{11} - 2u^{10} + u^9 + 6u^8 - 8u^6 - u^5 + 4u^4 - u^3 + u \end{pmatrix}$$

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{11} - 16u^{10} - 24u^9 + 24u^7 - 32u^5 + 16u^4 + 36u^3 - 16u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_8 c_{10}	$u^{12} - 5u^{11} + \cdots - 2u + 1$
c_2	$u^{12} + 7u^{11} + \cdots + 10u + 1$
c_3, c_7, c_9	$u^{12} + u^{11} + \cdots + 2u + 1$
c_5	$u^{12} - u^{11} + \cdots + 44u + 23$
c_6	$u^{12} - 3u^{11} + \cdots - 14u + 4$
c_{11}	$u^{12} + u^{11} + u^{10} + 5u^8 - 4u^6 - 8u^5 + 6u^4 + 3u^3 + 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8 c_{10}	$y^{12} - 7y^{11} + \cdots - 10y + 1$
c_2	$y^{12} + 29y^{11} + \cdots + 22y + 1$
c_3, c_7, c_9	$y^{12} - 15y^{11} + \cdots - 2y + 1$
c_5	$y^{12} - 23y^{11} + \cdots - 4098y + 529$
c_6	$y^{12} + 5y^{11} + \cdots + 68y + 16$
c_{11}	$y^{12} + y^{11} + \cdots + 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.017000 + 0.101771I$ $a = -4.30103 + 2.01922I$ $b = 5.15079 - 0.85342I$	$-3.52730 - 0.57280I$	$-2.7091 - 26.6989I$
$u = 1.017000 - 0.101771I$ $a = -4.30103 - 2.01922I$ $b = 5.15079 + 0.85342I$	$-3.52730 + 0.57280I$	$-2.7091 + 26.6989I$
$u = -0.997809 + 0.382742I$ $a = 0.095986 + 0.498664I$ $b = 0.336025 + 0.091002I$	$-1.70690 + 6.65526I$	$-0.69156 - 12.28500I$
$u = -0.997809 - 0.382742I$ $a = 0.095986 - 0.498664I$ $b = 0.336025 - 0.091002I$	$-1.70690 - 6.65526I$	$-0.69156 + 12.28500I$
$u = 0.568808 + 0.252332I$ $a = -1.155830 - 0.548735I$ $b = 0.126143 + 1.177030I$	$-1.61529 - 1.35793I$	$-3.64822 + 4.51645I$
$u = 0.568808 - 0.252332I$ $a = -1.155830 + 0.548735I$ $b = 0.126143 - 1.177030I$	$-1.61529 + 1.35793I$	$-3.64822 - 4.51645I$
$u = -0.417930 + 0.278210I$ $a = -1.043110 - 0.681779I$ $b = -0.414535 - 0.062132I$	$1.46216 - 0.16286I$	$7.96188 - 1.03516I$
$u = -0.417930 - 0.278210I$ $a = -1.043110 + 0.681779I$ $b = -0.414535 + 0.062132I$	$1.46216 + 0.16286I$	$7.96188 + 1.03516I$
$u = -1.29679 + 1.06566I$ $a = 0.784134 - 0.966249I$ $b = 0.21322 + 1.93092I$	$12.72390 + 5.46645I$	$-0.22295 - 2.11548I$
$u = -1.29679 - 1.06566I$ $a = 0.784134 + 0.966249I$ $b = 0.21322 - 1.93092I$	$12.72390 - 5.46645I$	$-0.22295 + 2.11548I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.37328 + 1.07803I$ $a = -0.880154 + 0.892257I$ $b = 0.08836 - 2.35166I$	$12.4026 + 12.7511I$	$-0.69002 - 5.94531I$
$u = -1.37328 - 1.07803I$ $a = -0.880154 - 0.892257I$ $b = 0.08836 + 2.35166I$	$12.4026 - 12.7511I$	$-0.69002 + 5.94531I$

II.

$\boldsymbol{I_2^u = \langle u^4+u^3-u^2+b-2u-1,\ -u^5-2u^4+2u^2+a+u,\ u^6+u^5-u^4-2u^3+u+1\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^5 + 2u^4 - 2u^2 - u \\ -u^4 - u^3 + u^2 + 2u + 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^5 + 2u^4 - 2u^2 - u \\ -u^4 - u^3 + u^2 + 2u + 1 \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2u^5 + 2u^4 - 2u^3 - 2u^2 \\ u^5 - u^4 - 2u^3 + u^2 + 3u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^5 + 2u^3 - u \\ -u^5 + u^3 - u \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^5 + 7u^4 + u^3 - 6u^2 - 5u - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^6$
c_2, c_4	$(u+1)^6$
c_3, c_7	u^6
c_5, c_9, c_{10}	$u^6 - u^5 - u^4 + 2u^3 - u + 1$
c_6, c_{11}	$u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1$
c_8	$u^6 + u^5 - u^4 - 2u^3 + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^6$
c_3, c_7	y^6
c_5, c_8, c_9 c_{10}	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_6, c_{11}	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.002190 + 0.295542I$ $a = -1.68613 + 1.92635I$ $b = 2.68739 - 0.76772I$	$-3.53554 - 0.92430I$	$-6.82874 + 7.13914I$
$u = 1.002190 - 0.295542I$ $a = -1.68613 - 1.92635I$ $b = 2.68739 + 0.76772I$	$-3.53554 + 0.92430I$	$-6.82874 - 7.13914I$
$u = -0.428243 + 0.664531I$ $a = 0.344968 + 0.764807I$ $b = -0.346225 + 0.393823I$	$0.245672 - 0.924305I$	$1.12292 + 1.33143I$
$u = -0.428243 - 0.664531I$ $a = 0.344968 - 0.764807I$ $b = -0.346225 - 0.393823I$	$0.245672 + 0.924305I$	$1.12292 - 1.33143I$
$u = -1.073950 + 0.558752I$ $a = -0.158836 - 0.437639I$ $b = 0.658836 + 0.177500I$	$-1.64493 + 5.69302I$	$-0.29418 - 2.69056I$
$u = -1.073950 - 0.558752I$ $a = -0.158836 + 0.437639I$ $b = 0.658836 - 0.177500I$	$-1.64493 - 5.69302I$	$-0.29418 + 2.69056I$

III.

$$I^u_3 = \langle 10a^5 + 13b + \cdots - 18a - 12,\ a^6 - 5a^5 + 9a^4 - 2a^3 - 2a^2 - a + 1,\ u - 1\rangle$$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -0.769231a^5 + 3.53846a^4 + \cdots + 1.38462a + 0.923077 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.769231a^5 + 3.53846a^4 + \cdots + 3.38462a + 0.923077 \\ -a \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.307692a^5 + 1.61538a^4 + \cdots + 0.153846a + 1.76923 \\ -0.846154a^5 + 3.69231a^4 + \cdots - 0.0769231a + 0.615385 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.15385a^5 + 5.30769a^4 + \cdots + 0.0769231a + 2.38462 \\ -0.846154a^5 + 3.69231a^4 + \cdots - 0.0769231a + 0.615385 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -2.30769a^5 + 10.6154a^4 + \cdots + 1.15385a + 2.76923 \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0769231a^5 - 0.153846a^4 + \cdots - 2.53846a + 0.307692 \\ -0.769231a^5 + 3.53846a^4 + \cdots + 1.38462a + 0.923077 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.307692a^5 + 1.61538a^4 + \cdots + 0.153846a + 1.76923 \\ -0.846154a^5 + 3.69231a^4 + \cdots - 0.0769231a + 0.615385 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{33}{13}a^5 - \frac{144}{13}a^4 + \frac{216}{13}a^3 + \frac{10}{13}a^2 + \frac{16}{13}a - \frac{37}{13}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^6 + u^5 - u^4 - 2u^3 + u + 1$
c_2, c_{11}	$u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1$
c_3, c_4	$u^6 - u^5 - u^4 + 2u^3 - u + 1$
c_5, c_6	$u^6 - u^5 + 2u^4 - 4u^3 + 5u^2 - 3u + 1$
c_8	$(u - 1)^6$
c_9	u^6
c_{10}	$(u + 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_7	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_2, c_{11}	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$
c_5, c_6	$y^6 + 3y^5 + 6y^4 + 5y^2 + y + 1$
c_8, c_{10}	$(y-1)^6$
c_9	y^6

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0.655968 + 0.098281I$ $b = 0.346225 - 0.393823I$	$0.245672 - 0.924305I$	$1.12292 + 1.33143I$
$u = 1.00000$ $a = 0.655968 - 0.098281I$ $b = 0.346225 + 0.393823I$	$0.245672 + 0.924305I$	$1.12292 - 1.33143I$
$u = 1.00000$ $a = -0.415113 + 0.381252I$ $b = -0.658836 + 0.177500I$	$-1.64493 - 5.69302I$	$-0.29418 + 2.69056I$
$u = 1.00000$ $a = -0.415113 - 0.381252I$ $b = -0.658836 - 0.177500I$	$-1.64493 + 5.69302I$	$-0.29418 - 2.69056I$
$u = 1.00000$ $a = 2.25915 + 1.43225I$ $b = -2.68739 - 0.76772I$	$-3.53554 + 0.92430I$	$-6.82874 - 7.13914I$
$u = 1.00000$ $a = 2.25915 - 1.43225I$ $b = -2.68739 + 0.76772I$	$-3.53554 - 0.92430I$	$-6.82874 + 7.13914I$

IV. $\boldsymbol{I_4^u =}$
$\boldsymbol{\langle u^{11}+3u^{10}+\cdots+16b-6,\ -7u^{11}-22u^{10}+\cdots+32a-79,\ u^{12}+3u^{11}+\cdots+3u+1\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.218750u^{11} + 0.687500u^{10} + \cdots + 5.43750u + 2.46875 \\ -0.0625000u^{11} - 0.187500u^{10} + \cdots - 3.93750u + 0.375000 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} \frac{1}{8}u^{11} + \frac{7}{16}u^{10} + \cdots + \frac{19}{16}u + \frac{45}{16} \\ -0.0937500u^{11} - 0.187500u^{10} + \cdots - 3.93750u + 0.406250 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.250000u^{11} - 0.562500u^{10} + \cdots - 6.56250u + 2.68750 \\ -\frac{11}{32}u^{11} - u^{10} + \cdots - 5u - \frac{25}{32} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.593750u^{11} - 1.56250u^{10} + \cdots - 11.5625u + 1.90625 \\ -\frac{11}{32}u^{11} - u^{10} + \cdots - 5u - \frac{25}{32} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.218750u^{11} + 0.687500u^{10} + \cdots + 5.43750u + 2.46875 \\ -\frac{1}{4}u^9 - \frac{1}{2}u^8 + \cdots - \frac{3}{2}u + \frac{1}{4} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0312500u^{11} + 0.250000u^{10} + \cdots + 0.750000u + 5.15625 \\ -0.125000u^{11} - 0.437500u^{10} + \cdots - 6.68750u + 0.437500 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.875000u^{11} + 2.31250u^{10} + \cdots + 12.3125u - 1.56250 \\ \frac{27}{32}u^{11} + \frac{7}{4}u^{10} + \cdots + \frac{23}{4}u + \frac{33}{32} \end{pmatrix}$$

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{3}{16}u^{11} - \frac{11}{16}u^{10} - \frac{33}{16}u^9 - 3u^8 - \frac{55}{16}u^7 + \frac{1}{2}u^6 + \frac{11}{4}u^5 + \frac{21}{4}u^4 - \frac{21}{8}u^3 - \frac{83}{16}u^2 - \frac{183}{16}u - \frac{23}{8}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_8 c_{10}	$u^{12} - 3u^{11} + \cdots - 3u + 1$
c_2	$u^{12} - 7u^{11} + \cdots - 41u + 1$
c_3, c_7, c_9	$u^{12} + u^{11} + \cdots + 320u + 64$
c_5	$u^{12} - 14u^{10} + \cdots + 120u + 77$
c_6	$u^{12} - 2u^{11} + \cdots + 144u + 121$
c_{11}	$(u^6 + u^5 + u^4 + 2u^2 + u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8 c_{10}	$y^{12} + 7y^{11} + \cdots + 41y + 1$
c_2	$y^{12} + 27y^{11} + \cdots - 451y + 1$
c_3, c_7, c_9	$y^{12} - 27y^{11} + \cdots - 12288y + 4096$
c_5	$y^{12} - 28y^{11} + \cdots + 53360y + 5929$
c_6	$y^{12} + 24y^{11} + \cdots + 28148y + 14641$
c_{11}	$(y^6 + y^5 + 5y^4 + 4y^3 + 6y^2 + 3y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.282006 + 0.991713I$ $a = 1.119650 - 0.174269I$ $b = -0.287706 - 0.831147I$	$2.99789 + 2.65597I$	$1.54637 - 3.55162I$
$u = -0.282006 - 0.991713I$ $a = 1.119650 + 0.174269I$ $b = -0.287706 + 0.831147I$	$2.99789 - 2.65597I$	$1.54637 + 3.55162I$
$u = 1.032840 + 0.430283I$ $a = -0.388751 - 0.185708I$ $b = 0.552079 + 0.783280I$	$-1.90302 - 1.10871I$	$-2.03402 + 2.13465I$
$u = 1.032840 - 0.430283I$ $a = -0.388751 + 0.185708I$ $b = 0.552079 - 0.783280I$	$-1.90302 + 1.10871I$	$-2.03402 - 2.13465I$
$u = -0.042043 + 1.323160I$ $a = -0.872012 + 0.135725I$ $b = -0.287706 + 0.831147I$	$2.99789 - 2.65597I$	$1.54637 + 3.55162I$
$u = -0.042043 - 1.323160I$ $a = -0.872012 - 0.135725I$ $b = -0.287706 - 0.831147I$	$2.99789 + 2.65597I$	$1.54637 - 3.55162I$
$u = -1.07187 + 1.35065I$ $a = 0.819272 - 0.623911I$ $b = -0.26437 + 2.03792I$	$13.70950 + 3.42721I$	$0.48765 - 2.36550I$
$u = -1.07187 - 1.35065I$ $a = 0.819272 + 0.623911I$ $b = -0.26437 - 2.03792I$	$13.70950 - 3.42721I$	$0.48765 + 2.36550I$
$u = -0.058341 + 0.199318I$ $a = 2.09440 + 1.00050I$ $b = 0.552079 - 0.783280I$	$-1.90302 + 1.10871I$	$-2.03402 - 2.13465I$
$u = -0.058341 - 0.199318I$ $a = 2.09440 - 1.00050I$ $b = 0.552079 + 0.783280I$	$-1.90302 - 1.10871I$	$-2.03402 + 2.13465I$

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.07857 + 1.47659I$ $a = -0.772555 + 0.588334I$ $b = -0.26437 - 2.03792I$	$13.70950 - 3.42721I$	$0.48765 + 2.36550I$
$u = -1.07857 - 1.47659I$ $a = -0.772555 - 0.588334I$ $b = -0.26437 + 2.03792I$	$13.70950 + 3.42721I$	$0.48765 - 2.36550I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$((u-1)^6)(u^6+u^5+\cdots+u+1)(u^{12}-5u^{11}+\cdots-2u+1)$ $\cdot(u^{12}-3u^{11}+\cdots-3u+1)$
c_2	$(u+1)^6(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^{12}-7u^{11}+\cdots-41u+1)(u^{12}+7u^{11}+\cdots+10u+1)$
c_3, c_9	$u^6(u^6-u^5+\cdots-u+1)(u^{12}+u^{11}+\cdots+320u+64)$ $\cdot(u^{12}+u^{11}+\cdots+2u+1)$
c_4, c_{10}	$((u+1)^6)(u^6-u^5+\cdots-u+1)(u^{12}-5u^{11}+\cdots-2u+1)$ $\cdot(u^{12}-3u^{11}+\cdots-3u+1)$
c_5	$(u^6-u^5-u^4+2u^3-u+1)(u^6-u^5+2u^4-4u^3+5u^2-3u+1)$ $\cdot(u^{12}-14u^{10}+\cdots+120u+77)(u^{12}-u^{11}+\cdots+44u+23)$
c_6	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)(u^6-u^5+2u^4-4u^3+5u^2-3u+1)$ $\cdot(u^{12}-3u^{11}+\cdots-14u+4)(u^{12}-2u^{11}+\cdots+144u+121)$
c_7	$u^6(u^6+u^5+\cdots+u+1)(u^{12}+u^{11}+\cdots+320u+64)$ $\cdot(u^{12}+u^{11}+\cdots+2u+1)$
c_{11}	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)(u^6+u^5+u^4+2u^2+u+1)^2$ $\cdot(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^{12}+u^{11}+u^{10}+5u^8-4u^6-8u^5+6u^4+3u^3+3u^2+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8 c_{10}	$(y-1)^6(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot\,(y^{12}-7y^{11}+\cdots-10y+1)(y^{12}+7y^{11}+\cdots+41y+1)$
c_2	$((y-1)^6)(y^6+y^5+\cdots+3y+1)(y^{12}+27y^{11}+\cdots-451y+1)$ $\cdot\,(y^{12}+29y^{11}+\cdots+22y+1)$
c_3, c_7, c_9	$y^6(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot\,(y^{12}-27y^{11}+\cdots-12288y+4096)(y^{12}-15y^{11}+\cdots-2y+1)$
c_5	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)(y^6+3y^5+6y^4+5y^2+y+1)$ $\cdot\,(y^{12}-28y^{11}+\cdots+53360y+5929)$ $\cdot\,(y^{12}-23y^{11}+\cdots-4098y+529)$
c_6	$(y^6+y^5+5y^4+6y^2+3y+1)(y^6+3y^5+6y^4+5y^2+y+1)$ $\cdot\,(y^{12}+5y^{11}+\cdots+68y+16)(y^{12}+24y^{11}+\cdots+28148y+14641)$
c_{11}	$(y^6+y^5+5y^4+6y^2+3y+1)^2(y^6+y^5+5y^4+4y^3+6y^2+3y+1)^2$ $\cdot\,(y^{12}+y^{11}+\cdots+6y+1)$