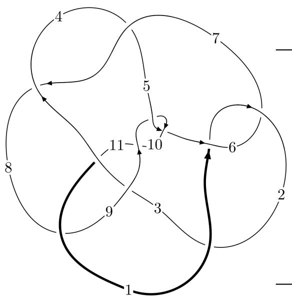
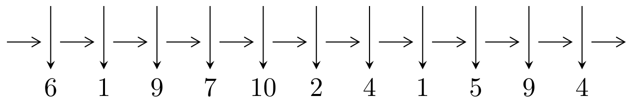
$11n_{136}$ $(K11n_{136})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 83u^{11} - 937u^{10} + \cdots + 244b - 1872,\ -234u^{11} + 2491u^{10} + \cdots + 244a + 6946,\\
&\quad u^{12} - 11u^{11} + 57u^{10} - 189u^9 + 459u^8 - 868u^7 + 1293u^6 - 1499u^5 + 1327u^4 - 863u^3 + 374u^2 - 88u + 8\rangle\\
I_2^u &= \langle -6u^{14} - 27u^{13} + \cdots + 8b - 31,\ -93u^{14}a + 31u^{14} + \cdots - 303a + 110,\ u^{15} + 5u^{14} + \cdots + 8u + 3\rangle\\
I_3^u &= \langle u^5 + 2u^4 + u^3 + 2u^2 + b + u + 1,\ -u^5 - u^4 + u^3 - 2u^2 + a,\ u^6 + 2u^5 + u^4 + 3u^3 + 2u^2 + u + 1\rangle\\
I_4^u &= \langle au + b + 1,\ u^2a + a^2 - au - 1,\ u^3 - u^2 - 1\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b - 1,\ v - 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 55 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. $\boldsymbol{I^u_1 = \langle 83u^{11} - 937u^{10} + \cdots + 244b - 1872,\ -234u^{11} + 2491u^{10} + \cdots + 244a + 6946,\ u^{12} - 11u^{11} + \cdots - 88u + 8\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} 0.959016u^{11} - 10.2090u^{10} + \cdots + 186.193u - 28.4672 \\ -0.340164u^{11} + 3.84016u^{10} + \cdots - 55.9262u + 7.67213 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -1.08402u^{11} + 11.3340u^{10} + \cdots - 191.693u + 29.4672 \\ 0.590164u^{11} - 6.09016u^{10} + \cdots + 66.9262u - 8.67213 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.518443u^{11} + 6.26844u^{10} + \cdots - 204.701u + 32.6148 \\ -0.565574u^{11} + 5.06557u^{10} + \cdots + 14.0082u - 4.14754 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.08402u^{11} + 11.3340u^{10} + \cdots - 190.693u + 28.4672 \\ -0.565574u^{11} + 5.06557u^{10} + \cdots + 14.0082u - 4.14754 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.485656u^{11} - 5.98566u^{10} + \cdots + 195.705u - 29.6885 \\ 1.16803u^{11} - 11.1680u^{10} + \cdots + 35.8852u - 0.934426 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.309426u^{11} + 2.55943u^{10} + \cdots + 27.7418u - 4.85246 \\ 0.598361u^{11} - 5.59836u^{10} + \cdots + 39.7377u - 4.27869 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.618852u^{11} - 6.36885u^{10} + \cdots + 130.266u - 20.7951 \\ -0.340164u^{11} + 3.84016u^{10} + \cdots - 55.9262u + 7.67213 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.618852u^{11} - 6.36885u^{10} + \cdots + 130.266u - 20.7951 \\ -1.22541u^{11} + 11.7254u^{10} + \cdots - 89.5656u + 11.1803 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.618852u^{11} - 6.36885u^{10} + \cdots + 130.266u - 20.7951 \\ -1.22541u^{11} + 11.7254u^{10} + \cdots - 89.5656u + 11.1803 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{69}{61}u^{11} + \frac{679}{61}u^{10} - \frac{3121}{61}u^9 + \frac{9220}{61}u^8 - \frac{20174}{61}u^7 + \frac{34320}{61}u^6 - \frac{44856}{61}u^5 + \frac{43929}{61}u^4 - \frac{31083}{61}u^3 + \frac{14067}{61}u^2 - \frac{2500}{61}u - \frac{994}{61}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_9	$u^{12} + u^{11} + \cdots - 2u - 1$
c_2, c_{10}	$u^{12} + 7u^{11} + \cdots + 8u + 1$
c_3	$u^{12} + 11u^{11} + \cdots + 88u + 8$
c_4, c_7	$u^{12} - 7u^{11} + \cdots + 4u - 8$
c_8, c_{11}	$u^{12} - 2u^{11} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_9	$y^{12} - 7y^{11} + \cdots - 8y + 1$
c_2, c_{10}	$y^{12} + y^{11} + \cdots - 32y + 1$
c_3	$y^{12} - 7y^{11} + \cdots - 1760y + 64$
c_4, c_7	$y^{12} + 5y^{11} + \cdots - 656y + 64$
c_8, c_{11}	$y^{12} - 18y^{11} + \cdots - 21y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.302190 + 1.082960I$ $a = -0.173842 - 0.404485I$ $b = -0.385507 + 0.310495I$	$2.70102 - 2.45198I$	$-9.00502 + 1.91716I$
$u = 0.302190 - 1.082960I$ $a = -0.173842 + 0.404485I$ $b = -0.385507 - 0.310495I$	$2.70102 + 2.45198I$	$-9.00502 - 1.91716I$
$u = 1.48047 + 0.22618I$ $a = -1.025210 - 0.103256I$ $b = 1.49443 + 0.38475I$	$-1.76862 - 2.36514I$	$-8.64736 + 0.93899I$
$u = 1.48047 - 0.22618I$ $a = -1.025210 + 0.103256I$ $b = 1.49443 - 0.38475I$	$-1.76862 + 2.36514I$	$-8.64736 - 0.93899I$
$u = 0.360681$ $a = -0.734365$ $b = 0.264871$	-0.612207	-16.2730
$u = -0.06599 + 1.68520I$ $a = -0.168168 + 0.408954I$ $b = 0.678073 + 0.310386I$	$-1.13692 + 4.86316I$	$-15.3188 - 3.9545I$
$u = -0.06599 - 1.68520I$ $a = -0.168168 - 0.408954I$ $b = 0.678073 - 0.310386I$	$-1.13692 - 4.86316I$	$-15.3188 + 3.9545I$
$u = 1.60414 + 0.72863I$ $a = 0.881126 - 0.421215I$ $b = -1.72036 + 0.03367I$	$-9.15791 - 5.54846I$	$-14.9776 + 4.7158I$
$u = 1.60414 - 0.72863I$ $a = 0.881126 + 0.421215I$ $b = -1.72036 - 0.03367I$	$-9.15791 + 5.54846I$	$-14.9776 - 4.7158I$
$u = 0.222519$ $a = -5.14860$ $b = 1.14566$	-4.93861	-18.1860

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.88759 + 0.64713I$ $a = 0.927570 - 0.032494I$ $b = -1.77190 - 0.53892I$	$-7.6014 - 13.7948I$	$-13.8218 + 7.4992I$
$u = 1.88759 - 0.64713I$ $a = 0.927570 + 0.032494I$ $b = -1.77190 + 0.53892I$	$-7.6014 + 13.7948I$	$-13.8218 - 7.4992I$

II. $\boldsymbol{I_2^u = \langle -6u^{14} - 27u^{13} + \cdots + 8b - 31,\ -93u^{14}a + 31u^{14} + \cdots - 303a + 110,\ u^{15} + 5u^{14} + \cdots + 8u + 3\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} a \\ \frac{3}{4}u^{14} + \frac{27}{8}u^{13} + \cdots + \frac{49}{8}u + \frac{31}{8} \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.375000au^{14} - 0.0833333u^{14} + \cdots - 2.25000a + 0.708333 \\ \frac{3}{8}u^{14}a - \frac{5}{4}u^{14} + \cdots + \frac{9}{4}a - 3 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.750000au^{14} + 0.333333u^{14} + \cdots - 3.87500a + 1.29167 \\ -\frac{1}{4}u^{14} - \frac{9}{8}u^{13} + \cdots - \frac{3}{8}u - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.750000au^{14} + 0.0833333u^{14} + \cdots - 3.87500a + 0.291667 \\ -\frac{1}{4}u^{14} - \frac{9}{8}u^{13} + \cdots - \frac{3}{8}u - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{5}{8}u^{14}a + \frac{1}{24}u^{14} + \cdots + \frac{19}{8}a + \frac{31}{12} \\ \frac{1}{2}u^{14} + \frac{19}{8}u^{13} + \cdots + \frac{33}{8}u + \frac{17}{8} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{4}u^{14}a - \frac{31}{24}u^{14} + \cdots + 2a - \frac{101}{24} \\ \frac{1}{4}u^{13}a - \frac{1}{4}u^{14} + \cdots + \frac{3}{8}a - \frac{1}{8} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{3}{4}u^{14} + \frac{27}{8}u^{13} + \cdots + a + \frac{31}{8} \\ \frac{3}{4}u^{14} + \frac{27}{8}u^{13} + \cdots + \frac{49}{8}u + \frac{31}{8} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{3}{4}u^{14} + \frac{27}{8}u^{13} + \cdots + a + \frac{31}{8} \\ \frac{1}{2}u^{14} + \frac{19}{8}u^{13} + \cdots + \frac{43}{8}u + \frac{11}{4} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{3}{4}u^{14} + \frac{27}{8}u^{13} + \cdots + a + \frac{31}{8} \\ \frac{1}{2}u^{14} + \frac{19}{8}u^{13} + \cdots + \frac{43}{8}u + \frac{11}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{14} + 16u^{13} - \frac{15}{2}u^{12} - 115u^{11} - 131u^{10} + 156u^9 + \frac{857}{2}u^8 + 263u^7 - 94u^6 - 193u^5 - 58u^4 + 21u^3 + 16u^2 + 28u + \frac{3}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_9	$u^{30} - u^{29} + \cdots + 2u^2 + 1$
c_2, c_{10}	$u^{30} + 17u^{29} + \cdots - 4u + 1$
c_3	$(u^{15} - 5u^{14} + \cdots + 8u - 3)^2$
c_4, c_7	$(u^{15} + 3u^{14} + \cdots + 5u + 1)^2$
c_8, c_{11}	$u^{30} - 2u^{29} + \cdots + 66u - 79$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_9	$y^{30} - 17y^{29} + \cdots + 4y + 1$
c_2, c_{10}	$y^{30} - 5y^{29} + \cdots - 112y + 1$
c_3	$(y^{15} - 21y^{14} + \cdots - 2y - 9)^2$
c_4, c_7	$(y^{15} + 5y^{14} + \cdots + 7y - 1)^2$
c_8, c_{11}	$y^{30} - 30y^{29} + \cdots - 120802y + 6241$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.573512 + 0.780031I$ $a = -0.303879 + 1.027660I$ $b = -0.674810 + 0.174597I$	$1.85339 - 2.65754I$	$-12.13634 + 3.34510I$
$u = -0.573512 + 0.780031I$ $a = -0.558164 - 0.454721I$ $b = 0.627325 + 0.826408I$	$1.85339 - 2.65754I$	$-12.13634 + 3.34510I$
$u = -0.573512 - 0.780031I$ $a = -0.303879 - 1.027660I$ $b = -0.674810 - 0.174597I$	$1.85339 + 2.65754I$	$-12.13634 - 3.34510I$
$u = -0.573512 - 0.780031I$ $a = -0.558164 + 0.454721I$ $b = 0.627325 - 0.826408I$	$1.85339 + 2.65754I$	$-12.13634 - 3.34510I$
$u = 0.697369 + 0.218567I$ $a = -0.921356 + 0.311277I$ $b = 0.314929 + 1.087780I$	$0.330230 + 0.679087I$	$-12.40066 - 0.76832I$
$u = 0.697369 + 0.218567I$ $a = -0.85635 - 1.29144I$ $b = 0.710560 - 0.015696I$	$0.330230 + 0.679087I$	$-12.40066 - 0.76832I$
$u = 0.697369 - 0.218567I$ $a = -0.921356 - 0.311277I$ $b = 0.314929 - 1.087780I$	$0.330230 - 0.679087I$	$-12.40066 + 0.76832I$
$u = 0.697369 - 0.218567I$ $a = -0.85635 + 1.29144I$ $b = 0.710560 + 0.015696I$	$0.330230 - 0.679087I$	$-12.40066 + 0.76832I$
$u = -0.624643 + 0.305436I$ $a = 0.722934 + 0.424315I$ $b = 0.23544 + 1.52005I$	$-0.89474 - 6.09921I$	$-15.4033 + 6.7831I$
$u = -0.624643 + 0.305436I$ $a = -0.65611 + 2.11265I$ $b = 0.581176 + 0.044236I$	$-0.89474 - 6.09921I$	$-15.4033 + 6.7831I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.624643 - 0.305436I$ $a = 0.722934 - 0.424315I$ $b = 0.23544 - 1.52005I$	$-0.89474 + 6.09921I$	$-15.4033 - 6.7831I$
$u = -0.624643 - 0.305436I$ $a = -0.65611 - 2.11265I$ $b = 0.581176 - 0.044236I$	$-0.89474 + 6.09921I$	$-15.4033 - 6.7831I$
$u = 0.067784 + 0.504699I$ $a = -0.069426 - 1.144650I$ $b = 0.186932 + 0.933368I$	$2.10570 - 2.66884I$	$-8.49589 + 5.19452I$
$u = 0.067784 + 0.504699I$ $a = -1.86545 + 0.11984I$ $b = -0.572998 + 0.112628I$	$2.10570 - 2.66884I$	$-8.49589 + 5.19452I$
$u = 0.067784 - 0.504699I$ $a = -0.069426 + 1.144650I$ $b = 0.186932 - 0.933368I$	$2.10570 + 2.66884I$	$-8.49589 - 5.19452I$
$u = 0.067784 - 0.504699I$ $a = -1.86545 - 0.11984I$ $b = -0.572998 - 0.112628I$	$2.10570 + 2.66884I$	$-8.49589 - 5.19452I$
$u = -1.49696 + 0.32578I$ $a = -0.926351 - 0.253533I$ $b = 1.82057 + 0.02441I$	$-6.55037 + 0.76607I$	$-13.52677 - 0.03940I$
$u = -1.49696 + 0.32578I$ $a = 1.157790 + 0.268278I$ $b = -1.46931 - 0.07774I$	$-6.55037 + 0.76607I$	$-13.52677 - 0.03940I$
$u = -1.49696 - 0.32578I$ $a = -0.926351 + 0.253533I$ $b = 1.82057 - 0.02441I$	$-6.55037 - 0.76607I$	$-13.52677 + 0.03940I$
$u = -1.49696 - 0.32578I$ $a = 1.157790 - 0.268278I$ $b = -1.46931 + 0.07774I$	$-6.55037 - 0.76607I$	$-13.52677 + 0.03940I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.60501$ $a = 1.20656$ $b = -0.990302$	-7.32542	-4.72890
$u = -1.60501$ $a = -0.617005$ $b = 1.93654$	-7.32542	-4.72890
$u = -1.75343 + 0.35354I$ $a = 0.980020 - 0.156747I$ $b = -1.65186 + 0.31915I$	$-4.38929 + 7.65996I$	$-11.60171 - 4.83891I$
$u = -1.75343 + 0.35354I$ $a = -0.940537 - 0.007624I$ $b = 1.66298 - 0.62132I$	$-4.38929 + 7.65996I$	$-11.60171 - 4.83891I$
$u = -1.75343 - 0.35354I$ $a = 0.980020 + 0.156747I$ $b = -1.65186 - 0.31915I$	$-4.38929 - 7.65996I$	$-11.60171 + 4.83891I$
$u = -1.75343 - 0.35354I$ $a = -0.940537 + 0.007624I$ $b = 1.66298 + 0.62132I$	$-4.38929 - 7.65996I$	$-11.60171 + 4.83891I$
$u = 1.98590 + 0.14793I$ $a = 0.901839 - 0.019745I$ $b = -1.45017 + 0.51636I$	$-10.17640 + 2.57627I$	$-15.0709 - 4.0254I$
$u = 1.98590 + 0.14793I$ $a = 0.706941 - 0.312672I$ $b = -1.79388 - 0.09420I$	$-10.17640 + 2.57627I$	$-15.0709 - 4.0254I$
$u = 1.98590 - 0.14793I$ $a = 0.901839 + 0.019745I$ $b = -1.45017 - 0.51636I$	$-10.17640 - 2.57627I$	$-15.0709 + 4.0254I$
$u = 1.98590 - 0.14793I$ $a = 0.706941 + 0.312672I$ $b = -1.79388 + 0.09420I$	$-10.17640 - 2.57627I$	$-15.0709 + 4.0254I$

III. $\boldsymbol{I_3^u = \langle u^5 + 2u^4 + u^3 + 2u^2 + b + u + 1,\ -u^5 - u^4 + u^3 - 2u^2 + a,\ u^6 + 2u^5 + u^4 + 3u^3 + 2u^2 + u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^5 + u^4 - u^3 + 2u^2 \\ -u^5 - 2u^4 - u^3 - 2u^2 - u - 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^4 - 2u^3 - u^2 - 2u \\ -u^5 - 2u^4 - u^3 - 3u^2 - u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^5 - u^4 + u^3 - 2u^2 + u \\ u^5 + 2u^4 + u^3 + 3u^2 + 2u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^4 + 2u^3 + u^2 + 3u + 1 \\ u^5 + 2u^4 + u^3 + 3u^2 + 2u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^5 + 2u^4 + u^2 + u - 1 \\ u^5 + u^4 - u^3 + 2u^2 - u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^5 + 2u^4 + u^2 + 2u \\ u^5 + u^4 - 2u^3 + u^2 - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^4 - 2u^3 - u - 1 \\ -u^5 - 2u^4 - u^3 - 2u^2 - u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^4 - 2u^3 - u - 1 \\ -u^5 - 3u^4 - 3u^3 - 3u^2 - 2u - 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^4 - 2u^3 - u - 1 \\ -u^5 - 3u^4 - 3u^3 - 3u^2 - 2u - 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^5 + 16u^4 + 8u^3 + 12u^2 + 12u - 5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_9	$y^6 - 4y^5 + 8y^4 - 10y^3 + 8y^2 - 5y + 1$
c_2, c_{10}	$y^6 - 10y^3 - 20y^2 - 9y + 1$
c_3	$y^6 - 2y^5 - 7y^4 - 7y^3 + 3y + 1$
c_4, c_7	$y^6 + 3y^5 - 7y^3 - 7y^2 - 2y + 1$
c_8, c_{11}	$y^6 - 3y^5 - y^4 + 4y^3 + 3y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.392638 + 0.978074I$ $a = 0.742271 + 0.355591I$ $b = -0.056351 + 0.865615I$	$0.69572 + 5.66603I$	$-8.99565 - 5.65371I$
$u = 0.392638 - 0.978074I$ $a = 0.742271 - 0.355591I$ $b = -0.056351 - 0.865615I$	$0.69572 - 5.66603I$	$-8.99565 + 5.65371I$
$u = -0.788940$ $a = 1.81768$ $b = -1.43404$	-4.14809	-6.86750
$u = 0.015196 + 0.750196I$ $a = -0.759470 + 0.678272I$ $b = -0.520377 - 0.559444I$	$3.09094 - 3.67876I$	$-6.55000 + 7.14850I$
$u = 0.015196 - 0.750196I$ $a = -0.759470 - 0.678272I$ $b = -0.520377 + 0.559444I$	$3.09094 + 3.67876I$	$-6.55000 - 7.14850I$
$u = -2.02673$ $a = -0.783279$ $b = 1.58749$	-10.0050	-16.0410

IV. $I_4^u = \langle au+b+1,\ u^2a+a^2-au-1,\ u^3-u^2-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^2-4u-12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^6 - 2u^4 - u^3 + 2u^2 - 1$
c_2, c_{10}	$u^6 + 4u^5 + 8u^4 + 11u^3 + 8u^2 + 4u + 1$
c_3	$(u^3 - u^2 - 1)^2$
c_4	$(u^3 + u + 1)^2$
c_6, c_9	$u^6 - 2u^4 + u^3 + 2u^2 - 1$
c_7	$(u^3 + u - 1)^2$
c_8, c_{11}	$u^6 - 3u^5 + 2u^4 + u^3 - 3u^2 + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_9	$y^6 - 4y^5 + 8y^4 - 11y^3 + 8y^2 - 4y + 1$
c_2, c_{10}	$y^6 - 8y^4 - 23y^3 - 8y^2 + 1$
c_3	$(y^3 - y^2 - 2y - 1)^2$
c_4, c_7	$(y^3 + 2y^2 + y - 1)^2$
c_8, c_{11}	$y^6 - 5y^5 + 4y^4 - 3y^3 + y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.232786 + 0.792552I$ $a = -0.669484 + 0.462841I$ $b = -0.789021 + 0.638344I$	$2.21137 - 1.58317I$	$-8.77306 - 1.69425I$
$u = -0.232786 + 0.792552I$ $a = 1.010650 + 0.698701I$ $b = -0.210979 - 0.638344I$	$2.21137 - 1.58317I$	$-8.77306 - 1.69425I$
$u = -0.232786 - 0.792552I$ $a = -0.669484 - 0.462841I$ $b = -0.789021 - 0.638344I$	$2.21137 + 1.58317I$	$-8.77306 + 1.69425I$
$u = -0.232786 - 0.792552I$ $a = 1.010650 - 0.698701I$ $b = -0.210979 + 0.638344I$	$2.21137 + 1.58317I$	$-8.77306 + 1.69425I$
$u = 1.46557$ $a = 0.715431$ $b = -2.04852$	-7.71260	-26.4540
$u = 1.46557$ $a = -1.39776$ $b = 1.04852$	-7.71260	-26.4540

V. $I_1^v = \langle a,\ b-1,\ v-1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

$$a_1 = \begin{pmatrix}0\\1\end{pmatrix}$$

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix}0\\-1\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}-1\\0\end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix}2\\1\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}2\\1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	1.00000		
$a =$	0	-4.93480	-18.0000
$b =$	1.00000		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u-1)(u^6-2u^4+2u^2+u-1)(u^6-2u^4-u^3+2u^2-1)$ $\cdot(u^{12}+u^{11}+\cdots-2u-1)(u^{30}-u^{29}+\cdots+2u^2+1)$
c_2, c_{10}	$(u+1)(u^6+4u^5+8u^4+10u^3+8u^2+5u+1)$ $\cdot(u^6+4u^5+\cdots+4u+1)(u^{12}+7u^{11}+\cdots+8u+1)$ $\cdot(u^{30}+17u^{29}+\cdots-4u+1)$
c_3	$u(u^3-u^2-1)^2(u^6+2u^5+u^4+3u^3+2u^2+u+1)$ $\cdot(u^{12}+11u^{11}+\cdots+88u+8)(u^{15}-5u^{14}+\cdots+8u-3)^2$
c_4	$(u-1)(u^3+u+1)^2(u^6-u^5+2u^4-3u^3+u^2-2u+1)$ $\cdot(u^{12}-7u^{11}+\cdots+4u-8)(u^{15}+3u^{14}+\cdots+5u+1)^2$
c_6, c_9	$(u-1)(u^6-2u^4+2u^2-u-1)(u^6-2u^4+u^3+2u^2-1)$ $\cdot(u^{12}+u^{11}+\cdots-2u-1)(u^{30}-u^{29}+\cdots+2u^2+1)$
c_7	$(u-1)(u^3+u-1)^2(u^6+u^5+2u^4+3u^3+u^2+2u+1)$ $\cdot(u^{12}-7u^{11}+\cdots+4u-8)(u^{15}+3u^{14}+\cdots+5u+1)^2$
c_8, c_{11}	$(u+1)(u^6-3u^5+2u^4+u^3-3u^2+2u-1)$ $\cdot(u^6-u^5-u^4+2u^3-3u^2+2u-1)(u^{12}-2u^{11}+\cdots+3u+1)$ $\cdot(u^{30}-2u^{29}+\cdots+66u-79)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_9	$(y-1)(y^6-4y^5+8y^4-11y^3+8y^2-4y+1)$ $\cdot\,(y^6-4y^5+\cdots-5y+1)(y^{12}-7y^{11}+\cdots-8y+1)$ $\cdot\,(y^{30}-17y^{29}+\cdots+4y+1)$
c_2, c_{10}	$(y-1)(y^6-10y^3-20y^2-9y+1)(y^6-8y^4-23y^3-8y^2+1)$ $\cdot\,(y^{12}+y^{11}+\cdots-32y+1)(y^{30}-5y^{29}+\cdots-112y+1)$
c_3	$y(y^3-y^2-2y-1)^2(y^6-2y^5-7y^4-7y^3+3y+1)$ $\cdot\,(y^{12}-7y^{11}+\cdots-1760y+64)(y^{15}-21y^{14}+\cdots-2y-9)^2$
c_4, c_7	$(y-1)(y^3+2y^2+y-1)^2(y^6+3y^5-7y^3-7y^2-2y+1)$ $\cdot\,(y^{12}+5y^{11}+\cdots-656y+64)(y^{15}+5y^{14}+\cdots+7y-1)^2$
c_8, c_{11}	$(y-1)(y^6-5y^5+4y^4-3y^3+y^2+2y+1)$ $\cdot\,(y^6-3y^5-y^4+4y^3+3y^2+2y+1)(y^{12}-18y^{11}+\cdots-21y+1)$ $\cdot\,(y^{30}-30y^{29}+\cdots-120802y+6241)$