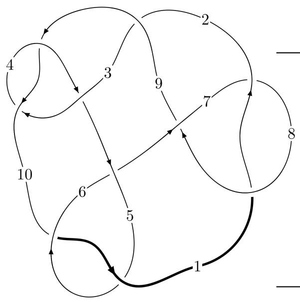
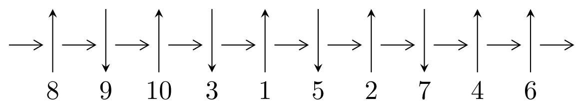
10_{75} $(K10a_{27})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^2 + b,\ -u^5 - u^4 - u^3 - u^2 + a - u - 1,\ u^6 + u^5 + 2u^4 + u^3 + 2u^2 + 2u + 1 \rangle$$

$$I_2^u = \langle -u^2 + b,\ u^9 - 2u^8 + 3u^7 - 4u^6 + 5u^5 - 6u^4 + 4u^3 - 3u^2 + a + 3u - 2,$$
$$u^{10} - u^9 + 3u^8 - 3u^7 + 5u^6 - 5u^5 + 4u^4 - 4u^3 + 3u^2 - 2u + 1 \rangle$$

$$I_3^u = \langle -u^9 - 2u^8 - 4u^7 - 4u^6 - 4u^5 - 2u^4 - 2u^3 - u^2 + b - 2u - 1,$$
$$- u^9 - 4u^8 - 5u^7 - 8u^6 - 5u^5 - 4u^4 - 4u^3 - 2u^2 + 2a - 5u - 3,$$
$$u^{10} + 2u^9 + 5u^8 + 6u^7 + 7u^6 + 6u^5 + 4u^4 + 4u^3 + 3u^2 + 3u + 2 \rangle$$

$$I_4^u = \langle u^9 + 2u^7 + 2u^5 + b + 1,\ u^9 + u^7 - 2u^3 + a + 1,\ u^{10} - u^9 + 3u^8 - 3u^7 + 5u^6 - 5u^5 + 4u^4 - 4u^3 + 3u^2 - 2u$$

$$I_5^u = \langle b + 1,\ a - u + 1,\ u^2 + 1 \rangle$$

$$I_6^u = \langle 2u^2a - au + 2u^2 + 3b + a - u + 4,\ u^2a + a^2 + a - 2u,\ u^3 + u + 1 \rangle$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 44 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.

$$\boldsymbol{I_1^u = \langle -u^2+b,\ -u^5-u^4-u^3-u^2+a-u-1,\ u^6+u^5+2u^4+u^3+2u^2+2u+1\rangle}$$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6u^5+6u^4+6u^3+6u+10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7, c_9, c_{10}	$y^6 + 3y^5 + 6y^4 + 5y^3 + 4y^2 + 1$
c_2	$y^6 - 3y^5 + 3y^4 - y^3 + 32y^2 + 16y + 16$
c_4, c_6, c_8	$y^6 + 3y^5 + 14y^4 + 25y^3 + 28y^2 + 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.601492 + 0.919611I$ $a = -0.791230 - 0.378440I$ $b = -0.483891 + 1.106280I$	$0.69113 + 7.13350I$	$2.15597 - 8.90831I$
$u = 0.601492 - 0.919611I$ $a = -0.791230 + 0.378440I$ $b = -0.483891 - 1.106280I$	$0.69113 - 7.13350I$	$2.15597 + 8.90831I$
$u = -0.560586 + 0.395699I$ $a = 0.664051 + 0.133626I$ $b = 0.157679 - 0.443647I$	$1.168610 - 0.699600I$	$7.03823 + 3.46364I$
$u = -0.560586 - 0.395699I$ $a = 0.664051 - 0.133626I$ $b = 0.157679 + 0.443647I$	$1.168610 + 0.699600I$	$7.03823 - 3.46364I$
$u = -0.540906 + 1.210940I$ $a = -2.37282 + 0.19030I$ $b = -1.17379 - 1.31001I$	$-6.7946 - 13.4307I$	$-3.19420 + 9.00183I$
$u = -0.540906 - 1.210940I$ $a = -2.37282 - 0.19030I$ $b = -1.17379 + 1.31001I$	$-6.7946 + 13.4307I$	$-3.19420 - 9.00183I$

II. $I_2^u = \langle -u^2 + b,\ u^9 - 2u^8 + \cdots + a - 2,\ u^{10} - u^9 + \cdots - 2u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^9 + 4u^8 - 8u^7 + 8u^6 - 8u^5 + 12u^4 + 4u^2 - 4u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_7 c_9	$u^{10}+u^9+3u^8+3u^7+5u^6+5u^5+4u^4+4u^3+3u^2+2u+1$
c_2	$u^{10}+2u^9-u^8-5u^7-3u^6+4u^5+12u^4+13u^3+5u^2+u+2$
c_4, c_8	$u^{10}+5u^9+13u^8+19u^7+17u^6+7u^5-2u^3+u^2+2u+1$
c_5, c_{10}	$u^{10}-2u^9+5u^8-6u^7+7u^6-6u^5+4u^4-4u^3+3u^2-3u+2$
c_6	$u^{10}+6u^9+15u^8+18u^7+7u^6-6u^5-6u^4+u^2+3u+4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_7 c_9	$y^{10} + 5y^9 + 13y^8 + 19y^7 + 17y^6 + 7y^5 - 2y^3 + y^2 + 2y + 1$
c_2	$y^{10} - 6y^9 + \cdots + 19y + 4$
c_4, c_8	$y^{10} + y^9 + 13y^8 + 11y^7 + 45y^6 + 35y^5 + 12y^4 + 2y^3 + 9y^2 - 2y + 1$
c_5, c_{10}	$y^{10} + 6y^9 + 15y^8 + 18y^7 + 7y^6 - 6y^5 - 6y^4 + y^2 + 3y + 4$
c_6	$y^{10} - 6y^9 + \cdots - y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.584958 + 0.771492I$ $a = -0.164635 + 0.412534I$ $b = -0.253024 - 0.902582I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$
$u = -0.584958 - 0.771492I$ $a = -0.164635 - 0.412534I$ $b = -0.253024 + 0.902582I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = 0.248527 + 0.782547I$ $a = 0.99372 - 1.81329I$ $b = -0.550614 + 0.388968I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = 0.248527 - 0.782547I$ $a = 0.99372 + 1.81329I$ $b = -0.550614 - 0.388968I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.761643 + 0.208049I$ $a = 0.785123 + 0.059495I$ $b = 0.536815 + 0.316918I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$
$u = 0.761643 - 0.208049I$ $a = 0.785123 - 0.059495I$ $b = 0.536815 - 0.316918I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = -0.449566 + 1.164790I$ $a = -2.43053 + 0.82165I$ $b = -1.15461 - 1.04730I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$
$u = -0.449566 - 1.164790I$ $a = -2.43053 - 0.82165I$ $b = -1.15461 + 1.04730I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = 0.524355 + 1.163410I$ $a = -2.18368 - 0.41240I$ $b = -1.07856 + 1.22007I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = 0.524355 - 1.163410I$ $a = -2.18368 + 0.41240I$ $b = -1.07856 - 1.22007I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$

III.

$$\boldsymbol{I_3^u = \langle -u^9 - 2u^8 + \cdots + b - 1,\ -u^9 - 4u^8 + \cdots + 2a - 3,\ u^{10} + 2u^9 + \cdots + 3u + 2\rangle}$$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{2}u^9 + 2u^8 + \cdots + \frac{5}{2}u + \frac{3}{2} \\ u^9 + 2u^8 + 4u^7 + 4u^6 + 4u^5 + 2u^4 + 2u^3 + u^2 + 2u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{2}u^9 + \frac{1}{2}u^7 + \cdots - \frac{1}{2}u - \frac{1}{2} \\ -u^9 - 2u^8 - 5u^7 - 5u^6 - 7u^5 - 4u^4 - 4u^3 - 3u^2 - 3u - 3 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^9 - \frac{1}{2}u^7 + \cdots + \frac{1}{2}u + \frac{3}{2} \\ u^9 + 2u^8 + 5u^7 + 4u^6 + 6u^5 + 2u^4 + 3u^3 + 2u^2 + 2u + 3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{2}u^9 + 2u^8 + \cdots + \frac{5}{2}u + \frac{3}{2} \\ u^9 + 2u^8 + 3u^7 + 4u^6 + 2u^5 + 3u^4 + u^3 + 2u^2 + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7 c_{10}	$u^{10} + u^9 + 3u^8 + 3u^7 + 5u^6 + 5u^5 + 4u^4 + 4u^3 + 3u^2 + 2u + 1$
c_2	$u^{10} + 2u^9 - u^8 - 5u^7 - 3u^6 + 4u^5 + 12u^4 + 13u^3 + 5u^2 + u + 2$
c_3, c_9	$u^{10} - 2u^9 + 5u^8 - 6u^7 + 7u^6 - 6u^5 + 4u^4 - 4u^3 + 3u^2 - 3u + 2$
c_4	$u^{10} + 6u^9 + 15u^8 + 18u^7 + 7u^6 - 6u^5 - 6u^4 + u^2 + 3u + 4$
c_6, c_8	$u^{10} + 5u^9 + 13u^8 + 19u^7 + 17u^6 + 7u^5 - 2u^3 + u^2 + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7 c_{10}	$y^{10} + 5y^9 + 13y^8 + 19y^7 + 17y^6 + 7y^5 - 2y^3 + y^2 + 2y + 1$
c_2	$y^{10} - 6y^9 + \cdots + 19y + 4$
c_3, c_9	$y^{10} + 6y^9 + 15y^8 + 18y^7 + 7y^6 - 6y^5 - 6y^4 + y^2 + 3y + 4$
c_4	$y^{10} - 6y^9 + \cdots - y + 16$
c_6, c_8	$y^{10} + y^9 + 13y^8 + 11y^7 + 45y^6 + 35y^5 + 12y^4 + 2y^3 + 9y^2 - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.871979 + 0.168588I$ $a = -0.409574 - 0.178135I$ $b = -1.07856 + 1.22007I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = -0.871979 - 0.168588I$ $a = -0.409574 + 0.178135I$ $b = -1.07856 - 1.22007I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$
$u = 0.642886 + 0.580182I$ $a = 0.842379 + 0.211365I$ $b = -0.253024 - 0.902582I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$
$u = 0.642886 - 0.580182I$ $a = 0.842379 - 0.211365I$ $b = -0.253024 + 0.902582I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = 0.060791 + 1.179490I$ $a = -0.201487 - 0.633222I$ $b = -0.550614 - 0.388968I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.060791 - 1.179490I$ $a = -0.201487 + 0.633222I$ $b = -0.550614 + 0.388968I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = -0.480814 + 1.084510I$ $a = 1.43693 - 0.34109I$ $b = 0.536815 + 0.316918I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$
$u = -0.480814 - 1.084510I$ $a = 1.43693 + 0.34109I$ $b = 0.536815 - 0.316918I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = -0.350885 + 1.264620I$ $a = -0.91824 + 1.61467I$ $b = -1.15461 + 1.04730I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = -0.350885 - 1.264620I$ $a = -0.91824 - 1.61467I$ $b = -1.15461 - 1.04730I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$

IV.

$$\boldsymbol{I_4^u = \langle u^9 + 2u^7 + 2u^5 + b + 1,\ u^9 + u^7 - 2u^3 + a + 1,\ u^{10} - u^9 + \cdots - 2u + 1\rangle}$$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^9 - u^7 + 2u^3 - 1 \\ -u^9 - 2u^7 - 2u^5 - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^9 - u^7 - u^5 + 2u^3 - 1 \\ -u^9 - u^7 - u^5 + u^3 - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^9 - u^7 - u^5 + u^4 + u^3 + u^2 - u \\ -2u^9 - 4u^7 - 5u^5 + u^4 - u^3 + 2u^2 - u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^9 + 2u^8 - 3u^7 + 4u^6 - 5u^5 + 6u^4 - 4u^3 + 3u^2 - 3u + 2 \\ -u^9 + 2u^8 - 3u^7 + 4u^6 - 5u^5 + 5u^4 - 4u^3 + 2u^2 - 3u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^9 + 4u^8 - 8u^7 + 8u^6 - 8u^5 + 12u^4 + 4u^2 - 4u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{10} - 2u^9 + 5u^8 - 6u^7 + 7u^6 - 6u^5 + 4u^4 - 4u^3 + 3u^2 - 3u + 2$
c_2	$u^{10} + 2u^9 - u^8 - 5u^7 - 3u^6 + 4u^5 + 12u^4 + 13u^3 + 5u^2 + u + 2$
c_3, c_5, c_9 c_{10}	$u^{10} + u^9 + 3u^8 + 3u^7 + 5u^6 + 5u^5 + 4u^4 + 4u^3 + 3u^2 + 2u + 1$
c_4, c_6	$u^{10} + 5u^9 + 13u^8 + 19u^7 + 17u^6 + 7u^5 - 2u^3 + u^2 + 2u + 1$
c_8	$u^{10} + 6u^9 + 15u^8 + 18u^7 + 7u^6 - 6u^5 - 6u^4 + u^2 + 3u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{10}+6y^9+15y^8+18y^7+7y^6-6y^5-6y^4+y^2+3y+4$
c_2	$y^{10}-6y^9+\cdots+19y+4$
c_3, c_5, c_9 c_{10}	$y^{10}+5y^9+13y^8+19y^7+17y^6+7y^5-2y^3+y^2+2y+1$
c_4, c_6	$y^{10}+y^9+13y^8+11y^7+45y^6+35y^5+12y^4+2y^3+9y^2-2y+1$
c_8	$y^{10}-6y^9+\cdots-y+16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.584958 + 0.771492I$ $a = 1.153020 - 0.145190I$ $b = 0.076692 + 0.745982I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$
$u = -0.584958 - 0.771492I$ $a = 1.153020 + 0.145190I$ $b = 0.076692 - 0.745982I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = 0.248527 + 0.782547I$ $a = -1.73424 - 0.64880I$ $b = -1.387500 - 0.143405I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = 0.248527 - 0.782547I$ $a = -1.73424 + 0.64880I$ $b = -1.387500 + 0.143405I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.761643 + 0.208049I$ $a = -0.170482 + 0.442613I$ $b = -0.944976 - 1.042890I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$
$u = 0.761643 - 0.208049I$ $a = -0.170482 - 0.442613I$ $b = -0.944976 + 1.042890I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = -0.449566 + 1.164790I$ $a = -1.31989 + 1.51437I$ $b = -1.47614 + 0.88747I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$
$u = -0.449566 - 1.164790I$ $a = -1.31989 - 1.51437I$ $b = -1.47614 - 0.88747I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = 0.524355 + 1.163410I$ $a = 1.57160 + 0.38323I$ $b = 0.731926 - 0.294010I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = 0.524355 - 1.163410I$ $a = 1.57160 - 0.38323I$ $b = 0.731926 + 0.294010I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$

V. $I_5^u = \langle b+1,\ a-u+1,\ u^2+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -1.00000 + 1.00000I$ $b = -1.00000$	-4.93480	-8.00000
$u = -1.000000I$ $a = -1.00000 - 1.00000I$ $b = -1.00000$	-4.93480	-8.00000

VI. $\boldsymbol{I_6^u = \langle 2u^2a - au + 2u^2 + 3b + a - u + 4,\ u^2a + a^2 + a - 2u,\ u^3 + u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.341164 + 1.161540I$ $a = 1.30674 + 0.54078I$ $b = 0.465571$	-4.93480	-2.00000
$u = 0.341164 + 1.161540I$ $a = -1.07395 - 1.33333I$ $b = -1.23279 - 0.79255I$	-4.93480	-2.00000
$u = 0.341164 - 1.161540I$ $a = 1.30674 - 0.54078I$ $b = 0.465571$	-4.93480	-2.00000
$u = 0.341164 - 1.161540I$ $a = -1.07395 + 1.33333I$ $b = -1.23279 + 0.79255I$	-4.93480	-2.00000
$u = -0.682328$ $a = -0.732786 + 0.909770I$ $b = -1.23279 - 0.79255I$	-4.93480	-2.00000
$u = -0.682328$ $a = -0.732786 - 0.909770I$ $b = -1.23279 + 0.79255I$	-4.93480	-2.00000

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7, c_9, c_{10}	$(u^2+1)(u^3+u-1)^2(u^6-u^5+2u^4-u^3+2u^2-2u+1)$ $\cdot(u^{10}-2u^9+5u^8-6u^7+7u^6-6u^5+4u^4-4u^3+3u^2-3u+2)$ $\cdot(u^{10}+u^9+3u^8+3u^7+5u^6+5u^5+4u^4+4u^3+3u^2+2u+1)^2$
c_2	$u^2(u-1)^6(u^6+u^5-u^4+3u^3+4u^2-4u+4)$ $\cdot(u^{10}+2u^9-u^8-5u^7-3u^6+4u^5+12u^4+13u^3+5u^2+u+2)^3$
c_4, c_6, c_8	$(u+1)^2(u^3+2u^2+u-1)^2(u^6+3u^5+6u^4+5u^3+4u^2+1)$ $\cdot(u^{10}+5u^9+13u^8+19u^7+17u^6+7u^5-2u^3+u^2+2u+1)^2$ $\cdot(u^{10}+6u^9+15u^8+18u^7+7u^6-6u^5-6u^4+u^2+3u+4)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7, c_9, c_{10}	$(y+1)^2(y^3+2y^2+y-1)^2(y^6+3y^5+6y^4+5y^3+4y^2+1)$ $\cdot\,(y^{10}+5y^9+13y^8+19y^7+17y^6+7y^5-2y^3+y^2+2y+1)^2$ $\cdot\,(y^{10}+6y^9+15y^8+18y^7+7y^6-6y^5-6y^4+y^2+3y+4)$
c_2	$y^2(y-1)^6(y^6-3y^5+3y^4-y^3+32y^2+16y+16)$ $\cdot\,(y^{10}-6y^9+\cdots+19y+4)^3$
c_4, c_6, c_8	$((y-1)^2)(y^3-2y^2+5y-1)^2(y^6+3y^5+\cdots+8y+1)$ $\cdot\,(y^{10}-6y^9+\cdots-y+16)$ $\cdot\,(y^{10}+y^9+13y^8+11y^7+45y^6+35y^5+12y^4+2y^3+9y^2-2y+1)^2$