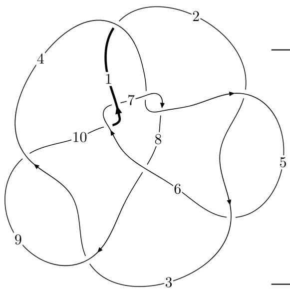
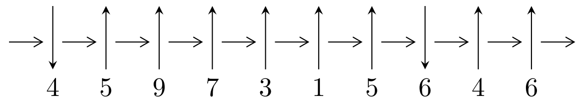
10_{157} $(K10n_{42})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle b+u,\ -u^2+a-2u,\ u^3+2u^2+u-1\rangle \\
I^u_2 &= \langle u^2a+u^2+b,\ -u^2a+a^2-3u^2+2a+4u-3,\ u^3-u^2+1\rangle \\
I^u_3 &= \langle 3u^5+5u^4-2u^3-15u^2+4b-22u-12,\ -5u^5-5u^4+4u^3+21u^2+8a+28u+12, \\
&\qquad u^6+3u^5+2u^4-5u^3-14u^2-16u-8\rangle \\
I^u_4 &= \langle b+u,\ u^2+a,\ u^3-u+1\rangle \\
I^u_5 &= \langle b+u,\ 2u^2a+a^2-3au+2u^2-4u+4,\ u^3-u^2+1\rangle \\
I^u_6 &= \langle au+b-u+1,\ -u^2a+a^2+au+u^2-a-u+1,\ u^3-u^2+1\rangle \\
I^u_7 &= \langle b-u+1,\ a+2u-2,\ u^2-u-1\rangle \\
I^u_8 &= \langle b-u-1,\ a,\ u^2+u+1\rangle
\end{aligned}$$

* 8 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 34 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. $\boldsymbol{I_1^u = \langle b+u,\ -u^2+a-2u,\ u^3+2u^2+u-1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^2+13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.23279 + 0.79255I$ $a = -1.57395 - 0.36899I$ $b = 1.23279 - 0.79255I$	$1.24160 - 12.66530I$	$9.43351 + 7.81637I$
$u = -1.23279 - 0.79255I$ $a = -1.57395 + 0.36899I$ $b = 1.23279 + 0.79255I$	$1.24160 + 12.66530I$	$9.43351 - 7.81637I$
$u = 0.465571$ $a = 1.14790$ $b = -0.465571$	0.806671	12.1330

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -8u + 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^6 - 6y^5 + 21y^4 - 42y^3 + 34y^2 - 16y + 1$
c_2, c_5, c_6 c_{10}	$(y^3 - y^2 + 2y - 1)^2$
c_3, c_4, c_7 c_9	$y^6 - 5y^5 + 6y^4 - y^3 + 4y^2 - 32y + 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.877439 + 0.744862I$ $a = -0.165364 + 0.499124I$ $b = 0.472913 - 1.198340I$	$-1.11345 + 5.65624I$	$6.98049 - 5.95889I$
$u = 0.877439 + 0.744862I$ $a = -1.61956 + 0.80802I$ $b = 1.189450 + 0.636059I$	$-1.11345 + 5.65624I$	$6.98049 - 5.95889I$
$u = 0.877439 - 0.744862I$ $a = -0.165364 - 0.499124I$ $b = 0.472913 + 1.198340I$	$-1.11345 - 5.65624I$	$6.98049 + 5.95889I$
$u = 0.877439 - 0.744862I$ $a = -1.61956 - 0.80802I$ $b = 1.189450 - 0.636059I$	$-1.11345 - 5.65624I$	$6.98049 + 5.95889I$
$u = -0.754878$ $a = 2.15552$ $b = -1.79815$	7.16171	20.0390
$u = -0.754878$ $a = -3.58568$ $b = 1.47343$	7.16171	20.0390

III. $\boldsymbol{I^u_3 = \langle 3u^5+5u^4-2u^3-15u^2+4b-22u-12,\ -5u^5-5u^4+4u^3+21u^2+8a+28u+12,\ u^6+3u^5+2u^4-5u^3-14u^2-16u-8\rangle}$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} \frac{5}{8}u^5 + \frac{5}{8}u^4 + \cdots - \frac{7}{2}u - \frac{3}{2} \\ -\frac{3}{4}u^5 - \frac{5}{4}u^4 + \cdots + \frac{11}{2}u + 3 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{8}u^5 - \frac{5}{8}u^4 + \cdots + 2u + \frac{3}{2} \\ -\frac{3}{4}u^5 - \frac{5}{4}u^4 + \cdots + \frac{11}{2}u + 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{3}{8}u^5 - \frac{3}{8}u^4 + \cdots + \frac{3}{2}u + \frac{1}{2} \\ \frac{5}{4}u^5 + \frac{7}{4}u^4 + \cdots - \frac{17}{2}u - 5 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -\frac{1}{4}u^5 - \frac{1}{4}u^4 + \cdots + u + \frac{1}{2} \\ \frac{1}{2}u^5 + u^4 + \cdots - \frac{7}{2}u - 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{4}u^5 - \frac{1}{2}u^4 + \cdots + \frac{9}{4}u + 2 \\ \frac{1}{4}u^5 + \frac{1}{4}u^4 - \frac{1}{4}u^2 - u - 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{4}u^4 - \frac{1}{4}u^3 + \frac{5}{4}u + 2 \\ -\frac{3}{4}u^5 - \frac{3}{4}u^4 + \frac{11}{4}u^2 + 5u + 2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6u^5 - 10u^4 + 4u^3 + 30u^2 + 44u + 38$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^6 - 6y^5 + 21y^4 - 42y^3 + 34y^2 - 16y + 1$
c_2, c_5, c_6 c_{10}	$y^6 - 5y^5 + 6y^4 - y^3 + 4y^2 - 32y + 64$
c_3, c_4, c_7 c_9	$(y^3 - y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.472913 + 1.198340I$ $a = \ \ 0.374563 + 0.283509I$ $b = -0.877439 - 0.744862I$	$-1.11345 + 5.65624I$	$6.98049 - 5.95889I$
$u = -0.472913 - 1.198340I$ $a = \ \ 0.374563 - 0.283509I$ $b = -0.877439 + 0.744862I$	$-1.11345 - 5.65624I$	$6.98049 + 5.95889I$
$u = -1.189450 + 0.636059I$ $a = \ \ 1.49641 + 0.38207I$ $b = -0.877439 + 0.744862I$	$-1.11345 - 5.65624I$	$6.98049 + 5.95889I$
$u = -1.189450 - 0.636059I$ $a = \ \ 1.49641 - 0.38207I$ $b = -0.877439 - 0.744862I$	$-1.11345 + 5.65624I$	$6.98049 - 5.95889I$
$u = -1.47343$ $a = -1.83705$ $b = \ \ 0.754878$	7.16171	20.0390
$u = \ \ 1.79815$ $a = -0.904909$ $b = \ \ 0.754878$	7.16171	20.0390

IV. $\boldsymbol{I^u_4 = \langle b+u,\ u^2+a,\ u^3-u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^2 - 8u + 13$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_4	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.662359 + 0.562280I$ $a = -0.122561 - 0.744862I$ $b = -0.662359 - 0.562280I$	$1.83893 + 3.77083I$	$7.21088 - 7.47768I$
$u = 0.662359 - 0.562280I$ $a = -0.122561 + 0.744862I$ $b = -0.662359 + 0.562280I$	$1.83893 - 3.77083I$	$7.21088 + 7.47768I$
$u = -1.32472$ $a = -1.75488$ $b = 1.32472$	9.48162	16.5780

V. $I^u_5 = \langle b+u,\ 2u^2a+a^2-3au+2u^2-4u+4,\ u^3-u^2+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^2a-4au-4u^2-4a+18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.877439 + 0.744862I$ $a = 0.592519 - 0.137827I$ $b = -0.877439 - 0.744862I$	$3.02413 + 2.82812I$	$13.50976 - 2.97945I$
$u = 0.877439 + 0.744862I$ $a = 1.60964 - 0.24187I$ $b = -0.877439 - 0.744862I$	-1.11345	$6.98049 + 0.I$
$u = 0.877439 - 0.744862I$ $a = 0.592519 + 0.137827I$ $b = -0.877439 + 0.744862I$	$3.02413 - 2.82812I$	$13.50976 + 2.97945I$
$u = 0.877439 - 0.744862I$ $a = 1.60964 + 0.24187I$ $b = -0.877439 + 0.744862I$	-1.11345	$6.98049 + 0.I$
$u = -0.754878$ $a = -1.70216 + 2.29387I$ $b = 0.754878$	$3.02413 - 2.82812I$	$13.50976 + 2.97945I$
$u = -0.754878$ $a = -1.70216 - 2.29387I$ $b = 0.754878$	$3.02413 + 2.82812I$	$13.50976 - 2.97945I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4au + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^6 - 5u^5 + 14u^4 - 25u^3 + 28u^2 - 20u + 8$
c_2, c_3, c_4 c_5, c_6, c_7 c_9, c_{10}	$(u^3 - u^2 + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^6 + 3y^5 + 2y^4 - 25y^3 + 8y^2 + 48y + 64$
c_2, c_3, c_4 c_5, c_6, c_7 c_9, c_{10}	$(y^3 - y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.877439 + 0.744862I$ $a = -0.162359 + 0.986732I$ $b = 0.754878$	$3.02413 + 2.82812I$	$13.50976 - 2.97945I$
$u = 0.877439 + 0.744862I$ $a = 0.500000 - 0.424452I$ $b = -0.877439 + 0.744862I$	-1.11345	$6.98049 + 0.I$
$u = 0.877439 - 0.744862I$ $a = -0.162359 - 0.986732I$ $b = 0.754878$	$3.02413 - 2.82812I$	$13.50976 + 2.97945I$
$u = 0.877439 - 0.744862I$ $a = 0.500000 + 0.424452I$ $b = -0.877439 - 0.744862I$	-1.11345	$6.98049 + 0.I$
$u = -0.754878$ $a = 1.16236 + 0.98673I$ $b = -0.877439 + 0.744862I$	$3.02413 - 2.82812I$	$13.50976 + 2.97945I$
$u = -0.754878$ $a = 1.16236 - 0.98673I$ $b = -0.877439 - 0.744862I$	$3.02413 + 2.82812I$	$13.50976 - 2.97945I$

VII. $I_7^u = \langle b - u + 1,\ a + 2u - 2,\ u^2 - u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = 3.23607$ $b = -1.61803$	6.57974	3.00000
$u = 1.61803$ $a = -1.23607$ $b = 0.618034$	6.57974	3.00000

VIII. $I_8^u = \langle b - u - 1,\ a,\ u^2 + u + 1\rangle$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 0 \\ u+1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u+1 \\ u+1 \end{pmatrix}$$

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

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

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

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_8^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0$ $b = 0.500000 + 0.866025I$	-3.28987	3.00000
$u = -0.500000 - 0.866025I$ $a = 0$ $b = 0.500000 - 0.866025I$	-3.28987	3.00000

IX. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)^4(u^3-3u^2+4u-1)(u^3-u^2+2u-1)(u^3+u^2+2u+1)^2$ $\cdot(u^6-3u^4-2u^3+6u^2-2u-1)^2$ $\cdot(u^6-5u^5+14u^4-25u^3+28u^2-20u+8)$
c_2, c_4, c_6 c_9	$(u^2+u-1)(u^2+u+1)(u^3-u-1)(u^3-u^2+1)^6(u^3+2u^2+u-1)$ $\cdot(u^6+3u^5+2u^4-5u^3-14u^2-16u-8)$
c_3, c_5, c_7 c_{10}	$(u^2-u-1)(u^2+u+1)(u^3-u+1)(u^3-u^2+1)^6(u^3+2u^2+u-1)$ $\cdot(u^6+3u^5+2u^4-5u^3-14u^2-16u-8)$
c_8	$(u-1)^2(u+1)^2(u^3-3u^2+4u-1)(u^3+u^2+2u+1)^3$ $\cdot(u^6-3u^4-2u^3+6u^2-2u-1)^2$ $\cdot(u^6-5u^5+14u^4-25u^3+28u^2-20u+8)$

X. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$(y-1)^4(y^3-y^2+10y-1)(y^3+3y^2+2y-1)^3$ $\cdot(y^6-6y^5+21y^4-42y^3+34y^2-16y+1)^2$ $\cdot(y^6+3y^5+2y^4-25y^3+8y^2+48y+64)$
c_2, c_3, c_4 c_5, c_6, c_7 c_9, c_{10}	$(y^2-3y+1)(y^2+y+1)(y^3-2y^2+y-1)(y^3-2y^2+5y-1)$ $\cdot(y^3-y^2+2y-1)^6(y^6-5y^5+6y^4-y^3+4y^2-32y+64)$