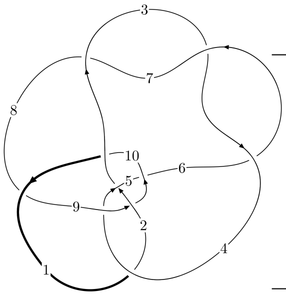
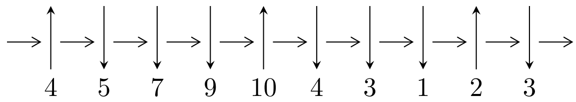
10_{163} $(K10n_{35})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & u^{13} + 5u^{12} + 15u^{11} + 31u^{10} + 50u^9 + 63u^8 + 61u^7 + 42u^6 + 17u^5 + u^4 - 8u^3 - 9u^2 + b - 8u + 1, \\ & -4u^{13} - 25u^{12} + \cdots + 5a + 36, \\ & u^{14} + 5u^{13} + 15u^{12} + 30u^{11} + 47u^{10} + 55u^9 + 48u^8 + 22u^7 - 2u^6 - 17u^5 - 15u^4 - 14u^3 - 4u^2 + u + 5\rangle \end{aligned}$$

$$I_2^u = \langle -u^3a - u^3 - au + 3u^2 + 3b + a - 4u + 1,\ u^3a - u^2a + 2u^3 + a^2 - 3u^2 + 2a + 2u + 3,\ u^4 - u^3 + u^2 + u + 1$$

$$I_3^u = \langle -u^5 + 2u^4 - 4u^3 + 4u^2 + b - 3u + 1,\ -u^4 + 2u^3 - 4u^2 + a + 3u - 3,\ u^6 - 2u^5 + 4u^4 - 4u^3 + 4u^2 - u + 1\rangle$$

$$I_4^u = \langle -u^3a + u^2a - au + b + a + u - 1,\ -u^3a + 3u^2a + a^2 - 3au - u^2 + u,\ u^4 - 2u^3 + 2u^2 - u + 1\rangle$$

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

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 37 representations.

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[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.

$$\boldsymbol{I_1^u = \langle u^{13}+5u^{12}+\cdots+b+1,\ -4u^{13}-25u^{12}+\cdots+5a+36,\ u^{14}+5u^{13}+\cdots+u+5\rangle}$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{4}{5}u^{13} + 5u^{12} + \cdots - \frac{81}{5}u - \frac{36}{5} \\ -u^{13} - 5u^{12} + \cdots + 8u - 1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} \frac{11}{5}u^{13} + 8u^{12} + \cdots + \frac{61}{5}u + \frac{51}{5} \\ -u^{13} - u^{12} + \cdots - 14u + 6 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{5}u^{13} + 2u^{11} + \cdots - \frac{41}{5}u - \frac{41}{5} \\ -u^{13} - 5u^{12} + \cdots + 8u - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{9}{5}u^{13} - 8u^{12} + \cdots + \frac{36}{5}u + \frac{26}{5} \\ -u^{13} - 4u^{12} + \cdots - 6u - 9 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{5}u^{13} - u^{12} + \cdots - \frac{16}{5}u - \frac{16}{5} \\ -2u^{12} - 9u^{11} + \cdots + 14u + 4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{13} - 5u^{12} + 2u^{11} + 43u^{10} + 98u^9 + 192u^8 + 233u^7 + 231u^6 + 106u^5 + 55u^4 - 27u^3 - 21u^2 - 60u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{14} + 4u^{12} + \cdots - 2u + 3$
c_2, c_4	$u^{14} - u^{13} + \cdots - 3u + 1$
c_3, c_6, c_7	$u^{14} - 5u^{13} + \cdots - u + 5$
c_8, c_{10}	$u^{14} - 10u^{12} + \cdots - 2u + 1$
c_9	$u^{14} + 10u^{13} + \cdots + 28u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{14} + 8y^{13} + \cdots + 62y + 9$
c_2, c_4	$y^{14} - 5y^{13} + \cdots - 13y + 1$
c_3, c_6, c_7	$y^{14} + 5y^{13} + \cdots - 41y + 25$
c_8, c_{10}	$y^{14} - 20y^{13} + \cdots - 6y + 1$
c_9	$y^{14} + 26y^{12} + \cdots + 246y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.269018 + 0.823102I$ $a = 0.699358 + 0.808665I$ $b = -0.020522 - 0.611730I$	$0.79193 - 2.01282I$	$-1.55516 + 4.15380I$
$u = 0.269018 - 0.823102I$ $a = 0.699358 - 0.808665I$ $b = -0.020522 + 0.611730I$	$0.79193 + 2.01282I$	$-1.55516 - 4.15380I$
$u = -0.809699 + 0.855443I$ $a = 0.263291 - 1.389210I$ $b = -1.74544 + 0.75171I$	$-4.94416 + 4.48113I$	$-10.56248 - 7.82532I$
$u = -0.809699 - 0.855443I$ $a = 0.263291 + 1.389210I$ $b = -1.74544 - 0.75171I$	$-4.94416 - 4.48113I$	$-10.56248 + 7.82532I$
$u = -0.752287 + 0.954057I$ $a = 0.894691 - 1.015850I$ $b = -1.66410 - 0.12170I$	$-4.62410 + 1.43381I$	$-9.01327 + 1.28996I$
$u = -0.752287 - 0.954057I$ $a = 0.894691 + 1.015850I$ $b = -1.66410 + 0.12170I$	$-4.62410 - 1.43381I$	$-9.01327 - 1.28996I$
$u = -1.104560 + 0.803929I$ $a = -0.696159 + 0.641405I$ $b = 1.59147 + 0.10810I$	$-6.35421 - 6.00703I$	$-6.42492 + 3.68584I$
$u = -1.104560 - 0.803929I$ $a = -0.696159 - 0.641405I$ $b = 1.59147 - 0.10810I$	$-6.35421 + 6.00703I$	$-6.42492 - 3.68584I$
$u = 0.633342 + 0.004347I$ $a = 0.709307 + 0.875694I$ $b = -0.273616 - 0.340717I$	$-1.38615 - 0.45192I$	$-8.23002 + 1.56844I$
$u = 0.633342 - 0.004347I$ $a = 0.709307 - 0.875694I$ $b = -0.273616 + 0.340717I$	$-1.38615 + 0.45192I$	$-8.23002 - 1.56844I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.17524 + 1.43298I$ $a = -0.361634 + 0.364044I$ $b = 0.389777 - 0.088598I$	$3.73877 - 3.84212I$	$-7.98139 + 1.57763I$
$u = 0.17524 - 1.43298I$ $a = -0.361634 - 0.364044I$ $b = 0.389777 + 0.088598I$	$3.73877 + 3.84212I$	$-7.98139 - 1.57763I$
$u = -0.91106 + 1.12096I$ $a = -0.60885 + 1.30444I$ $b = 1.72243 - 0.67293I$	$-5.3164 + 13.2900I$	$-4.73276 - 7.55975I$
$u = -0.91106 - 1.12096I$ $a = -0.60885 - 1.30444I$ $b = 1.72243 + 0.67293I$	$-5.3164 - 13.2900I$	$-4.73276 + 7.55975I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^3 + 12u^2 - 8u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^8 - 2u^7 + 4u^6 + 4u^5 + 3u^4 + 11u^3 + 17u^2 + 12u + 9$
c_2, c_4	$u^8 - u^7 + 2u^6 + 2u^5 + 4u^4 - 3u^3 - u^2 + 2u + 3$
c_3, c_6, c_7	$(u^4 + u^3 + u^2 - u + 1)^2$
c_8, c_{10}	$u^8 + u^7 - 2u^5 - 8u^4 - 7u^3 + 13u^2 + 8u + 3$
c_9	$(u^4 - u^3 + u^2 + u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^8 + 4y^7 + 38y^6 + 86y^5 + 123y^4 - 43y^3 + 79y^2 + 162y + 81$
c_2, c_4	$y^8 + 3y^7 + 16y^6 + 4y^5 + 34y^4 - 13y^3 + 37y^2 - 10y + 9$
c_3, c_6, c_7 c_9	$(y^4 + y^3 + 5y^2 + y + 1)^2$
c_8, c_{10}	$y^8 - y^7 - 12y^6 + 36y^5 + 26y^4 - 225y^3 + 233y^2 + 14y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.433380+0.525827I$ $a=-0.49562-1.75938I$ $b=-0.14207+1.77290I$	$0.59615+4.68603I$	$-4.70941-10.27938I$
$u=-0.433380+0.525827I$ $a=-1.87114+1.15272I$ $b=-0.269251+0.341177I$	$0.59615+4.68603I$	$-4.70941-10.27938I$
$u=-0.433380-0.525827I$ $a=-0.49562+1.75938I$ $b=-0.14207-1.77290I$	$0.59615-4.68603I$	$-4.70941+10.27938I$
$u=-0.433380-0.525827I$ $a=-1.87114-1.15272I$ $b=-0.269251-0.341177I$	$0.59615-4.68603I$	$-4.70941+10.27938I$
$u=0.93338+1.13249I$ $a=-0.415178-0.677087I$ $b=1.385970+0.175069I$	$-3.88602-4.68603I$	$-7.29059+10.27938I$
$u=0.93338+1.13249I$ $a=0.78194+1.28375I$ $b=-1.47465-0.63084I$	$-3.88602-4.68603I$	$-7.29059+10.27938I$
$u=0.93338-1.13249I$ $a=-0.415178+0.677087I$ $b=1.385970-0.175069I$	$-3.88602+4.68603I$	$-7.29059-10.27938I$
$u=0.93338-1.13249I$ $a=0.78194-1.28375I$ $b=-1.47465+0.63084I$	$-3.88602+4.68603I$	$-7.29059-10.27938I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^5 + 12u^4 - 19u^3 + 23u^2 - 16u + 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^6 + 3y^5 + 4y^4 + 5y^3 + 5y^2 + 2y + 1$
c_2, c_4	$y^6 + 2y^5 + 5y^4 + 5y^3 + 4y^2 + 3y + 1$
c_3, c_6, c_7	$y^6 + 4y^5 + 8y^4 + 14y^3 + 16y^2 + 7y + 1$
c_8, c_{10}	$y^6 - y^5 - 4y^4 + 5y^3 + 13y^2 + 6y + 1$
c_9	$y^6 - y^5 + 8y^4 - 7y^3 + 9y^2 - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.937424 + 0.916243I$ $a = 0.469690 + 0.964836I$ $b = -1.48299 - 0.38301I$	$-3.99825 - 3.41127I$	$-5.61730 + 2.91658I$
$u = 0.937424 - 0.916243I$ $a = 0.469690 - 0.964836I$ $b = -1.48299 + 0.38301I$	$-3.99825 + 3.41127I$	$-5.61730 - 2.91658I$
$u = 0.096993 + 1.308890I$ $a = -0.272522 + 0.634620I$ $b = -0.153300 - 0.549053I$	$4.36362 - 4.05299I$	$4.55288 + 5.52472I$
$u = 0.096993 - 1.308890I$ $a = -0.272522 - 0.634620I$ $b = -0.153300 + 0.549053I$	$4.36362 + 4.05299I$	$4.55288 - 5.52472I$
$u = -0.034417 + 0.580231I$ $a = 1.80283 - 1.48709I$ $b = 0.136288 + 1.137180I$	$1.27956 + 3.69612I$	$-0.43558 - 6.39872I$
$u = -0.034417 - 0.580231I$ $a = 1.80283 + 1.48709I$ $b = 0.136288 - 1.137180I$	$1.27956 - 3.69612I$	$-0.43558 + 6.39872I$

IV. $\boldsymbol{I_4^u = \langle -u^3a + u^2a - au + b + a + u - 1,\ -u^3a + 3u^2a + a^2 - 3au - u^2 + u,\ u^4 - 2u^3 + 2u^2 - u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8u^3 - 12u^2 + 4u - 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^8 + 3y^7 + 32y^6 - 16y^5 + 30y^4 + 71y^3 + 81y^2 + 14y + 1$
c_2, c_4	$y^8 + 14y^6 - 14y^5 + 27y^4 - 11y^3 + 3y^2 - 2y + 1$
c_3, c_6, c_7 c_9	$(y^4 + 2y^2 + 3y + 1)^2$
c_8, c_{10}	$y^8 - 8y^7 + 22y^6 - 22y^5 + 3y^4 + y^3 + 31y^2 - 58y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.070696 + 0.758745I$ $a = 0.400494 - 0.005004I$ $b = 0.921412 - 0.580396I$	$1.74699 - 2.59539I$	$1.53952 + 0.91892I$
$u = -0.070696 + 0.758745I$ $a = 1.22125 + 2.17765I$ $b = -0.350716 - 1.044380I$	$1.74699 - 2.59539I$	$1.53952 + 0.91892I$
$u = -0.070696 - 0.758745I$ $a = 0.400494 + 0.005004I$ $b = 0.921412 + 0.580396I$	$1.74699 + 2.59539I$	$1.53952 - 0.91892I$
$u = -0.070696 - 0.758745I$ $a = 1.22125 - 2.17765I$ $b = -0.350716 + 1.044380I$	$1.74699 + 2.59539I$	$1.53952 - 0.91892I$
$u = 1.070700 + 0.758745I$ $a = -0.015173 - 0.960246I$ $b = 1.201000 + 0.298580I$	$-5.03685 - 2.59539I$	$-13.53952 + 0.91892I$
$u = 1.070700 + 0.758745I$ $a = 0.893428 + 0.534817I$ $b = -1.77170 - 0.19130I$	$-5.03685 - 2.59539I$	$-13.53952 + 0.91892I$
$u = 1.070700 - 0.758745I$ $a = -0.015173 + 0.960246I$ $b = 1.201000 - 0.298580I$	$-5.03685 + 2.59539I$	$-13.53952 - 0.91892I$
$u = 1.070700 - 0.758745I$ $a = 0.893428 - 0.534817I$ $b = -1.77170 + 0.19130I$	$-5.03685 + 2.59539I$	$-13.53952 - 0.91892I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -1.00000$	-1.64493	-6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u+1)(u^6+u^5+2u^4+u^3+u^2+1)$ $\cdot(u^8-2u^7+4u^6+4u^5+3u^4+11u^3+17u^2+12u+9)$ $\cdot(u^8+u^7+2u^6-8u^5+6u^4-3u^3+9u^2-2u+1)$ $\cdot(u^{14}+4u^{12}+\cdots-2u+3)$
c_2, c_4	$(u+1)(u^6+u^4+\cdots-u+1)(u^8-4u^5+\cdots-2u+1)$ $\cdot(u^8-u^7+\cdots+2u+3)(u^{14}-u^{13}+\cdots-3u+1)$
c_3	$u(u^4+u^3+u^2-u+1)^2(u^4+2u^3+2u^2+u+1)^2$ $\cdot(u^6-2u^5+4u^4-4u^3+4u^2-u+1)(u^{14}-5u^{13}+\cdots-u+5)$
c_6, c_7	$u(u^4+u^3+u^2-u+1)^2(u^4+2u^3+2u^2+u+1)^2$ $\cdot(u^6+2u^5+4u^4+4u^3+4u^2+u+1)(u^{14}-5u^{13}+\cdots-u+5)$
c_8, c_{10}	$(u+1)(u^6-3u^5+4u^4-5u^3+5u^2-2u+1)$ $\cdot(u^8-4u^6+2u^5+3u^4-u^3+3u^2-10u+7)$ $\cdot(u^8+u^7+\cdots+8u+3)(u^{14}-10u^{12}+\cdots-2u+1)$
c_9	$u(u^4-2u^3+2u^2-u+1)^2(u^4-u^3+u^2+u+1)^2$ $\cdot(u^6+3u^5+4u^4+u^3-u^2+1)(u^{14}+10u^{13}+\cdots+28u+5)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y-1)(y^6+3y^5+4y^4+5y^3+5y^2+2y+1)$ $\cdot (y^8+3y^7+32y^6-16y^5+30y^4+71y^3+81y^2+14y+1)$ $\cdot (y^8+4y^7+38y^6+86y^5+123y^4-43y^3+79y^2+162y+81)$ $\cdot (y^{14}+8y^{13}+\cdots+62y+9)$
c_2, c_4	$(y-1)(y^6+2y^5+5y^4+5y^3+4y^2+3y+1)$ $\cdot (y^8+14y^6-14y^5+27y^4-11y^3+3y^2-2y+1)$ $\cdot (y^8+3y^7+16y^6+4y^5+34y^4-13y^3+37y^2-10y+9)$ $\cdot (y^{14}-5y^{13}+\cdots-13y+1)$
c_3, c_6, c_7	$y(y^4+2y^2+3y+1)^2(y^4+y^3+5y^2+y+1)^2$ $\cdot (y^6+4y^5+\cdots+7y+1)(y^{14}+5y^{13}+\cdots-41y+25)$
c_8, c_{10}	$(y-1)(y^6-y^5-4y^4+5y^3+13y^2+6y+1)$ $\cdot (y^8-8y^7+22y^6-22y^5+3y^4+y^3+31y^2-58y+49)$ $\cdot (y^8-y^7-12y^6+36y^5+26y^4-225y^3+233y^2+14y+9)$ $\cdot (y^{14}-20y^{13}+\cdots-6y+1)$
c_9	$y(y^4+2y^2+3y+1)^2(y^4+y^3+5y^2+y+1)^2$ $\cdot (y^6-y^5+8y^4-7y^3+9y^2-2y+1)(y^{14}+26y^{12}+\cdots+246y+25)$