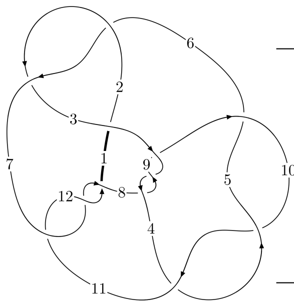
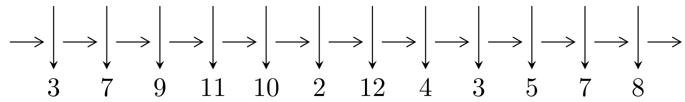
$12n_{0600}$ ($K12n_{0600}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$4,8 \xrightarrow[c_8]{} 9,12 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_3]{} 3 \xrightarrow[c_9]{} 10 \xrightarrow[c_7]{} 7 \xrightarrow[c_2]{} 2 \xrightarrow[c_6]{} 6 \xrightarrow[c_{11}]{} 11 \xrightarrow[c_4]{} 5 \twoheadrightarrow c_1, c_5, c_{10}$$

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

$$I_1^u = \langle u^7 - u^6 + 5u^5 - 8u^4 + 12u^3 - 15u^2 + 8b + 16u - 6,\ u^6 + 3u^4 - u^3 + u^2 + 4a - 4u - 2,$$
$$u^8 + 4u^6 - 3u^5 + 4u^4 - 11u^3 + u^2 - 6u + 2\rangle$$
$$I_2^u = \langle -u^2a - u^3 + b - a - u - 1,\ 2u^3a - 2u^2a - u^3 + 2a^2 + 2au + u^2 + 2a - 1,\ u^4 + u^2 + u + 1\rangle$$
$$I_3^u = \langle -211u^9 - 520u^8 - 1473u^7 - 2621u^6 - 4433u^5 - 6682u^4 - 6460u^3 - 6461u^2 + 893b - 3449u - 911,$$
$$-3011u^9 - 6938u^8 + \cdots + 8930a - 4451,$$
$$u^{10} + 3u^9 + 8u^8 + 16u^7 + 27u^6 + 43u^5 + 49u^4 + 48u^3 + 38u^2 + 16u + 5\rangle$$
$$I_4^u = \langle -u^5 + u^4 - u^2a - 2u^3 + 2u^2 + b - a - 2u + 2,\ 2u^5a + 2u^3a + u^4 - 2u^2a - u^3 + a^2 + au + u^2 - 2a - 2u + 2$$
$$u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1\rangle$$
$$I_5^u = \langle b - 1,\ 6a - u - 3,\ u^2 + 3\rangle$$
$$I_6^u = \langle b + u,\ 2a - u + 1,\ u^2 + 1\rangle$$

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

* 7 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 43 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. $\boldsymbol{I^u_1 = \langle u^7 - u^6 + \cdots + 8b - 6,\ u^6 + 3u^4 - u^3 + u^2 + 4a - 4u - 2,\ u^8 + 4u^6 - 3u^5 + 4u^4 - 11u^3 + u^2 - 6u + 2\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{1}{4}u^6 - \frac{3}{4}u^4 + \cdots + u + \frac{1}{2} \\ -\frac{1}{8}u^7 + \frac{1}{8}u^6 + \cdots - 2u + \frac{3}{4} \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

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

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

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

$$a_{11} = \begin{pmatrix} 1 \\ -\frac{1}{2}u^7 + \frac{1}{2}u^6 + \cdots - 4u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -\frac{1}{2}u^7 - \frac{1}{2}u^6 + \cdots + 3u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1}{2}u^7 + \frac{1}{2}u^6 + \frac{5}{2}u^5 + u^4 + u^3 - \frac{9}{2}u^2 - 10u - 17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8 + 5u^7 + 4u^6 - 21u^5 - 39u^4 + 31u^3 + 86u^2 + 57u + 4$
c_2, c_6, c_7 c_{11}, c_{12}	$u^8 - 3u^7 + 2u^6 + u^5 - 3u^4 + 5u^3 + 2u^2 - 7u - 2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^8 + 4u^6 + 3u^5 + 4u^4 + 11u^3 + u^2 + 6u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^8 - 17y^7 + \cdots - 2561y + 16$
c_2, c_6, c_7 c_{11}, c_{12}	$y^8 - 5y^7 + 4y^6 + 21y^5 - 39y^4 - 31y^3 + 86y^2 - 57y + 4$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^8 + 8y^7 + 24y^6 + 25y^5 - 38y^4 - 133y^3 - 115y^2 - 32y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.220679+0.854461I$ $a=\ \ 0.332670+0.556447I$ $b=-0.208499-1.323920I$	$4.23170+1.04444I$	$-12.01624-6.62288I$
$u=-0.220679-0.854461I$ $a=\ \ 0.332670-0.556447I$ $b=-0.208499+1.323920I$	$4.23170-1.04444I$	$-12.01624+6.62288I$
$u=\ \ 1.30710$ $a=-1.49781$ $b=-1.66764$	-14.6274	-17.3150
$u=-0.66283+1.38843I$ $a=-0.983264-0.973100I$ $b=-1.51379+0.50848I$	$-6.1134+13.7627I$	$-12.22207-6.91669I$
$u=-0.66283-1.38843I$ $a=-0.983264+0.973100I$ $b=-1.51379-0.50848I$	$-6.1134-13.7627I$	$-12.22207+6.91669I$
$u=\ \ 0.07864+1.65422I$ $a=\ \ 0.509409+0.080495I$ $b=\ \ 0.915236-0.302637I$	$10.25980+1.08243I$	$-6.90626-6.60767I$
$u=\ \ 0.07864-1.65422I$ $a=\ \ 0.509409-0.080495I$ $b=\ \ 0.915236+0.302637I$	$10.25980-1.08243I$	$-6.90626+6.60767I$
$u=\ \ 0.302631$ $a=\ \ 0.780180$ $b=\ \ 0.281755$	-0.483877	-20.3950

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a \\ u^2a + u^3 + a + u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2a - u^3 - u - 1 \\ u^2a + u^3 + a + u + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^2 - u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a \\ -u^3a + u^2a - u^3 - u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^3a + au + a + u - 1 \\ u^3a + u^2a + 3u^3 - au - u^2 + a + 2u + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 + 2u \\ 3u^3 + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^3 + 2u^2 + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -2u^3 - u^2 - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^3 + 4u^2 - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8+7u^7+19u^6+11u^5-48u^4-98u^3+u^2+170u+169$
c_2, c_6, c_7 c_{11}, c_{12}	$u^8-3u^7+u^6+3u^5-u^2-12u+13$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(u^4+u^2-u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^8 - 11y^7 + \cdots - 28562y + 28561$
c_2, c_6, c_7 c_{11}, c_{12}	$y^8 - 7y^7 + 19y^6 - 11y^5 - 48y^4 + 98y^3 + y^2 - 170y + 169$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(y^4 + 2y^3 + 3y^2 + y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.547424 + 0.585652I$ $a = 0.429852 - 0.104809I$ $b = 1.195840 + 0.535402I$	$-4.26996 + 1.39709I$	$-15.7702 - 3.8674I$
$u = -0.547424 + 0.585652I$ $a = -1.32498 - 1.44768I$ $b = -1.344030 + 0.375890I$	$-4.26996 + 1.39709I$	$-15.7702 - 3.8674I$
$u = -0.547424 - 0.585652I$ $a = 0.429852 + 0.104809I$ $b = 1.195840 - 0.535402I$	$-4.26996 - 1.39709I$	$-15.7702 + 3.8674I$
$u = -0.547424 - 0.585652I$ $a = -1.32498 + 1.44768I$ $b = -1.344030 - 0.375890I$	$-4.26996 - 1.39709I$	$-15.7702 + 3.8674I$
$u = 0.547424 + 1.120870I$ $a = -1.018240 + 0.928993I$ $b = -1.53596 - 0.48899I$	$-0.66484 - 7.64338I$	$-10.22981 + 6.51087I$
$u = 0.547424 + 1.120870I$ $a = 0.413361 - 0.422149I$ $b = 0.184153 + 1.209330I$	$-0.66484 - 7.64338I$	$-10.22981 + 6.51087I$
$u = 0.547424 - 1.120870I$ $a = -1.018240 - 0.928993I$ $b = -1.53596 + 0.48899I$	$-0.66484 + 7.64338I$	$-10.22981 - 6.51087I$
$u = 0.547424 - 1.120870I$ $a = 0.413361 + 0.422149I$ $b = 0.184153 - 1.209330I$	$-0.66484 + 7.64338I$	$-10.22981 - 6.51087I$

III. $\boldsymbol{I_3^u = \langle -211u^9 - 520u^8 + \cdots + 893b - 911,\ -3011u^9 - 6938u^8 + \cdots + 8930a - 4451,\ u^{10} + 3u^9 + \cdots + 16u + 5\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.337178u^9 + 0.776932u^8 + \cdots + 5.47738u + 0.498432 \\ 0.236282u^9 + 0.582307u^8 + \cdots + 3.86226u + 1.02016 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.100896u^9 + 0.194625u^8 + \cdots + 1.61512u - 0.521725 \\ 0.236282u^9 + 0.582307u^8 + \cdots + 3.86226u + 1.02016 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0959686u^9 - 0.0241881u^8 + \cdots + 1.61803u + 1.10224 \\ -0.265398u^9 - 0.407615u^8 + \cdots - 1.60358u - 0.814110 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.287682u^9 - 0.473908u^8 + \cdots - 1.81713u - 1.84871 \\ -0.627100u^9 - 1.23740u^8 + \cdots - 5.58231u - 2.79283 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.717357u^9 + 1.49586u^8 + \cdots + 12.0804u + 5.15409 \\ 1.26876u^9 + 2.38746u^8 + \cdots + 13.5353u + 5.48264 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0494961u^9 + 0.303024u^8 + \cdots + 2.66025u - 1.35028 \\ -0.390817u^9 - 0.655095u^8 + \cdots - 2.72004u - 1.77268 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0454647u^9 - 0.527212u^8 + \cdots - 8.74222u - 3.44748 \\ 0.671892u^9 + 0.968645u^8 + \cdots + 5.33819u + 1.70661 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{714}{893}u^9 - \frac{2860}{893}u^8 - \frac{6762}{893}u^7 - \frac{14862}{893}u^6 - \frac{23042}{893}u^5 - \frac{37644}{893}u^4 - \frac{2246}{47}u^3 - \frac{35982}{893}u^2 - \frac{26560}{893}u - \frac{15280}{893}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5+7u^4+17u^3+14u^2+1)^2$
c_2, c_6, c_7 c_{11}, c_{12}	$(u^5+u^4-3u^3-2u^2+2u-1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^{10}-3u^9+\cdots-16u+5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - 15y^4 + 93y^3 - 210y^2 - 28y - 1)^2$
c_2, c_6, c_7 c_{11}, c_{12}	$(y^5 - 7y^4 + 17y^3 - 14y^2 - 1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^{10} + 7y^9 + \cdots + 124y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.030539 + 1.180900I$ $a = -0.203705 + 0.519644I$ $b = -0.331409 - 0.386277I$	$2.91669 - 1.13882I$	$-8.71808 + 6.05450I$
$u = 0.030539 - 1.180900I$ $a = -0.203705 - 0.519644I$ $b = -0.331409 + 0.386277I$	$2.91669 + 1.13882I$	$-8.71808 - 6.05450I$
$u = -1.280020 + 0.074043I$ $a = 1.49558 + 0.07831I$ $b = 1.58033 + 0.28256I$	$-10.17380 - 6.99719I$	$-15.1390 + 3.5468I$
$u = -1.280020 - 0.074043I$ $a = 1.49558 - 0.07831I$ $b = 1.58033 - 0.28256I$	$-10.17380 + 6.99719I$	$-15.1390 - 3.5468I$
$u = -0.255771 + 0.477985I$ $a = -1.33342 + 0.89783I$ $b = -0.331409 + 0.386277I$	$2.91669 + 1.13882I$	$-8.71808 - 6.05450I$
$u = -0.255771 - 0.477985I$ $a = -1.33342 - 0.89783I$ $b = -0.331409 - 0.386277I$	$2.91669 - 1.13882I$	$-8.71808 + 6.05450I$
$u = 0.68764 + 1.45529I$ $a = 0.803516 - 0.827954I$ $b = 1.58033 + 0.28256I$	$-10.17380 - 6.99719I$	$-15.1390 + 3.5468I$
$u = 0.68764 - 1.45529I$ $a = 0.803516 + 0.827954I$ $b = 1.58033 - 0.28256I$	$-10.17380 + 6.99719I$	$-15.1390 - 3.5468I$
$u = -0.68239 + 1.54821I$ $a = -0.661966 - 0.593569I$ $b = -1.49784$	-5.22495	$-14.2858 + 0.I$
$u = -0.68239 - 1.54821I$ $a = -0.661966 + 0.593569I$ $b = -1.49784$	-5.22495	$-14.2858 + 0.I$

IV. $\boldsymbol{I^u_4 = \langle -u^5+u^4-u^2a-2u^3+2u^2+b-a-2u+2,\ 2u^5a+u^4+\cdots-2a+2,\ u^6-u^5+2u^4-2u^3+2u^2-2u+1\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} a \\ u^5-u^4+u^2a+2u^3-2u^2+a+2u-2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^5+u^4-u^2a-2u^3+2u^2-2u+2 \\ u^5-u^4+u^2a+2u^3-2u^2+a+2u-2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^2+1 \\ u^4+2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5a-u^4a+u^3a-2u^2a-u^3+au+u^2-2a+2 \\ -u^5a+u^5-2u^3a+2u^3-au+2u-1 \end{pmatrix}$$

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

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

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

$$a_5 = \begin{pmatrix} u^4+u^2+1 \\ 2u^5-u^4+4u^3-2u^2+4u-2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^3-4u-10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 - 9y^5 + 20y^4 + 14y^3 - 16y^2 - 48y + 1)^2$
c_2, c_6, c_7 c_{11}, c_{12}	$(y^6 - 5y^5 + 8y^4 - 6y^3 + 8y^2 - 8y + 1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(y^6 + 3y^5 + 4y^4 + 2y^3 + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.498832 + 1.001300I$ $a = -0.275405 - 0.924742I$ $b = -0.592989 + 0.847544I$	$-3.02413 + 2.82812I$	$-13.50976 - 2.97945I$
$u = -0.498832 + 1.001300I$ $a = 1.101290 + 0.801486I$ $b = 1.47043 - 0.10268I$	$-3.02413 + 2.82812I$	$-13.50976 - 2.97945I$
$u = -0.498832 - 1.001300I$ $a = -0.275405 + 0.924742I$ $b = -0.592989 - 0.847544I$	$-3.02413 - 2.82812I$	$-13.50976 + 2.97945I$
$u = -0.498832 - 1.001300I$ $a = 1.101290 - 0.801486I$ $b = 1.47043 + 0.10268I$	$-3.02413 - 2.82812I$	$-13.50976 + 2.97945I$
$u = 0.284920 + 1.115140I$ $a = -1.46787 - 0.56029I$ $b = 0.379278$	1.11345	$-6.98049 + 0.I$
$u = 0.284920 + 1.115140I$ $a = -0.89664 + 1.67543I$ $b = -1.13416$	1.11345	$-6.98049 + 0.I$
$u = 0.284920 - 1.115140I$ $a = -1.46787 + 0.56029I$ $b = 0.379278$	1.11345	$-6.98049 + 0.I$
$u = 0.284920 - 1.115140I$ $a = -0.89664 - 1.67543I$ $b = -1.13416$	1.11345	$-6.98049 + 0.I$
$u = 0.713912 + 0.305839I$ $a = 0.448508 + 0.102156I$ $b = -0.592989 + 0.847544I$	$-3.02413 + 2.82812I$	$-13.50976 - 2.97945I$
$u = 0.713912 + 0.305839I$ $a = 1.59012 - 0.92088I$ $b = 1.47043 - 0.10268I$	$-3.02413 + 2.82812I$	$-13.50976 - 2.97945I$

Solutions to I_4^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.713912 - 0.305839I$		
$a =$	$0.448508 - 0.102156I$	$-3.02413 - 2.82812I$	$-13.50976 + 2.97945I$
$b =$	$-0.592989 - 0.847544I$		
$u =$	$0.713912 - 0.305839I$		
$a =$	$1.59012 + 0.92088I$	$-3.02413 - 2.82812I$	$-13.50976 + 2.97945I$
$b =$	$1.47043 + 0.10268I$		

V. $\boldsymbol{I_5^u = \langle b-1,\ 6a-u-3,\ u^2+3\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -3 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{1}{6}u + \frac{1}{2} \\ 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{6}u - \frac{1}{2} \\ 1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -2 \\ 3 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{6}u + \frac{1}{2} \\ -1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{7}{6}u - \frac{1}{2} \\ -2u + 1 \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$(u-1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	u^2+3
c_6, c_{11}, c_{12}	$(u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7, c_{11}, c_{12}	$(y-1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(y+3)^2$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.73205I$		
$a =$	$0.500000 + 0.288675I$	9.86960	-12.0000
$b =$	1.00000		
$u =$	$-1.73205I$		
$a =$	$0.500000 - 0.288675I$	9.86960	-12.0000
$b =$	1.00000		

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{1}{2}u - \frac{1}{2} \\ -u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} \frac{3}{2}u - \frac{1}{2} \\ -u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{1}{2}u + \frac{1}{2} \\ 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{2}u - \frac{1}{2} \\ -u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ 2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ -2u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u+2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u+1)^2$
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_9, c_{10} c_{11}, c_{12}	u^2+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^2$
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_9, c_{10} c_{11}, c_{12}	$(y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.500000 + 0.500000I$ $b = -1.000000I$	4.93480	−4.00000
$u = -1.000000I$ $a = -0.500000 - 0.500000I$ $b = 1.000000I$	4.93480	−4.00000

VII. $\boldsymbol{I_1^v = \langle a,\ b-1,\ v+1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$u-1$
c_3, c_4, c_5 c_8, c_9, c_{10}	u
c_6, c_{11}, c_{12}	$u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7, c_{11}, c_{12}	$y - 1$
c_3, c_4, c_5 c_8, c_9, c_{10}	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 1.00000$	-3.28987	-12.0000

VIII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^3(u+1)^2(u^5+7u^4+17u^3+14u^2+1)^2$ $\cdot(u^6+5u^5+8u^4+6u^3+8u^2+8u+1)^2$ $\cdot(u^8+5u^7+4u^6-21u^5-39u^4+31u^3+86u^2+57u+4)$ $\cdot(u^8+7u^7+19u^6+11u^5-48u^4-98u^3+u^2+170u+169)$
c_2, c_7	$(u-1)^3(u^2+1)(u^5+u^4-3u^3-2u^2+2u-1)^2$ $\cdot((u^6+u^5-2u^4+2u^2-2u-1)^2)(u^8-3u^7+\cdots-12u+13)$ $\cdot(u^8-3u^7+2u^6+u^5-3u^4+5u^3+2u^2-7u-2)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u(u^2+1)(u^2+3)(u^4+u^2-u+1)^2(u^6+u^5+\cdots+2u+1)^2$ $\cdot(u^8+4u^6+\cdots+6u+2)(u^{10}-3u^9+\cdots-16u+5)$
c_6, c_{11}, c_{12}	$(u+1)^3(u^2+1)(u^5+u^4-3u^3-2u^2+2u-1)^2$ $\cdot((u^6+u^5-2u^4+2u^2-2u-1)^2)(u^8-3u^7+\cdots-12u+13)$ $\cdot(u^8-3u^7+2u^6+u^5-3u^4+5u^3+2u^2-7u-2)$

IX. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^5(y^5-15y^4+93y^3-210y^2-28y-1)^2$ $\cdot(y^6-9y^5+20y^4+14y^3-16y^2-48y+1)^2$ $\cdot(y^8-17y^7+\cdots-2561y+16)(y^8-11y^7+\cdots-28562y+28561)$
c_2, c_6, c_7 c_{11}, c_{12}	$(y-1)^3(y+1)^2(y^5-7y^4+17y^3-14y^2-1)^2$ $\cdot(y^6-5y^5+8y^4-6y^3+8y^2-8y+1)^2$ $\cdot(y^8-7y^7+19y^6-11y^5-48y^4+98y^3+y^2-170y+169)$ $\cdot(y^8-5y^7+4y^6+21y^5-39y^4-31y^3+86y^2-57y+4)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y(y+1)^2(y+3)^2(y^4+2y^3+3y^2+y+1)^2$ $\cdot(y^6+3y^5+4y^4+2y^3+1)^2$ $\cdot(y^8+8y^7+24y^6+25y^5-38y^4-133y^3-115y^2-32y+4)$ $\cdot(y^{10}+7y^9+\cdots+124y+25)$