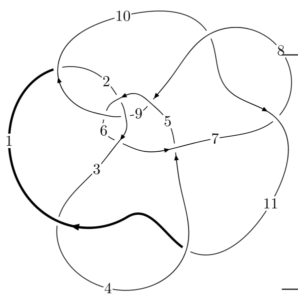
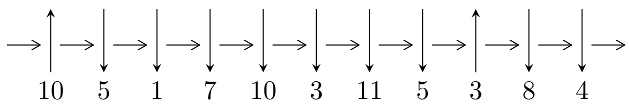
$11n_{162}$ $(K11n_{162})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle b+u,\ -3u^{12}-15u^{11}+\cdots+11a-20,\\
&\quad u^{13}+u^{12}+7u^{11}+6u^{10}+19u^9+15u^8+22u^7+18u^6+7u^5+10u^4+2u^2+4u-1\rangle\\
I_2^u &= \langle -62903946761724u^{25}-381362114178501u^{24}+\cdots+640188464864309b-1417634446440228,\\
&\quad 911334568428454u^{25}+2453993677512419u^{24}+\cdots+640188464864309a-843495134320420,\\
&\quad u^{26}+3u^{25}+\cdots+9u+1\rangle\\
I_3^u &= \langle b+u,\ -u^5+u^4-3u^3+u^2+a-3u+1,\ u^6-u^5+3u^4-2u^3+3u^2-2u+1\rangle\\
I_4^u &= \langle -u^3+u^2+b-2u+2,\ -u^5+2u^4-u^3+3a+3u-4,\ u^6-2u^5+4u^4-6u^3+6u^2-5u+3\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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. $\boldsymbol{I_1^u = \langle b + u,\ -3u^{12} - 15u^{11} + \cdots + 11a - 20,\ u^{13} + u^{12} + \cdots + 4u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.272727u^{12} + 1.36364u^{11} + \cdots + 5.18182u + 1.81818 \\ -u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.272727u^{12} + 1.36364u^{11} + \cdots + 4.18182u + 1.81818 \\ -u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.545455u^{12} + 2.27273u^{11} + \cdots + 7.63636u - 3.63636 \\ 0.363636u^{12} - 1.18182u^{11} + \cdots - 3.09091u + 1.09091 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 4.81818u^{12} + 4.09091u^{11} + \cdots - 4.45455u + 1.45455 \\ -2.27273u^{12} - 2.36364u^{11} + \cdots + 0.818182u + 0.181818 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0909091u^{12} + 0.454545u^{11} + \cdots + 1.72727u + 2.27273 \\ -0.0909091u^{12} + 0.545455u^{11} + \cdots - 0.727273u - 0.272727 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.09091u^{12} + 1.45455u^{11} + \cdots + 0.727273u + 1.27273 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.81818u^{12} + 2.09091u^{11} + \cdots - 0.454545u + 1.45455 \\ -0.636364u^{12} - 0.181818u^{11} + \cdots - 0.0909091u + 0.0909091 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.81818u^{12} + 2.09091u^{11} + \cdots - 0.454545u + 1.45455 \\ -0.636364u^{12} - 0.181818u^{11} + \cdots - 0.0909091u + 0.0909091 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{4}{11}u^{12} - \frac{42}{11}u^{11} - \frac{75}{11}u^{10} - \frac{247}{11}u^9 - \frac{294}{11}u^8 - \frac{543}{11}u^7 - \frac{478}{11}u^6 - \frac{433}{11}u^5 - 23u^4 - \frac{29}{11}u^3 - \frac{28}{11}u^2 - \frac{32}{11}u - \frac{89}{11}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} + 16u^{12} + \cdots + 384u + 32$
c_2, c_5	$u^{13} + 12u^{11} + \cdots + 7u^2 + 1$
c_3, c_7, c_{10} c_{11}	$u^{13} - u^{12} + \cdots + 4u + 1$
c_4	$u^{13} - 11u^{12} + \cdots - 40u + 4$
c_6, c_8	$u^{13} - u^{12} + \cdots - 11u + 3$
c_9	$u^{13} - 8u^{12} + \cdots + 6u + 12$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} - 12y^{12} + \cdots + 59904y - 1024$
c_2, c_5	$y^{13} + 24y^{12} + \cdots - 14y - 1$
c_3, c_7, c_{10} c_{11}	$y^{13} + 13y^{12} + \cdots + 20y - 1$
c_4	$y^{13} - 3y^{12} + \cdots + 456y - 16$
c_6, c_8	$y^{13} + 11y^{12} + \cdots - 35y - 9$
c_9	$y^{13} - 14y^{12} + \cdots + 732y - 144$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.809423 + 0.117584I$ $a = 0.348533 - 0.706548I$ $b = 0.809423 - 0.117584I$	$5.36911 + 2.95494I$	$-7.16291 - 2.81901I$
$u = -0.809423 - 0.117584I$ $a = 0.348533 + 0.706548I$ $b = 0.809423 + 0.117584I$	$5.36911 - 2.95494I$	$-7.16291 + 2.81901I$
$u = -0.046196 + 1.261130I$ $a = -1.11366 + 3.26926I$ $b = 0.046196 - 1.261130I$	$12.31700 + 2.15873I$	$3.13107 - 3.07256I$
$u = -0.046196 - 1.261130I$ $a = -1.11366 - 3.26926I$ $b = 0.046196 + 1.261130I$	$12.31700 - 2.15873I$	$3.13107 + 3.07256I$
$u = -0.151527 + 1.292460I$ $a = 0.71662 + 1.73016I$ $b = 0.151527 - 1.292460I$	$6.35965 - 0.39707I$	$-2.26484 + 2.21487I$
$u = -0.151527 - 1.292460I$ $a = 0.71662 - 1.73016I$ $b = 0.151527 + 1.292460I$	$6.35965 + 0.39707I$	$-2.26484 - 2.21487I$
$u = 0.479303 + 0.472811I$ $a = 0.182244 + 0.741863I$ $b = -0.479303 - 0.472811I$	$-0.52618 - 1.43256I$	$-3.73519 + 6.28375I$
$u = 0.479303 - 0.472811I$ $a = 0.182244 - 0.741863I$ $b = -0.479303 + 0.472811I$	$-0.52618 + 1.43256I$	$-3.73519 - 6.28375I$
$u = 0.40436 + 1.44082I$ $a = -0.36627 + 1.65681I$ $b = -0.40436 - 1.44082I$	$6.52797 - 5.89125I$	$-0.30193 + 3.39089I$
$u = 0.40436 - 1.44082I$ $a = -0.36627 - 1.65681I$ $b = -0.40436 + 1.44082I$	$6.52797 + 5.89125I$	$-0.30193 - 3.39089I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.48592 + 1.50310I$ $a = 0.64061 + 1.74510I$ $b = 0.48592 - 1.50310I$	$15.6748 + 13.1069I$	$-1.18846 - 5.87531I$
$u = -0.48592 - 1.50310I$ $a = 0.64061 - 1.74510I$ $b = 0.48592 + 1.50310I$	$15.6748 - 13.1069I$	$-1.18846 + 5.87531I$
$u = 0.218803$ $a = 3.18385$ $b = -0.218803$	-0.973187	-8.95550

II.

$\boldsymbol{I_2^u = \langle -6.29\times 10^{13}u^{25} - 3.81\times 10^{14}u^{24} + \cdots + 6.40\times 10^{14}b - 1.42\times 10^{15},\ 9.11\times 10^{14}u^{25} + 2.45\times 10^{15}u^{24} + \cdots + 6.40\times 10^{14}a - 8.43\times 10^{14},\ u^{26} + 3u^{25} + \cdots + 9u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -1.42354u^{25} - 3.83324u^{24} + \cdots - 30.3254u + 1.31757 \\ 0.0982585u^{25} + 0.595703u^{24} + \cdots + 12.7692u + 2.21440 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.32528u^{25} - 3.23753u^{24} + \cdots - 17.5562u + 3.53197 \\ 0.0982585u^{25} + 0.595703u^{24} + \cdots + 12.7692u + 2.21440 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -3.59109u^{25} - 10.1484u^{24} + \cdots - 88.3953u - 7.10835 \\ 0.279522u^{25} + 0.762410u^{24} + \cdots + 8.19857u + 2.54254 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.43267u^{25} + 5.14988u^{24} + \cdots + 85.8161u + 25.6973 \\ 1.45570u^{25} + 4.17786u^{24} + \cdots + 43.0260u + 4.92495 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.11476u^{25} - 2.66132u^{24} + \cdots - 13.3210u + 4.20145 \\ 0.383189u^{25} + 1.21076u^{24} + \cdots + 17.2921u + 2.93923 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.85007u^{25} - 5.49107u^{24} + \cdots - 77.2940u - 14.2016 \\ -0.692471u^{25} - 1.85702u^{24} + \cdots - 12.8116u - 0.482676 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.71634u^{25} - 5.14621u^{24} + \cdots - 73.8523u - 13.9762 \\ -0.513166u^{25} - 1.32858u^{24} + \cdots - 8.99682u - 0.200919 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.71634u^{25} - 5.14621u^{24} + \cdots - 73.8523u - 13.9762 \\ -0.513166u^{25} - 1.32858u^{24} + \cdots - 8.99682u - 0.200919 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{835837455787153}{640188464864309}u^{25} + \frac{1938384712386284}{640188464864309}u^{24} + \cdots + \frac{13509636668298897}{640188464864309}u - \frac{455441820193168}{640188464864309}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{13} - 4u^{12} + \cdots + 47u + 1)^2$
c_2, c_5	$u^{26} - u^{25} + \cdots + 193u + 61$
c_3, c_7, c_{10} c_{11}	$u^{26} - 3u^{25} + \cdots - 9u + 1$
c_4	$(u^{13} + u^{12} + \cdots + 8u + 5)^2$
c_6, c_8	$u^{26} + 4u^{25} + \cdots + 2400u + 1353$
c_9	$(u^{13} + 3u^{12} + \cdots + 2u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{13} - 16y^{12} + \cdots + 2493y - 1)^2$
c_2, c_5	$y^{26} + 33y^{25} + \cdots + 38147y + 3721$
c_3, c_7, c_{10} c_{11}	$y^{26} + 19y^{25} + \cdots - y + 1$
c_4	$(y^{13} + 9y^{12} + \cdots - 136y - 25)^2$
c_6, c_8	$y^{26} + 20y^{25} + \cdots + 9336774y + 1830609$
c_9	$(y^{13} - 19y^{12} + \cdots + 124y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.067900 + 1.180330I$ $a = 0.517992 - 0.149968I$ $b = -1.207500 - 0.051879I$	$1.265650 - 0.287296I$	$-2.88954 - 0.89161I$
$u = 0.067900 - 1.180330I$ $a = 0.517992 + 0.149968I$ $b = -1.207500 + 0.051879I$	$1.265650 + 0.287296I$	$-2.88954 + 0.89161I$
$u = 0.247316 + 1.177340I$ $a = 0.311935 - 0.046135I$ $b = 0.524618 - 0.069053I$	$2.03958 - 2.67289I$	$-1.48191 + 5.19592I$
$u = 0.247316 - 1.177340I$ $a = 0.311935 + 0.046135I$ $b = 0.524618 + 0.069053I$	$2.03958 + 2.67289I$	$-1.48191 - 5.19592I$
$u = 1.207500 + 0.051879I$ $a = 0.196751 + 0.489452I$ $b = -0.067900 - 1.180330I$	$1.265650 - 0.287296I$	$-2.88954 - 0.89161I$
$u = 1.207500 - 0.051879I$ $a = 0.196751 - 0.489452I$ $b = -0.067900 + 1.180330I$	$1.265650 + 0.287296I$	$-2.88954 + 0.89161I$
$u = -0.216549 + 1.266240I$ $a = -0.86731 - 1.86678I$ $b = -0.45644 + 1.36303I$	$5.76658 + 5.41588I$	$-0.94009 - 2.54727I$
$u = -0.216549 - 1.266240I$ $a = -0.86731 + 1.86678I$ $b = -0.45644 - 1.36303I$	$5.76658 - 5.41588I$	$-0.94009 + 2.54727I$
$u = -1.274900 + 0.275508I$ $a = 0.251587 + 0.623600I$ $b = 0.326804 - 1.347110I$	$10.00280 + 7.01304I$	$-2.38090 - 4.98186I$
$u = -1.274900 - 0.275508I$ $a = 0.251587 - 0.623600I$ $b = 0.326804 + 1.347110I$	$10.00280 - 7.01304I$	$-2.38090 + 4.98186I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.394224+1.245000I$ $a=-0.638079+0.785356I$ $b=\ \ 0.160428+0.147487I$	$8.78740+1.45996I$	$-3.65650-0.27682I$
$u=-0.394224-1.245000I$ $a=-0.638079-0.785356I$ $b=\ \ 0.160428-0.147487I$	$8.78740-1.45996I$	$-3.65650+0.27682I$
$u=-0.052461+1.357580I$ $a=-0.07916-1.70109I$ $b=\ \ 0.78161+1.55425I$	$13.70610-0.67900I$	$1.58151+0.47574I$
$u=-0.052461-1.357580I$ $a=-0.07916+1.70109I$ $b=\ \ 0.78161-1.55425I$	$13.70610+0.67900I$	$1.58151-0.47574I$
$u=-0.326804+1.347110I$ $a=-0.425005+0.468743I$ $b=\ \ 1.274900-0.275508I$	$10.00280+7.01304I$	$-2.38090-4.98186I$
$u=-0.326804-1.347110I$ $a=-0.425005-0.468743I$ $b=\ \ 1.274900+0.275508I$	$10.00280-7.01304I$	$-2.38090+4.98186I$
$u=\ \ 0.45644+1.36303I$ $a=\ \ 1.02148-1.52994I$ $b=\ \ 0.216549+1.266240I$	$5.76658-5.41588I$	$-0.94009+2.54727I$
$u=\ \ 0.45644-1.36303I$ $a=\ \ 1.02148+1.52994I$ $b=\ \ 0.216549-1.266240I$	$5.76658+5.41588I$	$-0.94009-2.54727I$
$u=-0.524618+0.069053I$ $a=-0.158561-0.699160I$ $b=-0.247316-1.177340I$	$2.03958-2.67289I$	$-1.48191+5.19592I$
$u=-0.524618-0.069053I$ $a=-0.158561+0.699160I$ $b=-0.247316+1.177340I$	$2.03958+2.67289I$	$-1.48191-5.19592I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.252433 + 0.419434I$ $a = 1.07447 - 1.78530I$ $b = -0.252433 + 0.419434I$	-0.889471	$-5.46516 + 0.I$
$u = 0.252433 - 0.419434I$ $a = 1.07447 + 1.78530I$ $b = -0.252433 - 0.419434I$	-0.889471	$-5.46516 + 0.I$
$u = -0.78161 + 1.55425I$ $a = -0.588096 - 1.192760I$ $b = 0.052461 + 1.357580I$	$13.70610 + 0.67900I$	$1.58151 + 0.I$
$u = -0.78161 - 1.55425I$ $a = -0.588096 + 1.192760I$ $b = 0.052461 - 1.357580I$	$13.70610 - 0.67900I$	$1.58151 + 0.I$
$u = -0.160428 + 0.147487I$ $a = 5.88200 - 1.47414I$ $b = 0.394224 + 1.245000I$	$8.78740 - 1.45996I$	$-3.65650 + 0.27682I$
$u = -0.160428 - 0.147487I$ $a = 5.88200 + 1.47414I$ $b = 0.394224 - 1.245000I$	$8.78740 + 1.45996I$	$-3.65650 - 0.27682I$

III.

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^5-9u^4+19u^3-13u^2+14u-15$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^6 - y^5 + 22y^4 - 60y^3 + 25y^2 + 17y + 9$
c_2, c_5	$y^6 + 4y^5 - 15y^3 + 20y^2 - 8y + 1$
c_3, c_7, c_{10} c_{11}	$y^6 + 5y^5 + 11y^4 + 12y^3 + 7y^2 + 2y + 1$
c_4	$y^6 + 2y^5 + 11y^4 + 4y^3 + 15y^2 - 19y + 9$
c_6, c_8	$y^6 + 3y^5 + 2y^4 + y^2 + y + 1$
c_9	$y^6 - 5y^5 + 6y^4 + 5y^2 + y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.368622 + 1.044700I$ $a = 0.344849 + 0.081037I$ $b = 0.368622 - 1.044700I$	$9.91965 + 2.91185I$	$-0.22592 - 3.63955I$
$u = -0.368622 - 1.044700I$ $a = 0.344849 - 0.081037I$ $b = 0.368622 + 1.044700I$	$9.91965 - 2.91185I$	$-0.22592 + 3.63955I$
$u = 0.474902 + 0.458521I$ $a = -0.07450 + 1.48771I$ $b = -0.474902 - 0.458521I$	$-1.33814 - 0.90202I$	$-11.17385 + 4.13696I$
$u = 0.474902 - 0.458521I$ $a = -0.07450 - 1.48771I$ $b = -0.474902 + 0.458521I$	$-1.33814 + 0.90202I$	$-11.17385 - 4.13696I$
$u = 0.393720 + 1.309500I$ $a = -0.77035 + 1.73149I$ $b = -0.393720 - 1.309500I$	$4.57797 - 6.62522I$	$-5.60023 + 6.47362I$
$u = 0.393720 - 1.309500I$ $a = -0.77035 - 1.73149I$ $b = -0.393720 + 1.309500I$	$4.57797 + 6.62522I$	$-5.60023 - 6.47362I$

IV. $I_4^u = \langle -u^3 + u^2 + b - 2u + 2,\ -u^5 + 2u^4 - u^3 + 3a + 3u - 4,\ u^6 - 2u^5 + 4u^4 - 6u^3 + 6u^2 - 5u + 3\rangle$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

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

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

$$a_2 = \begin{pmatrix} -\frac{1}{3}u^5 + \frac{5}{3}u^4 + \cdots - 3u + \frac{5}{3} \\ -u^4 + 2u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -\frac{1}{3}u^5 + \frac{5}{3}u^4 + \cdots - 4u + \frac{8}{3} \\ -u^4 + 2u^3 - 2u^2 + 3u - 1 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3 - 5y^2 + 2y - 1)^2$
c_2, c_5	$y^6 + 6y^5 + 9y^4 - 3y^3 + 12y^2 - y + 9$
c_3, c_7, c_{10} c_{11}	$y^6 + 4y^5 + 4y^4 - 2y^3 + 11y + 9$
c_4, c_9	$(y^3 - y^2 - 2y - 1)^2$
c_6, c_8	$y^6 + y^5 + 11y^4 + 19y^2 - 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.044140+0.390425I$ $a = 0.242056-0.443900I$ $b = -0.188646+1.182980I$	$1.07850+1.58317I$	$-4.02349-3.48462I$
$u = 1.044140-0.390425I$ $a = 0.242056+0.443900I$ $b = -0.188646-1.182980I$	$1.07850-1.58317I$	$-4.02349+3.48462I$
$u = 0.188646+1.182980I$ $a = 0.360189-0.302713I$ $b = -1.044140+0.390425I$	$1.07850-1.58317I$	$-4.02349+3.48462I$
$u = 0.188646-1.182980I$ $a = 0.360189+0.302713I$ $b = -1.044140-0.390425I$	$1.07850+1.58317I$	$-4.02349-3.48462I$
$u = -0.232786+1.275990I$ $a = -0.43558-2.38757I$ $b = 0.232786+1.275990I$	11.0025	$-6-0.953017+0.10I$
$u = -0.232786-1.275990I$ $a = -0.43558+2.38757I$ $b = 0.232786-1.275990I$	11.0025	$-6-0.953017+0.10I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2-2u+1)^2(u^6-u^5+8u^3+3u^2-u+3)$ $\cdot((u^{13}-4u^{12}+\cdots+47u+1)^2)(u^{13}+16u^{12}+\cdots+384u+32)$
c_2, c_5	$(u^6+2u^4+3u^3-2u^2-2u+1)(u^6+3u^4-3u^3-u+3)$ $\cdot(u^{13}+12u^{11}+\cdots+7u^2+1)(u^{26}-u^{25}+\cdots+193u+61)$
c_3, c_{10}	$(u^6+u^5+3u^4+2u^3+3u^2+2u+1)$ $\cdot(u^6+2u^5+\cdots+5u+3)(u^{13}-u^{12}+\cdots+4u+1)$ $\cdot(u^{26}-3u^{25}+\cdots-9u+1)$
c_4	$(u^3+u^2+1)^2(u^6-2u^5+3u^4-2u^3+5u^2-7u+3)$ $\cdot(u^{13}-11u^{12}+\cdots-40u+4)(u^{13}+u^{12}+\cdots+8u+5)^2$
c_6, c_8	$(u^6-3u^5+5u^4-2u^3-u^2+2u+1)(u^6+u^5+2u^4+2u^3+u^2+u+1)$ $\cdot(u^{13}-u^{12}+\cdots-11u+3)(u^{26}+4u^{25}+\cdots+2400u+1353)$
c_7, c_{11}	$(u^6-2u^5+4u^4-6u^3+6u^2-5u+3)$ $\cdot(u^6-u^5+3u^4-2u^3+3u^2-2u+1)(u^{13}-u^{12}+\cdots+4u+1)$ $\cdot(u^{26}-3u^{25}+\cdots-9u+1)$
c_9	$((u^3+u^2+1)^2)(u^6-3u^5+\cdots-u+1)(u^{13}-8u^{12}+\cdots+6u+12)$ $\cdot(u^{13}+3u^{12}+\cdots+2u+3)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^3-5y^2+2y-1)^2(y^6-y^5+22y^4-60y^3+25y^2+17y+9)$ $\cdot(y^{13}-16y^{12}+\cdots+2493y-1)^2$ $\cdot(y^{13}-12y^{12}+\cdots+59904y-1024)$
c_2, c_5	$(y^6+4y^5-15y^3+20y^2-8y+1)(y^6+6y^5+\cdots-y+9)$ $\cdot(y^{13}+24y^{12}+\cdots-14y-1)(y^{26}+33y^{25}+\cdots+38147y+3721)$
c_3, c_7, c_{10} c_{11}	$(y^6+4y^5+4y^4-2y^3+11y+9)(y^6+5y^5+\cdots+2y+1)$ $\cdot(y^{13}+13y^{12}+\cdots+20y-1)(y^{26}+19y^{25}+\cdots-y+1)$
c_4	$(y^3-y^2-2y-1)^2(y^6+2y^5+11y^4+4y^3+15y^2-19y+9)$ $\cdot(y^{13}-3y^{12}+\cdots+456y-16)(y^{13}+9y^{12}+\cdots-136y-25)^2$
c_6, c_8	$(y^6+y^5+11y^4+19y^2-6y+1)(y^6+3y^5+2y^4+y^2+y+1)$ $\cdot(y^{13}+11y^{12}+\cdots-35y-9)$ $\cdot(y^{26}+20y^{25}+\cdots+9336774y+1830609)$
c_9	$(y^3-y^2-2y-1)^2(y^6-5y^5+6y^4+5y^2+y+1)$ $\cdot((y^{13}-19y^{12}+\cdots+124y-9)^2)(y^{13}-14y^{12}+\cdots+732y-144)$