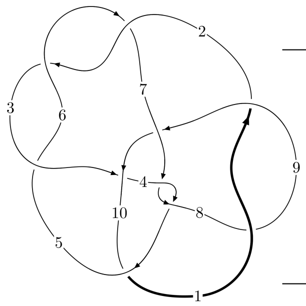
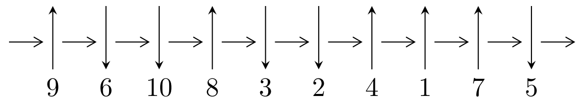
10_{93} $(K10a_{101})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.48497 \times 10^{17} u^{34} - 2.74759 \times 10^{17} u^{33} + \cdots + 2.14980 \times 10^{17} b + 3.71507 \times 10^{17},$$
$$2.04229 \times 10^{17} u^{34} + 3.73430 \times 10^{17} u^{33} + \cdots + 2.14980 \times 10^{17} a - 2.36397 \times 10^{17},\ u^{35} + 2u^{34} + \cdots - 2u - 1\rangle$$
$$I_2^u = \langle 3b + u + 2,\ 3a - 2u - 1,\ u^2 + u + 1\rangle$$

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

$\boldsymbol{I_1^u = \langle -1.48 \times 10^{17} u^{34} - 2.75 \times 10^{17} u^{33} + \cdots + 2.15 \times 10^{17} b + 3.72 \times 10^{17},\ 2.04 \times 10^{17} u^{34} + 3.73 \times 10^{17} u^{33} + \cdots + 2.15 \times 10^{17} a - 2.36 \times 10^{17},\ u^{35} + 2u^{34} + \cdots - 2u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.949992u^{34} - 1.73705u^{33} + \cdots + 6.42492u + 1.09963 \\ 0.690747u^{34} + 1.27807u^{33} + \cdots - 1.42690u - 1.72810 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.300462u^{34} + 0.653361u^{33} + \cdots + 0.171322u - 0.984845 \\ 0.369645u^{34} + 0.462967u^{33} + \cdots - 2.38683u - 0.219453 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.64074u^{34} - 3.01512u^{33} + \cdots + 7.85182u + 2.82773 \\ 0.690747u^{34} + 1.27807u^{33} + \cdots - 1.42690u - 1.72810 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.39270u^{34} - 2.59706u^{33} + \cdots + 7.17623u + 2.38722 \\ 0.569891u^{34} + 1.15346u^{33} + \cdots - 0.0996613u - 1.67732 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.604507u^{34} - 1.03705u^{33} + \cdots + 1.81017u + 1.15186 \\ 0.344862u^{34} + 0.434712u^{33} + \cdots - 1.72091u - 0.338982 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{439029929914495201}{128987874023997969}u^{34} - \frac{378946062727999073}{214979790039996615}u^{33} + \cdots - \frac{1287205910561212151}{214979790039996615}u + \frac{3437895448731260974}{644939370119989845}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{35} + 3u^{34} + \cdots + 5u - 9$
c_2, c_5, c_6	$u^{35} - 2u^{34} + \cdots - 2u + 1$
c_3	$u^{35} + 3u^{34} + \cdots - 60u + 36$
c_4, c_7	$u^{35} - 2u^{34} + \cdots + 2u - 1$
c_9	$3(3u^{35} + 2u^{34} + \cdots + 2024u + 529)$
c_{10}	$3(3u^{35} + 13u^{34} + \cdots - 793u + 173)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{35} - 31y^{34} + \cdots + 439y - 81$
c_2, c_5, c_6	$y^{35} + 36y^{34} + \cdots - 8y - 1$
c_3	$y^{35} + 15y^{34} + \cdots - 8136y - 1296$
c_4, c_7	$y^{35} - 24y^{34} + \cdots - 8y - 1$
c_9	$9(9y^{35} - 280y^{34} + \cdots + 2073680y - 279841)$
c_{10}	$9(9y^{35} + 137y^{34} + \cdots + 24387y - 29929)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.797949 + 0.618523I$ $a = 0.441661 - 0.524170I$ $b = 1.31533 + 0.64336I$	$7.15893 + 9.08856I$	$5.28395 - 6.85993I$
$u = -0.797949 - 0.618523I$ $a = 0.441661 + 0.524170I$ $b = 1.31533 - 0.64336I$	$7.15893 - 9.08856I$	$5.28395 + 6.85993I$
$u = 0.319146 + 0.974832I$ $a = -0.0301867 + 0.0609842I$ $b = -0.142675 + 0.589069I$	$0.84892 - 2.27938I$	$-3.03865 + 4.27236I$
$u = 0.319146 - 0.974832I$ $a = -0.0301867 - 0.0609842I$ $b = -0.142675 - 0.589069I$	$0.84892 + 2.27938I$	$-3.03865 - 4.27236I$
$u = -0.883803 + 0.527645I$ $a = -0.151524 - 0.698091I$ $b = 1.074450 - 0.184550I$	$6.81152 - 3.53470I$	$6.64372 + 2.46356I$
$u = -0.883803 - 0.527645I$ $a = -0.151524 + 0.698091I$ $b = 1.074450 + 0.184550I$	$6.81152 + 3.53470I$	$6.64372 - 2.46356I$
$u = 0.890046 + 0.661300I$ $a = -0.138488 - 0.436432I$ $b = -0.961888 + 0.317896I$	$2.19099 - 3.04973I$	$6.83792 + 5.73006I$
$u = 0.890046 - 0.661300I$ $a = -0.138488 + 0.436432I$ $b = -0.961888 - 0.317896I$	$2.19099 + 3.04973I$	$6.83792 - 5.73006I$
$u = -0.485797 + 0.446415I$ $a = -1.54295 + 0.61782I$ $b = -0.767630 - 0.733842I$	$1.92901 + 4.20671I$	$2.61467 - 7.67969I$
$u = -0.485797 - 0.446415I$ $a = -1.54295 - 0.61782I$ $b = -0.767630 + 0.733842I$	$1.92901 - 4.20671I$	$2.61467 + 7.67969I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.177701 + 0.568169I$ $a = 0.88046 + 2.71785I$ $b = 0.844702 + 0.231272I$	$5.61974 - 1.75521I$	$9.80898 + 3.99717I$
$u = 0.177701 - 0.568169I$ $a = 0.88046 - 2.71785I$ $b = 0.844702 - 0.231272I$	$5.61974 + 1.75521I$	$9.80898 - 3.99717I$
$u = 0.518141 + 0.274512I$ $a = 0.865516 + 0.243501I$ $b = 0.321578 - 0.365013I$	$-1.063790 - 0.837639I$	$-5.45708 + 2.88305I$
$u = 0.518141 - 0.274512I$ $a = 0.865516 - 0.243501I$ $b = 0.321578 + 0.365013I$	$-1.063790 + 0.837639I$	$-5.45708 - 2.88305I$
$u = -0.07117 + 1.42730I$ $a = -2.02061 + 1.49459I$ $b = -1.94022 + 1.12557I$	$7.48516 + 0.26471I$	$8.26333 + 0.I$
$u = -0.07117 - 1.42730I$ $a = -2.02061 - 1.49459I$ $b = -1.94022 - 1.12557I$	$7.48516 - 0.26471I$	$8.26333 + 0.I$
$u = 0.13283 + 1.44979I$ $a = 1.51691 + 0.10394I$ $b = 0.950697 - 0.074489I$	$4.57837 - 3.04741I$	0
$u = 0.13283 - 1.44979I$ $a = 1.51691 - 0.10394I$ $b = 0.950697 + 0.074489I$	$4.57837 + 3.04741I$	0
$u = -0.379190 + 0.370732I$ $a = 0.133491 + 0.548267I$ $b = -0.738044 + 0.811910I$	$1.88873 - 1.15770I$	$2.26234 - 1.26872I$
$u = -0.379190 - 0.370732I$ $a = 0.133491 - 0.548267I$ $b = -0.738044 - 0.811910I$	$1.88873 + 1.15770I$	$2.26234 + 1.26872I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.03075+1.47995I$ $a=-1.46910-0.67161I$ $b=-1.29110-1.51306I$	$7.85287+1.23959I$	0
$u=-0.03075-1.47995I$ $a=-1.46910+0.67161I$ $b=-1.29110+1.51306I$	$7.85287-1.23959I$	0
$u=-0.13948+1.49938I$ $a=-1.99280-0.18614I$ $b=-1.072190-0.508436I$	$8.34974+6.42549I$	0
$u=-0.13948-1.49938I$ $a=-1.99280+0.18614I$ $b=-1.072190+0.508436I$	$8.34974-6.42549I$	0
$u=\ \ 0.04304+1.53065I$ $a=\ \ 1.29303+0.78816I$ $b=\ \ 0.854691-0.412838I$	$12.61950-2.50960I$	$11.52662+0.I$
$u=\ \ 0.04304-1.53065I$ $a=\ \ 1.29303-0.78816I$ $b=\ \ 0.854691+0.412838I$	$12.61950+2.50960I$	$11.52662+0.I$
$u=-0.26639+1.57422I$ $a=\ \ 1.85469-0.10458I$ $b=\ \ 1.70003+0.90521I$	$14.3602+13.0165I$	0
$u=-0.26639-1.57422I$ $a=\ \ 1.85469+0.10458I$ $b=\ \ 1.70003-0.90521I$	$14.3602-13.0165I$	0
$u=-0.171298+0.343458I$ $a=-0.06814+1.97682I$ $b=-0.847997-0.510070I$	$1.76589+0.63046I$	$5.20787+1.46477I$
$u=-0.171298-0.343458I$ $a=-0.06814-1.97682I$ $b=-0.847997+0.510070I$	$1.76589-0.63046I$	$5.20787-1.46477I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.27157 + 1.59599I$ $a = -1.399030 - 0.062212I$ $b = -1.34067 + 0.82337I$	$9.65156 - 7.25912I$	0
$u = 0.27157 - 1.59599I$ $a = -1.399030 + 0.062212I$ $b = -1.34067 - 0.82337I$	$9.65156 + 7.25912I$	0
$u = -0.31084 + 1.58997I$ $a = 0.998238 - 0.474581I$ $b = 1.142220 + 0.398928I$	$13.76820 + 0.95076I$	0
$u = -0.31084 - 1.58997I$ $a = 0.998238 + 0.474581I$ $b = 1.142220 - 0.398928I$	$13.76820 - 0.95076I$	0
$u = 0.368379$ $a = -0.675672$ $b = 2.46408$	3.85534	-11.8900

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{4}{3}u + 5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0.577350I$ $b = -0.500000 - 0.288675I$	$1.64493 + 2.02988I$	$5.66667 - 1.15470I$
$u = -0.500000 - 0.866025I$ $a = -0.577350I$ $b = -0.500000 + 0.288675I$	$1.64493 - 2.02988I$	$5.66667 + 1.15470I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^2)(u^{35}+3u^{34}+\cdots+5u-9)$
c_2	$(u^2-u+1)(u^{35}-2u^{34}+\cdots-2u+1)$
c_3	$u^2(u^{35}+3u^{34}+\cdots-60u+36)$
c_4	$(u^2+u+1)(u^{35}-2u^{34}+\cdots+2u-1)$
c_5, c_6	$(u^2+u+1)(u^{35}-2u^{34}+\cdots-2u+1)$
c_7	$(u^2-u+1)(u^{35}-2u^{34}+\cdots+2u-1)$
c_8	$((u+1)^2)(u^{35}+3u^{34}+\cdots+5u-9)$
c_9	$9(3u^2-3u+1)(3u^{35}+2u^{34}+\cdots+2024u+529)$
c_{10}	$9(3u^2+1)(3u^{35}+13u^{34}+\cdots-793u+173)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$((y-1)^2)(y^{35} - 31y^{34} + \cdots + 439y - 81)$
c_2, c_5, c_6	$(y^2 + y + 1)(y^{35} + 36y^{34} + \cdots - 8y - 1)$
c_3	$y^2(y^{35} + 15y^{34} + \cdots - 8136y - 1296)$
c_4, c_7	$(y^2 + y + 1)(y^{35} - 24y^{34} + \cdots - 8y - 1)$
c_9	$81(9y^2 - 3y + 1)(9y^{35} - 280y^{34} + \cdots + 2073680y - 279841)$
c_{10}	$81(3y+1)^2(9y^{35} + 137y^{34} + \cdots + 24387y - 29929)$