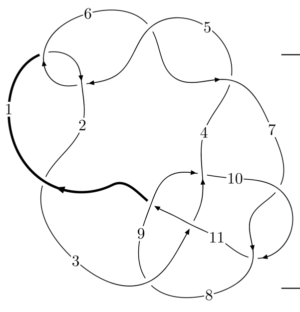
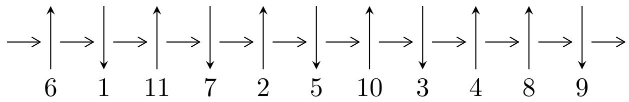
$11a_{141}$ ($K11a_{141}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4.26487 \times 10^{16} u^{52} - 5.40372 \times 10^{16} u^{51} + \cdots + 1.36187 \times 10^{16} b + 1.03514 \times 10^{16},$$
$$- 5.55636 \times 10^{16} u^{52} - 1.64714 \times 10^{16} u^{51} + \cdots + 4.08560 \times 10^{16} a + 3.29067 \times 10^{16},\ u^{53} - 2u^{52} + \cdots + 5u -$$
$$I_2^u = \langle b - u,\ a + 1,\ u^2 - u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 55 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.
$$\boldsymbol{I^u_1 = \langle 4.26\times10^{16}u^{52} - 5.40\times10^{16}u^{51} + \cdots + 1.36\times10^{16}b + 1.04\times10^{16},\ -5.56\times10^{16}u^{52} - 1.65\times10^{16}u^{51} + \cdots + 4.09\times10^{16}a + 3.29\times10^{16},\ u^{53} - 2u^{52} + \cdots + 5u - 1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4+u^2+1 \\ -u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.35999u^{52} + 0.403157u^{51} + \cdots + 12.2341u - 0.805431 \\ -3.13164u^{52} + 3.96788u^{51} + \cdots + 3.80587u - 0.760087 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.239857u^{52} + 2.87394u^{51} + \cdots + 17.1081u - 2.41707 \\ -3.38916u^{52} + 5.76021u^{51} + \cdots + 10.4571u - 2.36000 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.240103u^{52} + 2.73675u^{51} + \cdots + 17.6038u - 1.54783 \\ -3.25991u^{52} + 5.55889u^{51} + \cdots + 10.1878u - 2.35999 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.200023u^{52} + 0.0418941u^{51} + \cdots + 1.97228u + 0.477613 \\ -0.441941u^{52} - 0.197074u^{51} + \cdots + 0.522504u - 0.200023 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.200023u^{52} + 0.0418941u^{51} + \cdots + 1.97228u + 0.477613 \\ -0.441941u^{52} - 0.197074u^{51} + \cdots + 0.522504u - 0.200023 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{275359995103539017}{13618658791677283}u^{52} + \frac{577412524426465435}{13618658791677283}u^{51} + \cdots + \frac{1768558808672064537}{13618658791677283}u - \frac{3162159343568851336}{13618658791677283}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{53} - 2u^{52} + \cdots + 5u - 1$
c_2, c_4, c_6	$u^{53} + 12u^{52} + \cdots + u - 1$
c_3	$u^{53} + 4u^{52} + \cdots + u + 1$
c_7, c_{10}	$u^{53} + 3u^{52} + \cdots + 8u - 1$
c_8	$u^{53} + 2u^{52} + \cdots + 361u - 31$
c_9	$u^{53} + 10u^{51} + \cdots - 4625u - 6737$
c_{11}	$u^{53} - 9u^{52} + \cdots - 4u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{53} + 12y^{52} + \cdots + y - 1$
c_2, c_4, c_6	$y^{53} + 60y^{52} + \cdots + 185y - 1$
c_3	$y^{53} - 8y^{52} + \cdots + y - 1$
c_7, c_{10}	$y^{53} - 43y^{52} + \cdots - 84y - 1$
c_8	$y^{53} + 68y^{52} + \cdots + 28145y - 961$
c_9	$y^{53} + 20y^{52} + \cdots + 623516737y - 45387169$
c_{11}	$y^{53} + 15y^{52} + \cdots - 120y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.441064 + 0.891798I$ $a = -1.020870 - 0.571634I$ $b = 0.328536 + 0.775979I$	$-0.83694 - 5.74776I$	$0. + 9.66844I$
$u = -0.441064 - 0.891798I$ $a = -1.020870 + 0.571634I$ $b = 0.328536 - 0.775979I$	$-0.83694 + 5.74776I$	$0. - 9.66844I$
$u = 0.049379 + 1.054040I$ $a = -0.0434698 + 0.0967864I$ $b = -0.695181 - 0.606165I$	$0.26646 + 4.82522I$	$1.00000 - 6.65378I$
$u = 0.049379 - 1.054040I$ $a = -0.0434698 - 0.0967864I$ $b = -0.695181 + 0.606165I$	$0.26646 - 4.82522I$	$1.00000 + 6.65378I$
$u = 0.648943 + 0.852337I$ $a = 0.538490 + 0.498386I$ $b = -0.203229 - 0.464579I$	$0.64509 + 2.50411I$	$-2.75636 - 4.40791I$
$u = 0.648943 - 0.852337I$ $a = 0.538490 - 0.498386I$ $b = -0.203229 + 0.464579I$	$0.64509 - 2.50411I$	$-2.75636 + 4.40791I$
$u = -0.499123 + 0.779146I$ $a = -1.020240 - 0.640877I$ $b = -0.424147 - 0.588184I$	$3.37085 - 3.65736I$	$8.56973 + 8.26952I$
$u = -0.499123 - 0.779146I$ $a = -1.020240 + 0.640877I$ $b = -0.424147 + 0.588184I$	$3.37085 + 3.65736I$	$8.56973 - 8.26952I$
$u = 0.360123 + 0.813464I$ $a = -0.143330 + 0.781657I$ $b = 0.328335 - 0.649856I$	$-0.31212 + 1.82370I$	$-0.23465 - 3.74406I$
$u = 0.360123 - 0.813464I$ $a = -0.143330 - 0.781657I$ $b = 0.328335 + 0.649856I$	$-0.31212 - 1.82370I$	$-0.23465 + 3.74406I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.498548+1.006320I$ $a=\ \ 0.884968+0.778679I$ $b=-0.520382-0.426991I$	$3.53599-10.89690I$	$0.+9.33368I$
$u=-0.498548-1.006320I$ $a=\ \ 0.884968-0.778679I$ $b=-0.520382+0.426991I$	$3.53599+10.89690I$	$0.-9.33368I$
$u=-0.058697+0.871659I$ $a=-0.154861+0.218927I$ $b=\ \ 0.703232+0.859606I$	$-2.88229+1.21772I$	$-6.65956-1.75393I$
$u=-0.058697-0.871659I$ $a=-0.154861-0.218927I$ $b=\ \ 0.703232-0.859606I$	$-2.88229-1.21772I$	$-6.65956+1.75393I$
$u=-0.779580+0.384102I$ $a=-1.185820-0.265108I$ $b=\ \ 0.590861+0.432097I$	$5.58297+6.26331I$	$7.90346-4.21705I$
$u=-0.779580-0.384102I$ $a=-1.185820+0.265108I$ $b=\ \ 0.590861-0.432097I$	$5.58297-6.26331I$	$7.90346+4.21705I$
$u=\ \ 0.806775+0.311658I$ $a=-0.503384-0.515854I$ $b=\ \ 0.454004-0.075314I$	$5.20216+2.75088I$	$10.46106-4.15294I$
$u=\ \ 0.806775-0.311658I$ $a=-0.503384+0.515854I$ $b=\ \ 0.454004+0.075314I$	$5.20216-2.75088I$	$10.46106+4.15294I$
$u=\ \ 0.465334+1.071850I$ $a=\ \ 0.049065-0.485236I$ $b=\ \ 0.111361+0.133659I$	$2.69406+1.87334I$	0
$u=\ \ 0.465334-1.071850I$ $a=\ \ 0.049065+0.485236I$ $b=\ \ 0.111361-0.133659I$	$2.69406-1.87334I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.402299 + 0.726076I$ $a = -3.65272 - 1.29209I$ $b = 1.21879 + 3.14865I$	$1.60800 + 1.58917I$	$-20.2435 + 28.7194I$
$u = 0.402299 - 0.726076I$ $a = -3.65272 + 1.29209I$ $b = 1.21879 - 3.14865I$	$1.60800 - 1.58917I$	$-20.2435 - 28.7194I$
$u = -0.515749 + 0.636430I$ $a = 0.432284 - 0.168531I$ $b = -0.512700 - 1.266930I$	$3.82116 - 0.24618I$	$10.83777 + 0.95093I$
$u = -0.515749 - 0.636430I$ $a = 0.432284 + 0.168531I$ $b = -0.512700 + 1.266930I$	$3.82116 + 0.24618I$	$10.83777 - 0.95093I$
$u = -0.863056 + 0.887990I$ $a = -1.65478 - 0.77530I$ $b = 2.21161 - 1.53777I$	$7.17905 - 1.93629I$	0
$u = -0.863056 - 0.887990I$ $a = -1.65478 + 0.77530I$ $b = 2.21161 + 1.53777I$	$7.17905 + 1.93629I$	0
$u = 0.884612 + 0.880353I$ $a = -1.51477 + 2.13280I$ $b = 3.40212 - 0.12803I$	$7.52996 - 2.28269I$	0
$u = 0.884612 - 0.880353I$ $a = -1.51477 - 2.13280I$ $b = 3.40212 + 0.12803I$	$7.52996 + 2.28269I$	0
$u = -0.863542 + 0.916240I$ $a = 1.38248 - 1.19728I$ $b = 1.00868 + 3.62762I$	$9.03621 - 3.20134I$	0
$u = -0.863542 - 0.916240I$ $a = 1.38248 + 1.19728I$ $b = 1.00868 - 3.62762I$	$9.03621 + 3.20134I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.844326 + 0.935290I$ $a = 0.86102 + 1.47989I$ $b = -2.81617 - 0.43408I$	$7.02956 - 4.40333I$	0
$u = -0.844326 - 0.935290I$ $a = 0.86102 - 1.47989I$ $b = -2.81617 + 0.43408I$	$7.02956 + 4.40333I$	0
$u = 0.926910 + 0.856986I$ $a = 1.48020 - 1.69821I$ $b = -3.07089 - 0.21883I$	$13.0625 - 8.3599I$	0
$u = 0.926910 - 0.856986I$ $a = 1.48020 + 1.69821I$ $b = -3.07089 + 0.21883I$	$13.0625 + 8.3599I$	0
$u = -0.941108 + 0.850159I$ $a = 1.212510 + 0.718988I$ $b = -1.84382 + 0.61613I$	$12.44450 - 0.05461I$	0
$u = -0.941108 - 0.850159I$ $a = 1.212510 - 0.718988I$ $b = -1.84382 - 0.61613I$	$12.44450 + 0.05461I$	0
$u = 0.882408 + 0.910943I$ $a = -2.24359 + 0.19247I$ $b = 2.57676 + 1.79721I$	$11.69800 + 1.02561I$	0
$u = 0.882408 - 0.910943I$ $a = -2.24359 - 0.19247I$ $b = 2.57676 - 1.79721I$	$11.69800 - 1.02561I$	0
$u = 0.872759 + 0.932792I$ $a = 0.47392 - 2.27764I$ $b = -2.51263 + 1.11829I$	$11.62840 + 5.46563I$	0
$u = 0.872759 - 0.932792I$ $a = 0.47392 + 2.27764I$ $b = -2.51263 - 1.11829I$	$11.62840 - 5.46563I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.853770 + 0.953263I$ $a = 2.23742 - 1.27474I$ $b = -3.56854 - 1.17457I$	$7.29873 + 8.71850I$	0
$u = 0.853770 - 0.953263I$ $a = 2.23742 + 1.27474I$ $b = -3.56854 + 1.17457I$	$7.29873 - 8.71850I$	0
$u = 0.860730 + 0.991421I$ $a = -1.80670 + 1.31853I$ $b = 3.40314 + 0.83193I$	$12.6289 + 14.9456I$	0
$u = 0.860730 - 0.991421I$ $a = -1.80670 - 1.31853I$ $b = 3.40314 - 0.83193I$	$12.6289 - 14.9456I$	0
$u = -0.864734 + 1.003780I$ $a = -0.882254 - 1.058650I$ $b = 2.07633 - 0.04773I$	$11.94950 - 6.58665I$	0
$u = -0.864734 - 1.003780I$ $a = -0.882254 + 1.058650I$ $b = 2.07633 + 0.04773I$	$11.94950 + 6.58665I$	0
$u = 0.169777 + 0.640051I$ $a = 2.09836 + 1.02675I$ $b = -0.152332 - 1.028930I$	$0.76782 + 1.19453I$	$4.26499 - 2.46898I$
$u = 0.169777 - 0.640051I$ $a = 2.09836 - 1.02675I$ $b = -0.152332 + 1.028930I$	$0.76782 - 1.19453I$	$4.26499 + 2.46898I$
$u = -0.518208 + 0.404309I$ $a = 1.50731 + 0.28565I$ $b = -0.094912 - 0.386134I$	$0.61609 + 2.03745I$	$4.84113 - 3.90583I$
$u = -0.518208 - 0.404309I$ $a = 1.50731 - 0.28565I$ $b = -0.094912 + 0.386134I$	$0.61609 - 2.03745I$	$4.84113 + 3.90583I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.373944 + 0.452314I$ $a = 1.42702 + 0.88137I$ $b = -0.383829 - 0.488009I$	$0.630433 + 1.227030I$	$4.67740 - 4.85116I$
$u = 0.373944 - 0.452314I$ $a = 1.42702 - 0.88137I$ $b = -0.383829 + 0.488009I$	$0.630433 - 1.227030I$	$4.67740 + 4.85116I$
$u = 0.259947$ $a = 3.48349$ $b = -1.23002$	2.31399	2.87430

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u + 5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.500000 + 0.866025I$ $a = -1.00000$ $b = \ \ 0.500000 + 0.866025I$	$1.64493 + 2.02988I$	$3.00000 - 3.46410I$
$u = \ \ 0.500000 - 0.866025I$ $a = -1.00000$ $b = \ \ 0.500000 - 0.866025I$	$1.64493 - 2.02988I$	$3.00000 + 3.46410I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)(u^{53}-2u^{52}+\cdots+5u-1)$
c_2, c_6	$(u^2+u+1)(u^{53}+12u^{52}+\cdots+u-1)$
c_3	$(u^2+u+1)(u^{53}+4u^{52}+\cdots+u+1)$
c_4	$(u^2-u+1)(u^{53}+12u^{52}+\cdots+u-1)$
c_5	$(u^2-u+1)(u^{53}-2u^{52}+\cdots+5u-1)$
c_7	$((u+1)^2)(u^{53}+3u^{52}+\cdots+8u-1)$
c_8	$(u^2+u+1)(u^{53}+2u^{52}+\cdots+361u-31)$
c_9	$(u^2+u+1)(u^{53}+10u^{51}+\cdots-4625u-6737)$
c_{10}	$((u-1)^2)(u^{53}+3u^{52}+\cdots+8u-1)$
c_{11}	$u^2(u^{53}-9u^{52}+\cdots-4u-4)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^2+y+1)(y^{53}+12y^{52}+\cdots+y-1)$
c_2, c_4, c_6	$(y^2+y+1)(y^{53}+60y^{52}+\cdots+185y-1)$
c_3	$(y^2+y+1)(y^{53}-8y^{52}+\cdots+y-1)$
c_7, c_{10}	$((y-1)^2)(y^{53}-43y^{52}+\cdots-84y-1)$
c_8	$(y^2+y+1)(y^{53}+68y^{52}+\cdots+28145y-961)$
c_9	$(y^2+y+1)(y^{53}+20y^{52}+\cdots+6.23517\times 10^8 y-4.53872\times 10^7)$
c_{11}	$y^2(y^{53}+15y^{52}+\cdots-120y-16)$