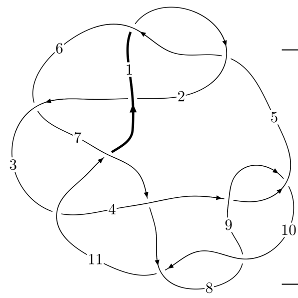
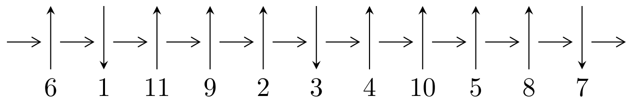
$11a_{77}$ ($K11a_{77}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{65} + u^{64} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 65 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. $I^u_1 = \langle u^{65} + u^{64} + \cdots - u - 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^{11} - 2u^9 + 4u^7 - 4u^5 + 3u^3 - 2u \\ -u^{11} + u^9 - 2u^7 + u^5 - u^3 + u \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} u^{18} - 3u^{16} + 8u^{14} - 13u^{12} + 17u^{10} - 17u^8 + 12u^6 - 6u^4 + u^2 + 1 \\ u^{20} - 4u^{18} + 10u^{16} - 18u^{14} + 23u^{12} - 24u^{10} + 18u^8 - 10u^6 + 3u^4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{49} + 8u^{47} + \cdots + 4u^3 - u \\ -u^{51} + 9u^{49} + \cdots - u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{30} + 5u^{28} + \cdots - 12u^6 + 1 \\ u^{30} - 4u^{28} + \cdots - 2u^4 + u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{30} + 5u^{28} + \cdots - 12u^6 + 1 \\ u^{30} - 4u^{28} + \cdots - 2u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{63} - 40u^{61} + \cdots + 4u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{65} - u^{64} + \cdots + 3u - 1$
c_2	$u^{65} + 31u^{64} + \cdots + u - 1$
c_3	$u^{65} + 7u^{64} + \cdots + 1657u + 101$
c_4, c_9	$u^{65} + u^{64} + \cdots - u - 1$
c_6	$u^{65} + u^{64} + \cdots - 191u - 37$
c_7	$u^{65} - u^{64} + \cdots - 7u - 1$
c_8, c_{10}	$u^{65} - 21u^{64} + \cdots + u - 1$
c_{11}	$u^{65} - 5u^{64} + \cdots + 163u - 21$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{65} + 31y^{64} + \cdots + y - 1$
c_2	$y^{65} + 7y^{64} + \cdots + 9y - 1$
c_3	$y^{65} + 19y^{64} + \cdots + 722417y - 10201$
c_4, c_9	$y^{65} - 21y^{64} + \cdots + y - 1$
c_6	$y^{65} - 17y^{64} + \cdots + 2293y - 1369$
c_7	$y^{65} - y^{64} + \cdots + 33y - 1$
c_8, c_{10}	$y^{65} + 47y^{64} + \cdots - 7y - 1$
c_{11}	$y^{65} + 11y^{64} + \cdots - 30047y - 441$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.689365 + 0.726697I$	$-1.58337 - 2.03293I$	$3.89738 + 3.26899I$
$u = -0.689365 - 0.726697I$	$-1.58337 + 2.03293I$	$3.89738 - 3.26899I$
$u = 1.005880 + 0.157008I$	$-0.41947 + 2.11288I$	$4.80416 - 3.07590I$
$u = 1.005880 - 0.157008I$	$-0.41947 - 2.11288I$	$4.80416 + 3.07590I$
$u = -0.911421 + 0.476290I$	$-0.02873 + 3.68623I$	$6.08412 - 2.12264I$
$u = -0.911421 - 0.476290I$	$-0.02873 - 3.68623I$	$6.08412 + 2.12264I$
$u = 0.687792 + 0.769063I$	$-0.78159 - 2.53862I$	$5.40480 + 3.10900I$
$u = 0.687792 - 0.769063I$	$-0.78159 + 2.53862I$	$5.40480 - 3.10900I$
$u = 1.030140 + 0.058702I$	$3.90580 - 2.15177I$	$11.37394 + 2.20893I$
$u = 1.030140 - 0.058702I$	$3.90580 + 2.15177I$	$11.37394 - 2.20893I$
$u = -1.029380 + 0.089417I$	$5.09135 - 2.55649I$	$13.39578 + 4.21201I$
$u = -1.029380 - 0.089417I$	$5.09135 + 2.55649I$	$13.39578 - 4.21201I$
$u = -1.037970 + 0.135001I$	$4.01245 - 4.61295I$	$11.51833 + 4.52005I$
$u = -1.037970 - 0.135001I$	$4.01245 + 4.61295I$	$11.51833 - 4.52005I$
$u = 0.908964 + 0.523673I$	$1.93533 + 1.09584I$	$9.59662 - 2.36982I$
$u = 0.908964 - 0.523673I$	$1.93533 - 1.09584I$	$9.59662 + 2.36982I$
$u = 1.047290 + 0.147978I$	$1.79362 + 9.57441I$	$8.04394 - 8.42502I$
$u = 1.047290 - 0.147978I$	$1.79362 - 9.57441I$	$8.04394 + 8.42502I$
$u = 0.694570 + 0.806772I$	$-2.33998 - 4.47857I$	$3.88200 + 0.I$
$u = 0.694570 - 0.806772I$	$-2.33998 + 4.47857I$	$3.88200 + 0.I$
$u = -0.693732 + 0.817224I$	$-4.71040 + 9.46363I$	$0. - 5.96163I$
$u = -0.693732 - 0.817224I$	$-4.71040 - 9.46363I$	$0. + 5.96163I$
$u = -0.855805 + 0.645921I$	$-2.22679 - 2.52501I$	0
$u = -0.855805 - 0.645921I$	$-2.22679 + 2.52501I$	0
$u = -0.714699 + 0.808408I$	$-6.81733 + 1.64607I$	0
$u = -0.714699 - 0.808408I$	$-6.81733 - 1.64607I$	0
$u = -0.786697 + 0.772614I$	$-3.96704 - 1.98381I$	0
$u = -0.786697 - 0.772614I$	$-3.96704 + 1.98381I$	0
$u = 0.770398 + 0.794763I$	$-7.77271 - 1.28375I$	0
$u = 0.770398 - 0.794763I$	$-7.77271 + 1.28375I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.946620 + 0.582707I$	$2.30161 + 3.09152I$	0
$u = \quad 0.946620 - 0.582707I$	$2.30161 - 3.09152I$	0
$u = -0.843904 + 0.254405I$	$-1.51926 - 2.99365I$	$3.32010 + 5.42677I$
$u = -0.843904 - 0.254405I$	$-1.51926 + 2.99365I$	$3.32010 - 5.42677I$
$u = \quad 0.800302 + 0.787738I$	$-6.57059 + 6.52849I$	0
$u = \quad 0.800302 - 0.787738I$	$-6.57059 - 6.52849I$	0
$u = -0.966069 + 0.601492I$	$0.74043 - 7.86664I$	0
$u = -0.966069 - 0.601492I$	$0.74043 + 7.86664I$	0
$u = -0.944152 + 0.730238I$	$-3.48204 - 3.70053I$	0
$u = -0.944152 - 0.730238I$	$-3.48204 + 3.70053I$	0
$u = \quad 0.937853 + 0.746992I$	$-6.14634 - 0.74794I$	0
$u = \quad 0.937853 - 0.746992I$	$-6.14634 + 0.74794I$	0
$u = \quad 0.800973$	1.17985	8.77650
$u = -0.990290 + 0.689258I$	$-0.68502 - 3.40527I$	0
$u = -0.990290 - 0.689258I$	$-0.68502 + 3.40527I$	0
$u = \quad 0.962070 + 0.741300I$	$-7.18458 + 7.06765I$	0
$u = \quad 0.962070 - 0.741300I$	$-7.18458 - 7.06765I$	0
$u = \quad 0.999686 + 0.703361I$	$0.15648 + 8.12741I$	0
$u = \quad 0.999686 - 0.703361I$	$0.15648 - 8.12741I$	0
$u = -0.999377 + 0.728906I$	$-5.94902 - 7.42747I$	0
$u = -0.999377 - 0.728906I$	$-5.94902 + 7.42747I$	0
$u = \quad 1.008600 + 0.721373I$	$-1.38595 + 10.22920I$	0
$u = \quad 1.008600 - 0.721373I$	$-1.38595 - 10.22920I$	0
$u = -1.012630 + 0.725752I$	$-3.7395 - 15.2573I$	0
$u = -1.012630 - 0.725752I$	$-3.7395 + 15.2573I$	0
$u = -0.448985 + 0.508256I$	$-0.40000 + 3.37253I$	$3.73657 - 2.56528I$
$u = -0.448985 - 0.508256I$	$-0.40000 - 3.37253I$	$3.73657 + 2.56528I$
$u = -0.163452 + 0.613583I$	$-2.07374 - 7.24801I$	$0.44286 + 6.94914I$
$u = -0.163452 - 0.613583I$	$-2.07374 + 7.24801I$	$0.44286 - 6.94914I$
$u = \quad 0.173474 + 0.573585I$	$0.19197 + 2.46276I$	$3.81248 - 3.42438I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.173474 - 0.573585I$	$0.19197 - 2.46276I$	$3.81248 + 3.42438I$
$u = -0.088496 + 0.577660I$	$-3.86299 + 0.19977I$	$-3.23482 + 0.27466I$
$u = -0.088496 - 0.577660I$	$-3.86299 - 0.19977I$	$-3.23482 - 0.27466I$
$u = \quad 0.302292 + 0.470945I$	$1.11205 + 0.99447I$	$6.38117 - 3.96144I$
$u = \quad 0.302292 - 0.470945I$	$1.11205 - 0.99447I$	$6.38117 + 3.96144I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{65} - u^{64} + \cdots + 3u - 1$
c_2	$u^{65} + 31u^{64} + \cdots + u - 1$
c_3	$u^{65} + 7u^{64} + \cdots + 1657u + 101$
c_4, c_9	$u^{65} + u^{64} + \cdots - u - 1$
c_6	$u^{65} + u^{64} + \cdots - 191u - 37$
c_7	$u^{65} - u^{64} + \cdots - 7u - 1$
c_8, c_{10}	$u^{65} - 21u^{64} + \cdots + u - 1$
c_{11}	$u^{65} - 5u^{64} + \cdots + 163u - 21$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{65} + 31y^{64} + \cdots + y - 1$
c_2	$y^{65} + 7y^{64} + \cdots + 9y - 1$
c_3	$y^{65} + 19y^{64} + \cdots + 722417y - 10201$
c_4, c_9	$y^{65} - 21y^{64} + \cdots + y - 1$
c_6	$y^{65} - 17y^{64} + \cdots + 2293y - 1369$
c_7	$y^{65} - y^{64} + \cdots + 33y - 1$
c_8, c_{10}	$y^{65} + 47y^{64} + \cdots - 7y - 1$
c_{11}	$y^{65} + 11y^{64} + \cdots - 30047y - 441$