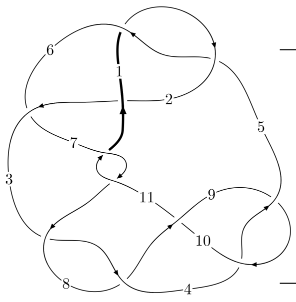
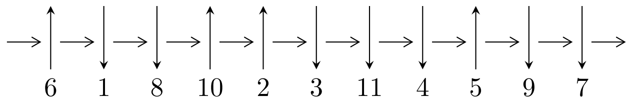
$11a_{89}$ $(K11a_{89})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{59} - u^{58} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 59 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. $I_1^u = \langle u^{59} - u^{58} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^6 - u^4 + 1 \\ -u^8 - 2u^6 - 2u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{11} + 2u^9 + 2u^7 + u^3 \\ -u^{11} - 3u^9 - 4u^7 - u^5 + u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{19} - 4u^{17} - 8u^{15} - 8u^{13} - 5u^{11} - 2u^9 - 2u^7 - u^3 \\ u^{19} + 5u^{17} + 12u^{15} + 15u^{13} + 9u^{11} - u^9 - 4u^7 - 2u^5 + u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{46} - 11u^{44} + \cdots - u^8 + 1 \\ u^{46} + 12u^{44} + \cdots - 4u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{25} - 6u^{23} + \cdots + 2u^3 + u \\ -u^{27} - 7u^{25} + \cdots + u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{25} - 6u^{23} + \cdots + 2u^3 + u \\ -u^{27} - 7u^{25} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{57} - 4u^{56} + \cdots + 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{59} - u^{58} + \cdots + u^2 + 1$
c_2	$u^{59} + 27u^{58} + \cdots - 2u - 1$
c_3, c_8	$u^{59} - u^{58} + \cdots - 122u + 17$
c_4, c_9	$u^{59} + u^{58} + \cdots + 2u + 1$
c_6	$u^{59} + u^{58} + \cdots - 12u + 1$
c_7, c_{11}	$u^{59} - 5u^{58} + \cdots - 82u + 13$
c_{10}	$u^{59} + 31u^{58} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{59} + 27y^{58} + \cdots - 2y - 1$
c_2	$y^{59} + 11y^{58} + \cdots - 10y - 1$
c_3, c_8	$y^{59} - 41y^{58} + \cdots + 8186y - 289$
c_4, c_9	$y^{59} + 31y^{58} + \cdots - 2y - 1$
c_6	$y^{59} - 5y^{58} + \cdots + 158y - 1$
c_7, c_{11}	$y^{59} + 39y^{58} + \cdots - 790y - 169$
c_{10}	$y^{59} - 5y^{58} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.583032 + 0.813066I$	$3.26959 - 8.77818I$	$-0.47164 + 8.68429I$
$u = -0.583032 - 0.813066I$	$3.26959 + 8.77818I$	$-0.47164 - 8.68429I$
$u = 0.580211 + 0.794129I$	$5.10030 + 3.64576I$	$2.63542 - 3.97208I$
$u = 0.580211 - 0.794129I$	$5.10030 - 3.64576I$	$2.63542 + 3.97208I$
$u = 0.105740 + 0.954737I$	$-3.61435 - 0.81482I$	$-11.81807 + 0.39125I$
$u = 0.105740 - 0.954737I$	$-3.61435 + 0.81482I$	$-11.81807 - 0.39125I$
$u = 0.583734 + 0.745935I$	$5.23854 + 0.95699I$	$3.16051 - 3.05625I$
$u = 0.583734 - 0.745935I$	$5.23854 - 0.95699I$	$3.16051 + 3.05625I$
$u = -0.513490 + 0.784053I$	$0.12062 - 2.09029I$	$-3.61559 + 4.04072I$
$u = -0.513490 - 0.784053I$	$0.12062 + 2.09029I$	$-3.61559 - 4.04072I$
$u = 0.267008 + 1.029790I$	$-2.27337 + 5.68828I$	$-7.21814 - 7.12378I$
$u = 0.267008 - 1.029790I$	$-2.27337 - 5.68828I$	$-7.21814 + 7.12378I$
$u = -0.590577 + 0.723804I$	$3.52494 + 4.14809I$	$0.42761 - 2.02743I$
$u = -0.590577 - 0.723804I$	$3.52494 - 4.14809I$	$0.42761 + 2.02743I$
$u = -0.277374 + 0.855227I$	$-0.47179 - 1.53127I$	$-3.18476 + 4.49987I$
$u = -0.277374 - 0.855227I$	$-0.47179 + 1.53127I$	$-3.18476 - 4.49987I$
$u = 0.402583 + 1.057810I$	$-2.16744 + 5.71812I$	$-4.90219 - 7.50071I$
$u = 0.402583 - 1.057810I$	$-2.16744 - 5.71812I$	$-4.90219 + 7.50071I$
$u = -0.343840 + 1.124430I$	$-0.89986 - 1.11007I$	0
$u = -0.343840 - 1.124430I$	$-0.89986 + 1.11007I$	0
$u = 0.791530 + 0.188709I$	$0.29452 - 9.84540I$	$-2.45493 + 7.04615I$
$u = 0.791530 - 0.188709I$	$0.29452 + 9.84540I$	$-2.45493 - 7.04615I$
$u = -0.776617 + 0.194322I$	$2.34089 + 4.71915I$	$0.72234 - 2.89887I$
$u = -0.776617 - 0.194322I$	$2.34089 - 4.71915I$	$0.72234 + 2.89887I$
$u = 0.760501 + 0.155795I$	$-2.48885 - 2.55680I$	$-6.01367 + 2.15869I$
$u = 0.760501 - 0.155795I$	$-2.48885 + 2.55680I$	$-6.01367 - 2.15869I$
$u = -0.345622 + 1.179020I$	$-1.76168 + 1.10867I$	0
$u = -0.345622 - 1.179020I$	$-1.76168 - 1.10867I$	0
$u = -0.734385 + 0.223140I$	$3.02131 + 2.16148I$	$1.92228 - 2.64869I$
$u = -0.734385 - 0.223140I$	$3.02131 - 2.16148I$	$1.92228 + 2.64869I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.762070+0.031702I$	$-4.96969+3.70348I$	$-7.82347-4.14921I$
$u=-0.762070-0.031702I$	$-4.96969-3.70348I$	$-7.82347+4.14921I$
$u=\ \ 0.375195+1.182380I$	$-6.39612+1.21454I$	0
$u=\ \ 0.375195-1.182380I$	$-6.39612-1.21454I$	0
$u=\ \ 0.345299+1.192710I$	$-3.87250-6.14988I$	0
$u=\ \ 0.345299-1.192710I$	$-3.87250+6.14988I$	0
$u=\ \ 0.711490+0.247959I$	$1.56541+2.82997I$	$-0.36876-2.80903I$
$u=\ \ 0.711490-0.247959I$	$1.56541-2.82997I$	$-0.36876+2.80903I$
$u=\ \ 0.517320+1.138620I$	$-1.02512+1.83845I$	0
$u=\ \ 0.517320-1.138620I$	$-1.02512-1.83845I$	0
$u=\ \ 0.449779+1.176350I$	$-5.36932+4.22831I$	0
$u=\ \ 0.449779-1.176350I$	$-5.36932-4.22831I$	0
$u=-0.520078+1.151590I$	$0.31706-6.89044I$	0
$u=-0.520078-1.151590I$	$0.31706+6.89044I$	0
$u=-0.435858+1.193120I$	$-8.51972-0.54462I$	0
$u=-0.435858-1.193120I$	$-8.51972+0.54462I$	0
$u=-0.462214+1.191570I$	$-8.33359-8.13937I$	0
$u=-0.462214-1.191570I$	$-8.33359+8.13937I$	0
$u=\ \ 0.509182+1.174820I$	$-5.45452+7.27810I$	0
$u=\ \ 0.509182-1.174820I$	$-5.45452-7.27810I$	0
$u=-0.524148+1.171460I$	$-0.52516-9.55823I$	0
$u=-0.524148-1.171460I$	$-0.52516+9.55823I$	0
$u=\ \ 0.715690$	-2.04472	-3.85390
$u=\ \ 0.526243+1.177590I$	$-2.6156+14.7281I$	0
$u=\ \ 0.526243-1.177590I$	$-2.6156-14.7281I$	0
$u=-0.380000+0.590467I$	$0.23726-1.53414I$	$0.41319+4.58156I$
$u=-0.380000-0.590467I$	$0.23726+1.53414I$	$0.41319-4.58156I$
$u=\ \ 0.465645+0.351838I$	$-0.26046-2.03230I$	$-0.35610+3.52270I$
$u=\ \ 0.465645-0.351838I$	$-0.26046+2.03230I$	$-0.35610-3.52270I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{59} - u^{58} + \cdots + u^2 + 1$
c_2	$u^{59} + 27u^{58} + \cdots - 2u - 1$
c_3, c_8	$u^{59} - u^{58} + \cdots - 122u + 17$
c_4, c_9	$u^{59} + u^{58} + \cdots + 2u + 1$
c_6	$u^{59} + u^{58} + \cdots - 12u + 1$
c_7, c_{11}	$u^{59} - 5u^{58} + \cdots - 82u + 13$
c_{10}	$u^{59} + 31u^{58} + \cdots - 2u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{59} + 27y^{58} + \cdots - 2y - 1$
c_2	$y^{59} + 11y^{58} + \cdots - 10y - 1$
c_3, c_8	$y^{59} - 41y^{58} + \cdots + 8186y - 289$
c_4, c_9	$y^{59} + 31y^{58} + \cdots - 2y - 1$
c_6	$y^{59} - 5y^{58} + \cdots + 158y - 1$
c_7, c_{11}	$y^{59} + 39y^{58} + \cdots - 790y - 169$
c_{10}	$y^{59} - 5y^{58} + \cdots - 2y - 1$