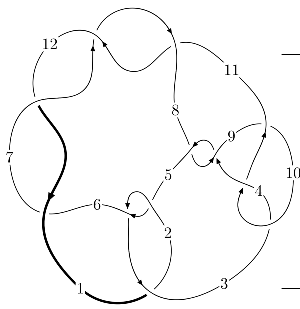
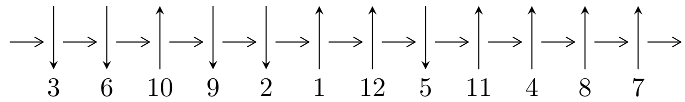
$12a_{0447}$ ($K12a_{0447}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$3,6 \xrightarrow[c_2]{} 2 \xrightarrow[c_1]{} 1 \xrightarrow[c_6]{} 7 \xrightarrow[c_5]{} 5 \xrightarrow[c_{12}]{} 12 \xrightarrow[c_7]{} 8 \xrightarrow[c_8]{} 9 \xrightarrow[c_4]{} 4 \xrightarrow[c_{11}]{} 11 \xrightarrow[c_9]{} 10 \rightsquigarrow c_3, c_{10}$$

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

$$I_1^u = \langle u^{60} - u^{59} + \cdots - u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 60 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. $I_1^u = \langle u^{60} - u^{59} + \cdots - u^2 + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{11} - 4u^9 + 6u^7 - 2u^5 - 3u^3 + 2u \\ u^{11} - 3u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{15} + 4u^{13} - 6u^{11} + 8u^7 - 6u^5 - 2u^3 + 2u \\ u^{17} - 5u^{15} + 11u^{13} - 10u^{11} - u^9 + 10u^7 - 6u^5 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{29} - 8u^{27} + \cdots + 2u^3 + u \\ -u^{31} + 9u^{29} + \cdots - 4u^5 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{14} + 5u^{12} - 10u^{10} + 7u^8 + 4u^6 - 8u^4 + 2u^2 + 1 \\ -u^{14} + 4u^{12} - 7u^{10} + 4u^8 + 2u^6 - 4u^4 + u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{45} - 14u^{43} + \cdots - 18u^5 + 3u \\ u^{45} - 13u^{43} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{59} - 72u^{57} + \cdots - 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{60} + 35u^{59} + \cdots + 2u + 1$
c_2, c_5	$u^{60} + u^{59} + \cdots - u^2 + 1$
c_3, c_{10}	$u^{60} + u^{59} + \cdots + 2u + 1$
c_4, c_8	$u^{60} + 3u^{59} + \cdots - 453u^2 + 77$
c_6, c_7, c_{11} c_{12}	$u^{60} + 3u^{59} + \cdots + 34u + 5$
c_9	$u^{60} - 31u^{59} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{60} - 19y^{59} + \cdots - 10y + 1$
c_2, c_5	$y^{60} - 35y^{59} + \cdots - 2y + 1$
c_3, c_{10}	$y^{60} - 31y^{59} + \cdots - 2y + 1$
c_4, c_8	$y^{60} + 37y^{59} + \cdots - 69762y + 5929$
c_6, c_7, c_{11} c_{12}	$y^{60} + 73y^{59} + \cdots + 74y + 25$
c_9	$y^{60} - 3y^{59} + \cdots - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.919475+0.342245I$	$0.08563+3.24816I$	$2.86695-8.06640I$
$u=-0.919475-0.342245I$	$0.08563-3.24816I$	$2.86695+8.06640I$
$u=-1.044190+0.193501I$	$0.32484+3.60424I$	$-1.15833-4.66740I$
$u=-1.044190-0.193501I$	$0.32484-3.60424I$	$-1.15833+4.66740I$
$u=\ \ 0.905641+0.075866I$	$-1.51462-0.22405I$	$-6.40245+0.27111I$
$u=\ \ 0.905641-0.075866I$	$-1.51462+0.22405I$	$-6.40245-0.27111I$
$u=-0.006041+0.904852I$	$-10.02580-2.42359I$	$-2.65635+3.19391I$
$u=-0.006041-0.904852I$	$-10.02580+2.42359I$	$-2.65635-3.19391I$
$u=\ \ 0.038465+0.899651I$	$-4.64353+8.98999I$	$1.72039-5.67712I$
$u=\ \ 0.038465-0.899651I$	$-4.64353-8.98999I$	$1.72039+5.67712I$
$u=-0.030149+0.897007I$	$-7.37251-4.03814I$	$-1.44998+2.20533I$
$u=-0.030149-0.897007I$	$-7.37251+4.03814I$	$-1.44998-2.20533I$
$u=\ \ 0.763924+0.465497I$	$5.00437-6.11953I$	$7.26352+7.85803I$
$u=\ \ 0.763924-0.465497I$	$5.00437+6.11953I$	$7.26352-7.85803I$
$u=\ \ 0.030712+0.880798I$	$-3.02518+0.62968I$	$3.76609+0.36863I$
$u=\ \ 0.030712-0.880798I$	$-3.02518-0.62968I$	$3.76609-0.36863I$
$u=\ \ 1.092890+0.282962I$	$-3.07831-0.54807I$	0
$u=\ \ 1.092890-0.282962I$	$-3.07831+0.54807I$	0
$u=\ \ 1.032740+0.462956I$	$2.05457-2.50514I$	0
$u=\ \ 1.032740-0.462956I$	$2.05457+2.50514I$	0
$u=-0.739994+0.426951I$	$1.82247+1.86091I$	$4.36406-4.47008I$
$u=-0.739994-0.426951I$	$1.82247-1.86091I$	$4.36406+4.47008I$
$u=-1.117990+0.254452I$	$-0.50349-3.93794I$	0
$u=-1.117990-0.254452I$	$-0.50349+3.93794I$	0
$u=-1.062020+0.457339I$	$-1.79262+6.16892I$	0
$u=-1.062020-0.457339I$	$-1.79262-6.16892I$	0
$u=\ \ 0.701269+0.462491I$	$5.17636+2.18925I$	$8.10847+0.13060I$
$u=\ \ 0.701269-0.462491I$	$5.17636-2.18925I$	$8.10847-0.13060I$
$u=\ \ 1.109480+0.360438I$	$-4.69760-1.44356I$	0
$u=\ \ 1.109480-0.360438I$	$-4.69760+1.44356I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.065550 + 0.475941I$	$1.11940 - 10.83400I$	0
$u = \quad 1.065550 - 0.475941I$	$1.11940 + 10.83400I$	0
$u = -1.104060 + 0.403777I$	$-4.38057 + 5.70362I$	0
$u = -1.104060 - 0.403777I$	$-4.38057 - 5.70362I$	0
$u = \quad 0.255046 + 0.618563I$	$3.38358 + 6.59803I$	$5.15553 - 6.30688I$
$u = \quad 0.255046 - 0.618563I$	$3.38358 - 6.59803I$	$5.15553 + 6.30688I$
$u = -1.257920 + 0.450457I$	$-6.94466 + 4.07293I$	0
$u = -1.257920 - 0.450457I$	$-6.94466 - 4.07293I$	0
$u = \quad 1.249740 + 0.482651I$	$-6.70940 - 5.51033I$	0
$u = \quad 1.249740 - 0.482651I$	$-6.70940 + 5.51033I$	0
$u = \quad 1.267950 + 0.452530I$	$-11.34370 - 0.73251I$	0
$u = \quad 1.267950 - 0.452530I$	$-11.34370 + 0.73251I$	0
$u = -1.270740 + 0.447700I$	$-8.65827 - 4.23519I$	0
$u = -1.270740 - 0.447700I$	$-8.65827 + 4.23519I$	0
$u = -1.257410 + 0.485584I$	$-11.0988 + 8.9801I$	0
$u = -1.257410 - 0.485584I$	$-11.0988 - 8.9801I$	0
$u = \quad 1.256940 + 0.490183I$	$-8.3433 - 13.9630I$	0
$u = \quad 1.256940 - 0.490183I$	$-8.3433 + 13.9630I$	0
$u = \quad 1.268500 + 0.467782I$	$-13.92050 - 2.45161I$	0
$u = \quad 1.268500 - 0.467782I$	$-13.92050 + 2.45161I$	0
$u = -1.266320 + 0.474454I$	$-13.8709 + 7.3329I$	0
$u = -1.266320 - 0.474454I$	$-13.8709 - 7.3329I$	0
$u = \quad 0.306849 + 0.559155I$	$4.05629 - 1.56504I$	$7.07085 + 0.73954I$
$u = \quad 0.306849 - 0.559155I$	$4.05629 + 1.56504I$	$7.07085 - 0.73954I$
$u = -0.234349 + 0.574464I$	$0.48435 - 2.11140I$	$1.91014 + 3.36891I$
$u = -0.234349 - 0.574464I$	$0.48435 + 2.11140I$	$1.91014 - 3.36891I$
$u = -0.061807 + 0.591217I$	$-1.52087 - 1.95278I$	$-1.21392 + 4.59969I$
$u = -0.061807 - 0.591217I$	$-1.52087 + 1.95278I$	$-1.21392 - 4.59969I$
$u = -0.473230 + 0.288232I$	$1.236790 - 0.098801I$	$8.77548 + 0.26744I$
$u = -0.473230 - 0.288232I$	$1.236790 + 0.098801I$	$8.77548 - 0.26744I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{60} + 35u^{59} + \cdots + 2u + 1$
c_2, c_5	$u^{60} + u^{59} + \cdots - u^2 + 1$
c_3, c_{10}	$u^{60} + u^{59} + \cdots + 2u + 1$
c_4, c_8	$u^{60} + 3u^{59} + \cdots - 453u^2 + 77$
c_6, c_7, c_{11} c_{12}	$u^{60} + 3u^{59} + \cdots + 34u + 5$
c_9	$u^{60} - 31u^{59} + \cdots - 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{60} - 19y^{59} + \cdots - 10y + 1$
c_2, c_5	$y^{60} - 35y^{59} + \cdots - 2y + 1$
c_3, c_{10}	$y^{60} - 31y^{59} + \cdots - 2y + 1$
c_4, c_8	$y^{60} + 37y^{59} + \cdots - 69762y + 5929$
c_6, c_7, c_{11} c_{12}	$y^{60} + 73y^{59} + \cdots + 74y + 25$
c_9	$y^{60} - 3y^{59} + \cdots - 2y + 1$