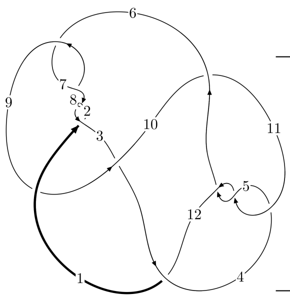
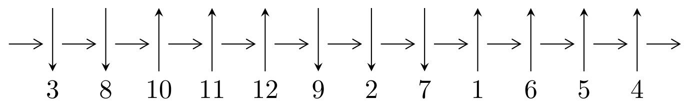
$12a_{0761}$ $(K12a_{0761})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{69} + u^{68} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $I_1^u = \langle u^{69} + u^{68} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{10} - 5u^8 + 8u^6 - 3u^4 - 3u^2 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{27} + 12u^{25} + \cdots - 2u^5 + 5u^3 \\ u^{27} - 11u^{25} + \cdots - u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{15} - 6u^{13} + 14u^{11} - 14u^9 + 2u^7 + 6u^5 - 2u^3 - 2u \\ u^{17} - 7u^{15} + 19u^{13} - 22u^{11} + 3u^9 + 14u^7 - 6u^5 - 4u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{32} - 13u^{30} + \cdots - 2u^2 + 1 \\ u^{34} - 14u^{32} + \cdots - 8u^4 + u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{49} - 20u^{47} + \cdots - 8u^3 - u \\ u^{51} - 21u^{49} + \cdots - 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{66} + 108u^{64} + \cdots - 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$u^{69} + 17u^{68} + \cdots + 3u + 1$
c_2, c_7	$u^{69} + u^{68} + \cdots + u - 1$
c_3	$u^{69} + u^{68} + \cdots - 129u - 137$
c_4, c_5, c_{11}	$u^{69} - u^{68} + \cdots - u - 1$
c_9	$u^{69} - 7u^{68} + \cdots - u + 1$
c_{10}, c_{12}	$u^{69} + 3u^{68} + \cdots + 137u + 39$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^{69} + 71y^{68} + \cdots - 29y - 1$
c_2, c_7	$y^{69} - 17y^{68} + \cdots + 3y - 1$
c_3	$y^{69} - 13y^{68} + \cdots + 104047y - 18769$
c_4, c_5, c_{11}	$y^{69} - 57y^{68} + \cdots + 3y - 1$
c_9	$y^{69} - y^{68} + \cdots - 237y - 1$
c_{10}, c_{12}	$y^{69} + 43y^{68} + \cdots + 12139y - 1521$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.092180 + 0.321855I$	$5.91460 + 0.32154I$	0
$u = -1.092180 - 0.321855I$	$5.91460 - 0.32154I$	0
$u = 1.096740 + 0.333708I$	$5.47967 - 6.53917I$	0
$u = 1.096740 - 0.333708I$	$5.47967 + 6.53917I$	0
$u = 0.138165 + 0.798793I$	$2.56851 + 10.69340I$	$1.65374 - 7.70378I$
$u = 0.138165 - 0.798793I$	$2.56851 - 10.69340I$	$1.65374 + 7.70378I$
$u = 1.145410 + 0.328636I$	$-1.73469 - 2.50512I$	0
$u = 1.145410 - 0.328636I$	$-1.73469 + 2.50512I$	0
$u = -0.140078 + 0.792908I$	$3.02805 - 4.42671I$	$2.55261 + 2.89150I$
$u = -0.140078 - 0.792908I$	$3.02805 + 4.42671I$	$2.55261 - 2.89150I$
$u = 0.110756 + 0.793388I$	$-4.87332 + 6.59799I$	$-3.56404 - 7.84229I$
$u = 0.110756 - 0.793388I$	$-4.87332 - 6.59799I$	$-3.56404 + 7.84229I$
$u = -1.166290 + 0.294481I$	$0.672378 - 0.761865I$	0
$u = -1.166290 - 0.294481I$	$0.672378 + 0.761865I$	0
$u = 0.012224 + 0.791415I$	$-0.94544 - 2.84281I$	$-1.00503 + 2.82836I$
$u = 0.012224 - 0.791415I$	$-0.94544 + 2.84281I$	$-1.00503 - 2.82836I$
$u = 0.074603 + 0.785868I$	$-5.96794 + 1.10890I$	$-6.58754 - 0.13737I$
$u = 0.074603 - 0.785868I$	$-5.96794 - 1.10890I$	$-6.58754 + 0.13737I$
$u = -0.106193 + 0.769108I$	$-2.51716 - 3.12629I$	$2.15915 + 3.27567I$
$u = -0.106193 - 0.769108I$	$-2.51716 + 3.12629I$	$2.15915 - 3.27567I$
$u = 1.193520 + 0.331076I$	$-2.55117 + 2.93757I$	0
$u = 1.193520 - 0.331076I$	$-2.55117 - 2.93757I$	0
$u = 1.245240 + 0.345004I$	$2.86320 + 6.94117I$	0
$u = 1.245240 - 0.345004I$	$2.86320 - 6.94117I$	0
$u = -1.30108$	2.90585	0
$u = -1.277260 + 0.264440I$	$2.55105 - 1.50715I$	0
$u = -1.277260 - 0.264440I$	$2.55105 + 1.50715I$	0
$u = -0.070446 + 0.690883I$	$-1.19123 - 1.83777I$	$2.28274 + 4.57123I$
$u = -0.070446 - 0.690883I$	$-1.19123 + 1.83777I$	$2.28274 - 4.57123I$
$u = -1.264530 + 0.340025I$	$3.01410 - 1.23373I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.264530-0.340025I$	$3.01410+1.23373I$	0
$u=-0.603470+0.301354I$	$6.73153-0.61716I$	$7.13438+2.10966I$
$u=-0.603470-0.301354I$	$6.73153+0.61716I$	$7.13438-2.10966I$
$u=\quad 0.589520+0.321708I$	$6.41855+6.84674I$	$6.30902-7.28330I$
$u=\quad 0.589520-0.321708I$	$6.41855-6.84674I$	$6.30902+7.28330I$
$u=\quad 1.318830+0.298622I$	$3.18430+5.45567I$	0
$u=\quad 1.318830-0.298622I$	$3.18430-5.45567I$	0
$u=-1.315810+0.338996I$	$-1.61288-5.16596I$	0
$u=-1.315810-0.338996I$	$-1.61288+5.16596I$	0
$u=-1.362700+0.054216I$	$4.88257-4.45827I$	0
$u=-1.362700-0.054216I$	$4.88257+4.45827I$	0
$u=-0.215382+0.597701I$	$5.40705-2.59249I$	$4.08361+4.36083I$
$u=-0.215382-0.597701I$	$5.40705+2.59249I$	$4.08361-4.36083I$
$u=\quad 1.365400+0.023049I$	$6.60295+0.80819I$	0
$u=\quad 1.365400-0.023049I$	$6.60295-0.80819I$	0
$u=-1.346740+0.250330I$	$10.10940+0.56737I$	0
$u=-1.346740-0.250330I$	$10.10940-0.56737I$	0
$u=\quad 1.348030+0.257995I$	$10.26320+5.75336I$	0
$u=\quad 1.348030-0.257995I$	$10.26320-5.75336I$	0
$u=\quad 1.333890+0.330249I$	$2.00995+7.10245I$	0
$u=\quad 1.333890-0.330249I$	$2.00995-7.10245I$	0
$u=\quad 0.231821+0.578390I$	$5.22939-3.62581I$	$3.68752+0.72835I$
$u=\quad 0.231821-0.578390I$	$5.22939+3.62581I$	$3.68752-0.72835I$
$u=-1.337180+0.342771I$	$-0.32289-10.69870I$	0
$u=-1.337180-0.342771I$	$-0.32289+10.69870I$	0
$u=\quad 1.352750+0.339947I$	$7.73069+8.51857I$	0
$u=\quad 1.352750-0.339947I$	$7.73069-8.51857I$	0
$u=-1.352500+0.343185I$	$7.2637-14.8161I$	0
$u=-1.352500-0.343185I$	$7.2637+14.8161I$	0
$u=-1.398340+0.054036I$	$12.5949-7.8659I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.398340 - 0.054036I$	$12.5949 + 7.8659I$	0
$u = 1.398680 + 0.048186I$	$12.92990 + 1.53899I$	0
$u = 1.398680 - 0.048186I$	$12.92990 - 1.53899I$	0
$u = 0.462955 + 0.294667I$	$-0.73130 + 3.44818I$	$1.19909 - 9.10721I$
$u = 0.462955 - 0.294667I$	$-0.73130 - 3.44818I$	$1.19909 + 9.10721I$
$u = -0.465435 + 0.129552I$	$0.992427 - 0.375285I$	$9.31448 + 1.85856I$
$u = -0.465435 - 0.129552I$	$0.992427 + 0.375285I$	$9.31448 - 1.85856I$
$u = 0.246534 + 0.364424I$	$-1.34874 - 0.90520I$	$-2.53630 + 0.15595I$
$u = 0.246534 - 0.364424I$	$-1.34874 + 0.90520I$	$-2.53630 - 0.15595I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$u^{69} + 17u^{68} + \cdots + 3u + 1$
c_2, c_7	$u^{69} + u^{68} + \cdots + u - 1$
c_3	$u^{69} + u^{68} + \cdots - 129u - 137$
c_4, c_5, c_{11}	$u^{69} - u^{68} + \cdots - u - 1$
c_9	$u^{69} - 7u^{68} + \cdots - u + 1$
c_{10}, c_{12}	$u^{69} + 3u^{68} + \cdots + 137u + 39$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^{69} + 71y^{68} + \cdots - 29y - 1$
c_2, c_7	$y^{69} - 17y^{68} + \cdots + 3y - 1$
c_3	$y^{69} - 13y^{68} + \cdots + 104047y - 18769$
c_4, c_5, c_{11}	$y^{69} - 57y^{68} + \cdots + 3y - 1$
c_9	$y^{69} - y^{68} + \cdots - 237y - 1$
c_{10}, c_{12}	$y^{69} + 43y^{68} + \cdots + 12139y - 1521$