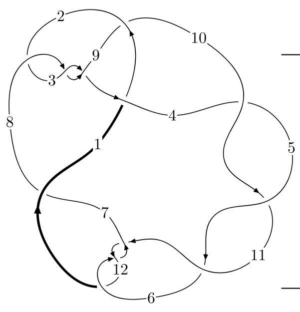
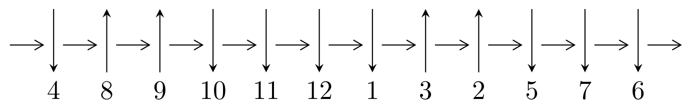
$12a_{1135}$ $(K12a_{1135})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{51} - u^{50} + \cdots + u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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. $I_1^u = \langle u^{51} - u^{50} + \cdots + u^2 + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{12} - 5u^{10} + 9u^8 - 6u^6 + u^2 + 1 \\ u^{14} - 6u^{12} + 13u^{10} - 10u^8 - 2u^6 + 4u^4 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{19} + 8u^{17} - 26u^{15} + 42u^{13} - 31u^{11} + 2u^9 + 8u^7 + 2u^5 - 5u^3 \\ -u^{21} + 9u^{19} + \cdots + u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{26} + 11u^{24} + \cdots + u^2 + 1 \\ -u^{28} + 12u^{26} + \cdots + 7u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{11} + 4u^9 - 4u^7 - 2u^5 + 3u^3 \\ -u^{11} + 5u^9 - 8u^7 + 3u^5 + u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{43} - 18u^{41} + \cdots + 2u^5 - 5u^3 \\ u^{43} - 19u^{41} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{48} - 84u^{46} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{51} - 13u^{50} + \cdots + 12u + 1$
c_2, c_3, c_8	$u^{51} - u^{50} + \cdots + u^2 + 1$
c_4, c_5, c_7 c_{10}	$u^{51} + u^{50} + \cdots - 8u + 5$
c_6, c_{11}, c_{12}	$u^{51} - u^{50} + \cdots + u^2 + 1$
c_9	$u^{51} + 3u^{50} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} - y^{50} + \cdots + 130y - 1$
c_2, c_3, c_8	$y^{51} - 45y^{50} + \cdots - 2y - 1$
c_4, c_5, c_7 c_{10}	$y^{51} - 61y^{50} + \cdots + 214y - 25$
c_6, c_{11}, c_{12}	$y^{51} + 39y^{50} + \cdots - 2y - 1$
c_9	$y^{51} + 7y^{50} + \cdots + 50y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.902903 + 0.325577I$	$-5.89300 - 4.56154I$	$-5.05236 + 4.07430I$
$u = -0.902903 - 0.325577I$	$-5.89300 + 4.56154I$	$-5.05236 - 4.07430I$
$u = 0.880468 + 0.335436I$	$-9.82971 - 0.24622I$	$-8.39004 - 1.01660I$
$u = 0.880468 - 0.335436I$	$-9.82971 + 0.24622I$	$-8.39004 + 1.01660I$
$u = -1.06813$	-1.03647	-8.72440
$u = -0.856904 + 0.340697I$	$-5.78926 + 5.03648I$	$-4.83082 - 1.94671I$
$u = -0.856904 - 0.340697I$	$-5.78926 - 5.03648I$	$-4.83082 + 1.94671I$
$u = 1.124900 + 0.134876I$	$2.48134 + 3.32280I$	$-4.00000 - 4.36423I$
$u = 1.124900 - 0.134876I$	$2.48134 - 3.32280I$	$-4.00000 + 4.36423I$
$u = -0.235766 + 0.759825I$	$-7.79875 - 9.11345I$	$-7.48289 + 6.59020I$
$u = -0.235766 - 0.759825I$	$-7.79875 + 9.11345I$	$-7.48289 - 6.59020I$
$u = 0.226258 + 0.761773I$	$-11.92180 + 4.31858I$	$-11.15925 - 3.68436I$
$u = 0.226258 - 0.761773I$	$-11.92180 - 4.31858I$	$-11.15925 + 3.68436I$
$u = -0.215763 + 0.760894I$	$-8.06841 + 0.51576I$	$-8.00781 + 0.53421I$
$u = -0.215763 - 0.760894I$	$-8.06841 - 0.51576I$	$-8.00781 - 0.53421I$
$u = 0.257995 + 0.660448I$	$1.16289 + 6.09519I$	$-4.37920 - 8.32748I$
$u = 0.257995 - 0.660448I$	$1.16289 - 6.09519I$	$-4.37920 + 8.32748I$
$u = -0.206282 + 0.659987I$	$-3.14927 - 2.95888I$	$-11.20613 + 6.09343I$
$u = -0.206282 - 0.659987I$	$-3.14927 + 2.95888I$	$-11.20613 - 6.09343I$
$u = 0.131114 + 0.652792I$	$-0.354349 - 0.264714I$	$-8.41042 - 0.51951I$
$u = 0.131114 - 0.652792I$	$-0.354349 + 0.264714I$	$-8.41042 + 0.51951I$
$u = 1.339110 + 0.139421I$	$3.66804 + 0.85390I$	0
$u = 1.339110 - 0.139421I$	$3.66804 - 0.85390I$	0
$u = -1.341180 + 0.248138I$	$4.28060 - 2.99425I$	0
$u = -1.341180 - 0.248138I$	$4.28060 + 2.99425I$	0
$u = -1.354380 + 0.201765I$	$4.54456 - 3.46632I$	0
$u = -1.354380 - 0.201765I$	$4.54456 + 3.46632I$	0
$u = -1.390510 + 0.124734I$	$8.28822 + 1.34028I$	0
$u = -1.390510 - 0.124734I$	$8.28822 - 1.34028I$	0
$u = 1.375440 + 0.261240I$	$1.86998 + 6.31343I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.375440 - 0.261240I$	$1.86998 - 6.31343I$	0
$u = 0.539099 + 0.260049I$	$2.52247 - 2.75652I$	$-0.95244 + 2.72758I$
$u = 0.539099 - 0.260049I$	$2.52247 + 2.75652I$	$-0.95244 - 2.72758I$
$u = -0.322141 + 0.495142I$	$4.37007 - 1.51321I$	$1.58286 + 4.81149I$
$u = -0.322141 - 0.495142I$	$4.37007 + 1.51321I$	$1.58286 - 4.81149I$
$u = 1.398710 + 0.200839I$	$9.80592 + 4.11706I$	0
$u = 1.398710 - 0.200839I$	$9.80592 - 4.11706I$	0
$u = 1.38564 + 0.30978I$	$-2.99097 + 3.35828I$	0
$u = 1.38564 - 0.30978I$	$-2.99097 - 3.35828I$	0
$u = -1.39681 + 0.26002I$	$6.43038 - 9.45265I$	0
$u = -1.39681 - 0.26002I$	$6.43038 + 9.45265I$	0
$u = -1.39168 + 0.30947I$	$-6.78632 - 8.19635I$	0
$u = -1.39168 - 0.30947I$	$-6.78632 + 8.19635I$	0
$u = -1.42815$	-2.73211	0
$u = 1.42821 + 0.01641I$	$1.24343 - 4.60815I$	0
$u = 1.42821 - 0.01641I$	$1.24343 + 4.60815I$	0
$u = 1.39668 + 0.30759I$	$-2.61209 + 12.97930I$	0
$u = 1.39668 - 0.30759I$	$-2.61209 - 12.97930I$	0
$u = -0.535707$	-1.25126	-7.55560
$u = 0.146686 + 0.475106I$	$-0.235868 + 0.894366I$	$-5.34109 - 7.35162I$
$u = 0.146686 - 0.475106I$	$-0.235868 - 0.894366I$	$-5.34109 + 7.35162I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{51} - 13u^{50} + \cdots + 12u + 1$
c_2, c_3, c_8	$u^{51} - u^{50} + \cdots + u^2 + 1$
c_4, c_5, c_7 c_{10}	$u^{51} + u^{50} + \cdots - 8u + 5$
c_6, c_{11}, c_{12}	$u^{51} - u^{50} + \cdots + u^2 + 1$
c_9	$u^{51} + 3u^{50} + \cdots - 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} - y^{50} + \cdots + 130y - 1$
c_2, c_3, c_8	$y^{51} - 45y^{50} + \cdots - 2y - 1$
c_4, c_5, c_7 c_{10}	$y^{51} - 61y^{50} + \cdots + 214y - 25$
c_6, c_{11}, c_{12}	$y^{51} + 39y^{50} + \cdots - 2y - 1$
c_9	$y^{51} + 7y^{50} + \cdots + 50y - 1$