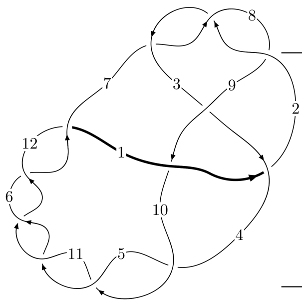
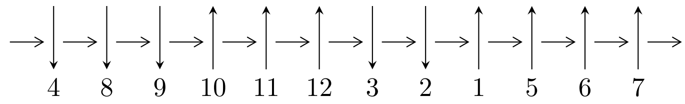
$12a_{1131}$ ($K12a_{1131}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{36} - u^{35} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 36 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. $I^u_1 = \langle u^{36} - u^{35} + \cdots + 2u - 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{10} + 7u^8 - 16u^6 + 13u^4 - 3u^2 + 1 \\ u^{10} - 6u^8 + 11u^6 - 6u^4 - u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^8 - 5u^6 + 7u^4 - 4u^2 + 1 \\ -u^{10} + 6u^8 - 11u^6 + 6u^4 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{21} - 14u^{19} + \cdots - 6u^3 - u \\ -u^{23} + 15u^{21} + \cdots + 3u^5 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{30} + 21u^{28} + \cdots - 2u^2 + 1 \\ u^{30} - 20u^{28} + \cdots + 4u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{33} + 96u^{31} - 1028u^{29} + 6480u^{27} - 4u^{26} - 26716u^{25} + 76u^{24} + 75712u^{23} - 624u^{22} - 150888u^{21} + 2900u^{20} + 212724u^{19} - 8396u^{18} - 210644u^{17} + 15708u^{16} + 143696u^{15} - 19072u^{14} - 65160u^{13} + 14724u^{12} + 17972u^{11} - 6940u^{10} - 1760u^9 + 1900u^8 - 704u^7 - 256u^6 + 252u^5 - 28u^4 - 28u^3 + 8u^2 - 8u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{36} - 7u^{35} + \cdots - 232u + 41$
c_2, c_7, c_8	$u^{36} - u^{35} + \cdots + 2u - 1$
c_3	$u^{36} + u^{35} + \cdots + 12u - 5$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$u^{36} - u^{35} + \cdots + 2u - 1$
c_9	$u^{36} - 7u^{35} + \cdots - 18u - 23$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{36} + 17y^{35} + \cdots + 20386y + 1681$
c_2, c_7, c_8	$y^{36} + 33y^{35} + \cdots - 2y + 1$
c_3	$y^{36} + 5y^{35} + \cdots + 326y + 25$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$y^{36} - 51y^{35} + \cdots - 2y + 1$
c_9	$y^{36} - 11y^{35} + \cdots - 17390y + 529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.04394$	2.22712	3.27780
$u = -1.079960 + 0.119175I$	$5.79259 - 2.98654I$	$8.57086 + 4.13096I$
$u = -1.079960 - 0.119175I$	$5.79259 + 2.98654I$	$8.57086 - 4.13096I$
$u = -1.213500 + 0.129016I$	$6.46669 - 1.82543I$	$10.08149 + 0.I$
$u = -1.213500 - 0.129016I$	$6.46669 + 1.82543I$	$10.08149 + 0.I$
$u = \quad 1.214860 + 0.180532I$	$5.50042 + 5.63047I$	$7.52653 - 6.48027I$
$u = \quad 1.214860 - 0.180532I$	$5.50042 - 5.63047I$	$7.52653 + 6.48027I$
$u = -1.234960 + 0.201281I$	$11.1170 - 9.0710I$	$11.65066 + 6.38493I$
$u = -1.234960 - 0.201281I$	$11.1170 + 9.0710I$	$11.65066 - 6.38493I$
$u = \quad 1.274050 + 0.114931I$	$12.72680 - 0.22711I$	$13.64872 + 0.I$
$u = \quad 1.274050 - 0.114931I$	$12.72680 + 0.22711I$	$13.64872 + 0.I$
$u = -0.644894 + 0.272842I$	$6.48468 + 1.54840I$	$11.35292 + 1.36620I$
$u = -0.644894 - 0.272842I$	$6.48468 - 1.54840I$	$11.35292 - 1.36620I$
$u = \quad 0.526732 + 0.414982I$	$5.43048 + 6.93335I$	$8.60774 - 8.21015I$
$u = \quad 0.526732 - 0.414982I$	$5.43048 - 6.93335I$	$8.60774 + 8.21015I$
$u = -0.486537 + 0.379941I$	$0.00982 - 3.70218I$	$3.81394 + 8.88282I$
$u = -0.486537 - 0.379941I$	$0.00982 + 3.70218I$	$3.81394 - 8.88282I$
$u = \quad 0.479492 + 0.232110I$	$0.971714 + 0.522356I$	$8.33537 - 2.15446I$
$u = \quad 0.479492 - 0.232110I$	$0.971714 - 0.522356I$	$8.33537 + 2.15446I$
$u = \quad 0.311016 + 0.385975I$	$1.46430 + 1.31040I$	$3.20189 - 5.18752I$
$u = \quad 0.311016 - 0.385975I$	$1.46430 - 1.31040I$	$3.20189 + 5.18752I$
$u = \quad 0.096135 + 0.473992I$	$4.15985 - 3.98782I$	$4.47753 + 2.28092I$
$u = \quad 0.096135 - 0.473992I$	$4.15985 + 3.98782I$	$4.47753 - 2.28092I$
$u = -0.136819 + 0.396849I$	$-1.00604 + 1.06758I$	$-1.68349 - 1.70579I$
$u = -0.136819 - 0.396849I$	$-1.00604 - 1.06758I$	$-1.68349 + 1.70579I$
$u = -1.75782$	12.4876	0
$u = \quad 1.75996 + 0.01943I$	$16.1344 + 3.4889I$	0
$u = \quad 1.75996 - 0.01943I$	$16.1344 - 3.4889I$	0
$u = \quad 1.78872 + 0.03357I$	$17.4757 + 2.5595I$	0
$u = \quad 1.78872 - 0.03357I$	$17.4757 - 2.5595I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.78882 + 0.04535I$	$16.4920 - 6.6364I$	0
$u = -1.78882 - 0.04535I$	$16.4920 + 6.6364I$	0
$u = 1.79374 + 0.05108I$	$-17.2721 + 10.2085I$	0
$u = 1.79374 - 0.05108I$	$-17.2721 - 10.2085I$	0
$u = -1.80226 + 0.02848I$	$-15.4141 - 0.4302I$	0
$u = -1.80226 - 0.02848I$	$-15.4141 + 0.4302I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{36} - 7u^{35} + \cdots - 232u + 41$
c_2, c_7, c_8	$u^{36} - u^{35} + \cdots + 2u - 1$
c_3	$u^{36} + u^{35} + \cdots + 12u - 5$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$u^{36} - u^{35} + \cdots + 2u - 1$
c_9	$u^{36} - 7u^{35} + \cdots - 18u - 23$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{36} + 17y^{35} + \cdots + 20386y + 1681$
c_2, c_7, c_8	$y^{36} + 33y^{35} + \cdots - 2y + 1$
c_3	$y^{36} + 5y^{35} + \cdots + 326y + 25$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$y^{36} - 51y^{35} + \cdots - 2y + 1$
c_9	$y^{36} - 11y^{35} + \cdots - 17390y + 529$