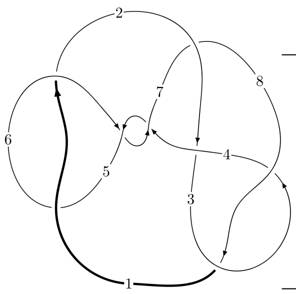
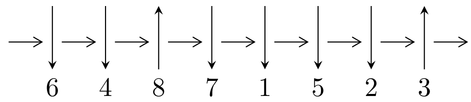
8_{14} $(K8a_1)$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{15} - u^{14} - 2u^{13} + 3u^{12} + 4u^{11} - 6u^{10} - 4u^9 + 9u^8 + 2u^7 - 8u^6 + 6u^4 - 2u^3 - 2u^2 + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 15 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. $\boldsymbol{I^u_1 = \langle u^{15} - u^{14} - 2u^{13} + 3u^{12} + 4u^{11} - 6u^{10} - 4u^9 + 9u^8 + 2u^7 - 8u^6 + 6u^4 - 2u^3 - 2u^2 + 2u - 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{11} - 2u^9 + 4u^7 - 4u^5 + 3u^3 - 2u \\ -u^{11} + u^9 - 2u^7 + u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ -u^8 + 2u^6 - 2u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{14}+12u^{12}-4u^{11}-24u^{10}+8u^9+32u^8-20u^7-28u^6+24u^5+16u^4-20u^3-4u^2+12u-10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{15} + u^{14} + \cdots + 2u + 1$
c_2	$u^{15} + 7u^{14} + \cdots + 4u^2 - 1$
c_3, c_8	$u^{15} + u^{14} + \cdots + 2u + 1$
c_4, c_6	$u^{15} + 5u^{14} + \cdots + 12u^3 + 1$
c_7	$u^{15} - u^{14} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{15} - 5y^{14} + \cdots + 12y^3 - 1$
c_2	$y^{15} + 3y^{14} + \cdots + 8y - 1$
c_3, c_8	$y^{15} + 7y^{14} + \cdots + 4y^2 - 1$
c_4, c_6	$y^{15} + 11y^{14} + \cdots - 84y^2 - 1$
c_7	$y^{15} - y^{14} + \cdots + 16y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.035190 + 0.117787I$	$-4.20816 + 3.60340I$	$-10.16372 - 4.47672I$
$u = -1.035190 - 0.117787I$	$-4.20816 - 3.60340I$	$-10.16372 + 4.47672I$
$u = 0.690784 + 0.795701I$	$1.98305 + 3.51852I$	$-2.28698 - 2.59027I$
$u = 0.690784 - 0.795701I$	$1.98305 - 3.51852I$	$-2.28698 + 2.59027I$
$u = 0.928223 + 0.554966I$	$-1.82075 - 2.07402I$	$-7.82822 + 2.67122I$
$u = 0.928223 - 0.554966I$	$-1.82075 + 2.07402I$	$-7.82822 - 2.67122I$
$u = -0.778519 + 0.756850I$	$3.53338 + 1.50523I$	$0.15133 - 2.74048I$
$u = -0.778519 - 0.756850I$	$3.53338 - 1.50523I$	$0.15133 + 2.74048I$
$u = 0.860077$	-1.42428	-6.56340
$u = -0.946375 + 0.717051I$	$3.01689 + 4.09199I$	$-0.95573 - 3.15094I$
$u = -0.946375 - 0.717051I$	$3.01689 - 4.09199I$	$-0.95573 + 3.15094I$
$u = 1.006640 + 0.715109I$	$1.02630 - 9.21780I$	$-4.14540 + 7.39135I$
$u = 1.006640 - 0.715109I$	$1.02630 + 9.21780I$	$-4.14540 - 7.39135I$
$u = 0.204399 + 0.532644I$	$-0.35117 - 1.66084I$	$-2.48958 + 3.96405I$
$u = 0.204399 - 0.532644I$	$-0.35117 + 1.66084I$	$-2.48958 - 3.96405I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{15} + u^{14} + \cdots + 2u + 1$
c_2	$u^{15} + 7u^{14} + \cdots + 4u^2 - 1$
c_3, c_8	$u^{15} + u^{14} + \cdots + 2u + 1$
c_4, c_6	$u^{15} + 5u^{14} + \cdots + 12u^3 + 1$
c_7	$u^{15} - u^{14} + \cdots - 4u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{15} - 5y^{14} + \cdots + 12y^3 - 1$
c_2	$y^{15} + 3y^{14} + \cdots + 8y - 1$
c_3, c_8	$y^{15} + 7y^{14} + \cdots + 4y^2 - 1$
c_4, c_6	$y^{15} + 11y^{14} + \cdots - 84y^2 - 1$
c_7	$y^{15} - y^{14} + \cdots + 16y - 1$