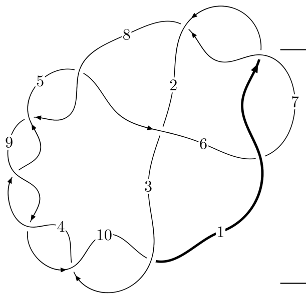
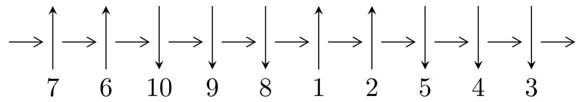
10_4 ($K10a_{113}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{13} + u^{12} + 10u^{11} + 9u^{10} + 37u^9 + 29u^8 + 62u^7 + 40u^6 + 46u^5 + 22u^4 + 12u^3 + 3u^2 + u + 1\rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 13 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. $I^u_1 = \langle u^{13} + u^{12} + 10u^{11} + 9u^{10} + 37u^9 + 29u^8 + 62u^7 + 40u^6 + 46u^5 + 22u^4 + 12u^3 + 3u^2 + u + 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^8 + 5u^6 + 7u^4 + 4u^2 + 1 \\ u^{10} + 6u^8 + 11u^6 + 6u^4 - u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{10} + 7u^8 + 16u^6 + 13u^4 + 3u^2 + 1 \\ -u^{10} - 6u^8 - 11u^6 - 6u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{11} + 4u^{10} + 36u^9 + 32u^8 + 116u^7 + 88u^6 + 160u^5 + 96u^4 + 88u^3 + 36u^2 + 12u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_7	$u^{13} + u^{12} + \cdots + u - 1$
c_2	$u^{13} - 3u^{12} + \cdots - 15u + 8$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^{13} - u^{12} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_7	$y^{13} - 13y^{12} + \cdots - 5y - 1$
c_2	$y^{13} - 9y^{12} + \cdots + 65y - 64$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^{13} + 19y^{12} + \cdots - 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.083038 + 1.167020I$	$4.84943 - 1.92579I$	$3.99878 + 3.82169I$
$u = \quad 0.083038 - 1.167020I$	$4.84943 + 1.92579I$	$3.99878 - 3.82169I$
$u = -0.179330 + 1.269600I$	$10.92570 + 4.78537I$	$7.34460 - 3.59229I$
$u = -0.179330 - 1.269600I$	$10.92570 - 4.78537I$	$7.34460 + 3.59229I$
$u = -0.379427 + 0.590112I$	$4.88223 + 2.83275I$	$4.99682 - 5.17990I$
$u = -0.379427 - 0.590112I$	$4.88223 - 2.83275I$	$4.99682 + 5.17990I$
$u = -0.485085$	3.11610	0.0828820
$u = \quad 0.245118 + 0.346982I$	$-0.059028 - 0.886909I$	$-1.30388 + 7.82576I$
$u = \quad 0.245118 - 0.346982I$	$-0.059028 + 0.886909I$	$-1.30388 - 7.82576I$
$u = \quad 0.01838 + 1.78025I$	$15.6533 - 2.3518I$	$4.35700 + 2.76650I$
$u = \quad 0.01838 - 1.78025I$	$15.6533 + 2.3518I$	$4.35700 - 2.76650I$
$u = -0.04523 + 1.80316I$	$-17.2479 + 5.8171I$	$7.56524 - 2.75393I$
$u = -0.04523 - 1.80316I$	$-17.2479 - 5.8171I$	$7.56524 + 2.75393I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_7	$u^{13} + u^{12} + \cdots + u - 1$
c_2	$u^{13} - 3u^{12} + \cdots - 15u + 8$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^{13} - u^{12} + \cdots + u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_7	$y^{13} - 13y^{12} + \cdots - 5y - 1$
c_2	$y^{13} - 9y^{12} + \cdots + 65y - 64$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^{13} + 19y^{12} + \cdots - 5y - 1$