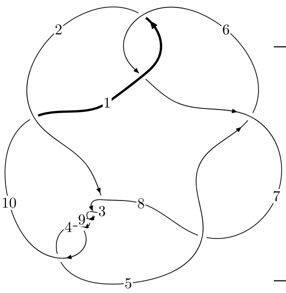
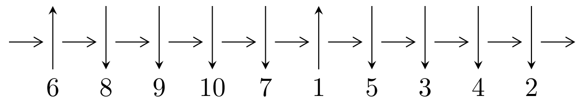
10_6 $(K10a_{70})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{18} - u^{17} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 18 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. $\boldsymbol{I_1^u = \langle u^{18} - u^{17} + 3u^{16} - 2u^{15} + 8u^{14} - 5u^{13} + 13u^{12} - 6u^{11} + 17u^{10} - 5u^9 + 15u^8 - 2u^7 + 10u^6 + 2u^5 + 2u^4 + 4u^3 - u^2 + u - 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{11} - 2u^9 - 4u^7 - 4u^5 - 3u^3 \\ -u^{11} - u^9 - 2u^7 - u^5 + u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{10} - u^8 - 2u^6 - u^4 + u^2 + 1 \\ -u^{12} - 2u^{10} - 4u^8 - 4u^6 - 3u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{17} - 2u^{15} - 5u^{13} - 6u^{11} - 5u^9 - 2u^7 + 2u^5 + 4u^3 + u \\ -u^{17} + u^{16} + \cdots + u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{16} - 4u^{15} + 8u^{14} - 8u^{13} + 24u^{12} - 20u^{11} + 28u^{10} - 24u^9 + 36u^8 - 20u^7 + 20u^6 - 12u^5 + 8u^4 + 4u^3 - 8u^2 + 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{18} + u^{17} + \cdots - u - 1$
c_2, c_3, c_4 c_8, c_9	$u^{18} + u^{17} + \cdots - 3u - 1$
c_5, c_7, c_{10}	$u^{18} + 5u^{17} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{18} + 5y^{17} + \cdots + y + 1$
c_2, c_3, c_4 c_8, c_9	$y^{18} - 23y^{17} + \cdots + y + 1$
c_5, c_7, c_{10}	$y^{18} + 17y^{17} + \cdots - 23y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.261770 + 0.920605I$	$-3.83985 + 2.54428I$	$-13.6710 - 5.1939I$
$u = 0.261770 - 0.920605I$	$-3.83985 - 2.54428I$	$-13.6710 + 5.1939I$
$u = -0.272828 + 1.039360I$	$-13.13100 - 3.24976I$	$-13.8187 + 3.4932I$
$u = -0.272828 - 1.039360I$	$-13.13100 + 3.24976I$	$-13.8187 - 3.4932I$
$u = 0.855326 + 0.759946I$	$-5.70958 - 2.31893I$	$-7.86761 + 0.27178I$
$u = 0.855326 - 0.759946I$	$-5.70958 + 2.31893I$	$-7.86761 - 0.27178I$
$u = -0.813352 + 0.821748I$	$2.79760 + 0.47412I$	$-6.24213 - 1.46151I$
$u = -0.813352 - 0.821748I$	$2.79760 - 0.47412I$	$-6.24213 + 1.46151I$
$u = 0.798203 + 0.890045I$	$5.14256 + 2.99347I$	$-2.16456 - 2.96884I$
$u = 0.798203 - 0.890045I$	$5.14256 - 2.99347I$	$-2.16456 + 2.96884I$
$u = -0.779702 + 0.947695I$	$2.41083 - 6.44838I$	$-7.16819 + 6.55335I$
$u = -0.779702 - 0.947695I$	$2.41083 + 6.44838I$	$-7.16819 - 6.55335I$
$u = 0.774589 + 0.997585I$	$-6.44242 + 8.39094I$	$-9.04735 - 5.13904I$
$u = 0.774589 - 0.997585I$	$-6.44242 - 8.39094I$	$-9.04735 + 5.13904I$
$u = -0.703368$	-9.78395	-7.88600
$u = -0.211837 + 0.649664I$	$-0.370697 - 0.965885I$	$-6.45922 + 6.93392I$
$u = -0.211837 - 0.649664I$	$-0.370697 + 0.965885I$	$-6.45922 - 6.93392I$
$u = 0.479029$	-1.27899	-7.23650

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{18} + u^{17} + \cdots - u - 1$
c_2, c_3, c_4 c_8, c_9	$u^{18} + u^{17} + \cdots - 3u - 1$
c_5, c_7, c_{10}	$u^{18} + 5u^{17} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{18} + 5y^{17} + \cdots + y + 1$
c_2, c_3, c_4 c_8, c_9	$y^{18} - 23y^{17} + \cdots + y + 1$
c_5, c_7, c_{10}	$y^{18} + 17y^{17} + \cdots - 23y + 1$