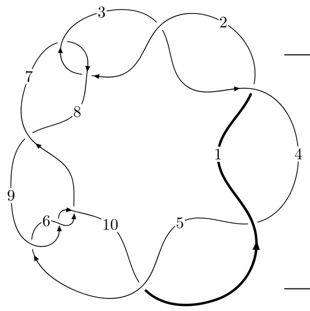
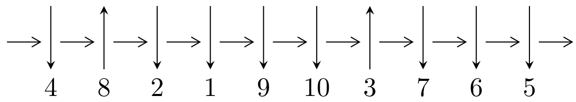
10_{20} $(K10a_{74})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{17} - u^{16} + \cdots + 3u + 1 \rangle$$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{15} - 24u^{13} - 4u^{12} + 56u^{11} + 20u^{10} - 44u^9 - 36u^8 - 40u^7 + 12u^6 + 84u^5 + 36u^4 - 12u^3 - 28u^2 - 36u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4 c_8, c_{10}	$u^{17} + 3u^{16} + \cdots - 3u - 1$
c_2, c_7	$u^{17} + u^{16} + \cdots + u + 1$
c_5, c_6, c_9	$u^{17} - u^{16} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_8, c_{10}	$y^{17} + 23y^{16} + \cdots + 9y - 1$
c_2, c_7	$y^{17} + 3y^{16} + \cdots - 3y - 1$
c_5, c_6, c_9	$y^{17} - 13y^{16} + \cdots - 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.012292+0.931569I$	$13.9525+3.3872I$	$0.08288-2.32417I$
$u=-0.012292-0.931569I$	$13.9525-3.3872I$	$0.08288+2.32417I$
$u=-1.11583$	-2.09753	-3.69430
$u=-1.164080+0.305929I$	$0.607153+1.195370I$	$-3.40206-0.58854I$
$u=-1.164080-0.305929I$	$0.607153-1.195370I$	$-3.40206+0.58854I$
$u=\ \ 1.261810+0.096321I$	$-4.71727-2.28997I$	$-12.30509+4.71022I$
$u=\ \ 1.261810-0.096321I$	$-4.71727+2.28997I$	$-12.30509-4.71022I$
$u=-0.066401+0.709465I$	$3.89229+2.50454I$	$0.07700-3.85927I$
$u=-0.066401-0.709465I$	$3.89229-2.50454I$	$0.07700+3.85927I$
$u=\ \ 1.262700+0.297820I$	$-0.19933-6.12281I$	$-5.66204+6.84601I$
$u=\ \ 1.262700-0.297820I$	$-0.19933+6.12281I$	$-5.66204-6.84601I$
$u=-1.282560+0.458780I$	$10.01240+1.56927I$	$-3.08060-0.65050I$
$u=-1.282560-0.458780I$	$10.01240-1.56927I$	$-3.08060+0.65050I$
$u=\ \ 1.301090+0.450240I$	$9.86681-8.31738I$	$-3.35967+5.18877I$
$u=\ \ 1.301090-0.450240I$	$9.86681+8.31738I$	$-3.35967-5.18877I$
$u=-0.242352+0.298895I$	$-0.289621+0.926552I$	$-5.50330-7.34204I$
$u=-0.242352-0.298895I$	$-0.289621-0.926552I$	$-5.50330+7.34204I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4 c_8, c_{10}	$u^{17} + 3u^{16} + \cdots - 3u - 1$
c_2, c_7	$u^{17} + u^{16} + \cdots + u + 1$
c_5, c_6, c_9	$u^{17} - u^{16} + \cdots + 3u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_8, c_{10}	$y^{17} + 23y^{16} + \cdots + 9y - 1$
c_2, c_7	$y^{17} + 3y^{16} + \cdots - 3y - 1$
c_5, c_6, c_9	$y^{17} - 13y^{16} + \cdots - 3y - 1$