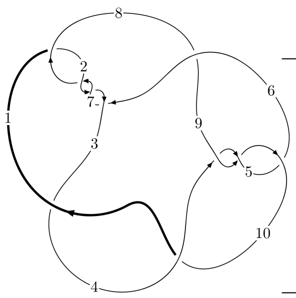
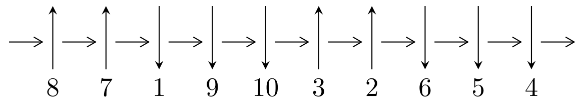
10_{11} $(K10a_{116})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{21} + u^{20} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 21 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. $I_1^u = \langle u^{21} + u^{20} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ -u^6 + 2u^4 - u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{16} + 7u^{14} - 19u^{12} + 22u^{10} - 3u^8 - 14u^6 + 6u^4 + 2u^2 + 1 \\ u^{16} - 6u^{14} + 14u^{12} - 14u^{10} + 2u^8 + 6u^6 - 4u^4 + 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{15} + 6u^{13} - 14u^{11} + 14u^9 - 2u^7 - 6u^5 + 4u^3 - 2u \\ -u^{17} + 7u^{15} - 19u^{13} + 22u^{11} - 3u^9 - 14u^7 + 6u^5 + 2u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{18} - 28u^{16} + 4u^{15} + 80u^{14} - 24u^{13} - 104u^{12} + 56u^{11} + 24u^{10} - 52u^9 + 88u^8 - 8u^7 - 76u^6 + 44u^5 - 12u^4 - 12u^3 + 24u^2 - 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_6 c_7	$u^{21} - u^{20} + \cdots - u + 1$
c_3, c_8, c_{10}	$u^{21} - 3u^{20} + \cdots + 5u - 3$
c_4, c_5, c_9	$u^{21} + u^{20} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7	$y^{21} + 23y^{20} + \cdots - 5y - 1$
c_3, c_8, c_{10}	$y^{21} + 19y^{20} + \cdots + 7y - 9$
c_4, c_5, c_9	$y^{21} - 17y^{20} + \cdots - 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.086113 + 0.839589I$	$-1.10589 - 5.00460I$	$-1.84652 + 3.34739I$
$u = \ \ 0.086113 - 0.839589I$	$-1.10589 + 5.00460I$	$-1.84652 - 3.34739I$
$u = -0.027961 + 0.833462I$	$5.50220 + 2.11040I$	$1.91245 - 3.38979I$
$u = -0.027961 - 0.833462I$	$5.50220 - 2.11040I$	$1.91245 + 3.38979I$
$u = -1.18427$	-2.46649	-1.74060
$u = \ \ 1.178890 + 0.386444I$	$-4.45765 + 0.58948I$	$-5.04554 + 0.27365I$
$u = \ \ 1.178890 - 0.386444I$	$-4.45765 - 0.58948I$	$-5.04554 - 0.27365I$
$u = \ \ 1.281130 + 0.111157I$	$-4.56809 - 2.45481I$	$-8.82608 + 5.13736I$
$u = \ \ 1.281130 - 0.111157I$	$-4.56809 + 2.45481I$	$-8.82608 - 5.13736I$
$u = -1.245840 + 0.377074I$	$1.73723 + 2.23968I$	$-1.50234 - 0.17506I$
$u = -1.245840 - 0.377074I$	$1.73723 - 2.23968I$	$-1.50234 + 0.17506I$
$u = \ \ 1.291060 + 0.376139I$	$1.39230 - 6.45770I$	$-2.54644 + 6.39068I$
$u = \ \ 1.291060 - 0.376139I$	$1.39230 + 6.45770I$	$-2.54644 - 6.39068I$
$u = \ \ 0.430693 + 0.459647I$	$-6.58253 - 1.66521I$	$-5.55767 + 3.90994I$
$u = \ \ 0.430693 - 0.459647I$	$-6.58253 + 1.66521I$	$-5.55767 - 3.90994I$
$u = -1.367930 + 0.126822I$	$-12.19550 + 3.59224I$	$-10.42606 - 3.20950I$
$u = -1.367930 - 0.126822I$	$-12.19550 - 3.59224I$	$-10.42606 + 3.20950I$
$u = -1.328510 + 0.374285I$	$-5.53903 + 9.37044I$	$-6.11943 - 5.65030I$
$u = -1.328510 - 0.374285I$	$-5.53903 - 9.37044I$	$-6.11943 + 5.65030I$
$u = -0.205500 + 0.333164I$	$-0.091241 + 0.864455I$	$-2.17207 - 8.05526I$
$u = -0.205500 - 0.333164I$	$-0.091241 - 0.864455I$	$-2.17207 + 8.05526I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_6 c_7	$u^{21} - u^{20} + \cdots - u + 1$
c_3, c_8, c_{10}	$u^{21} - 3u^{20} + \cdots + 5u - 3$
c_4, c_5, c_9	$u^{21} + u^{20} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7	$y^{21} + 23y^{20} + \cdots - 5y - 1$
c_3, c_8, c_{10}	$y^{21} + 19y^{20} + \cdots + 7y - 9$
c_4, c_5, c_9	$y^{21} - 17y^{20} + \cdots - 5y - 1$