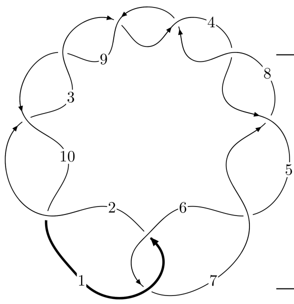
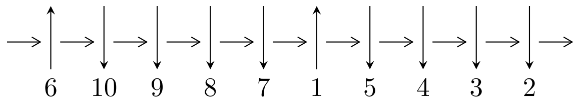
10_1 $(K10a_{75})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^8 - u^7 + 7u^6 - 6u^5 + 15u^4 - 10u^3 + 10u^2 - 4u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 8 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. $I_1^u = \langle u^8 - u^7 + 7u^6 - 6u^5 + 15u^4 - 10u^3 + 10u^2 - 4u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^7 - 4u^6 + 28u^5 - 24u^4 + 60u^3 - 40u^2 + 40u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^8 + u^7 + u^6 + 3u^4 + 2u^3 + 2u^2 + 1$
c_2, c_3, c_4 c_5, c_7, c_8 c_9, c_{10}	$u^8 + u^7 + 7u^6 + 6u^5 + 15u^4 + 10u^3 + 10u^2 + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^8 + y^7 + 7y^6 + 6y^5 + 15y^4 + 10y^3 + 10y^2 + 4y + 1$
c_2, c_3, c_4 c_5, c_7, c_8 c_9, c_{10}	$y^8 + 13y^7 + 67y^6 + 174y^5 + 239y^4 + 166y^3 + 50y^2 + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.147789 + 0.913548I$	$3.50819 - 2.28803I$	$1.30973 + 4.26686I$
$u = 0.147789 - 0.913548I$	$3.50819 + 2.28803I$	$1.30973 - 4.26686I$
$u = 0.06403 + 1.48479I$	$11.71740 - 3.09309I$	$1.88403 + 2.68898I$
$u = 0.06403 - 1.48479I$	$11.71740 + 3.09309I$	$1.88403 - 2.68898I$
$u = 0.272222 + 0.278653I$	$-0.267684 - 0.921357I$	$-5.17544 + 7.34493I$
$u = 0.272222 - 0.278653I$	$-0.267684 + 0.921357I$	$-5.17544 - 7.34493I$
$u = 0.01595 + 1.86641I$	$-14.9579 - 3.5262I$	$1.98168 + 2.14300I$
$u = 0.01595 - 1.86641I$	$-14.9579 + 3.5262I$	$1.98168 - 2.14300I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^8+u^7+u^6+3u^4+2u^3+2u^2+1$
c_2, c_3, c_4 c_5, c_7, c_8 c_9, c_{10}	$u^8+u^7+7u^6+6u^5+15u^4+10u^3+10u^2+4u+1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^8 + y^7 + 7y^6 + 6y^5 + 15y^4 + 10y^3 + 10y^2 + 4y + 1$
c_2, c_3, c_4 c_5, c_7, c_8 c_9, c_{10}	$y^8 + 13y^7 + 67y^6 + 174y^5 + 239y^4 + 166y^3 + 50y^2 + 4y + 1$