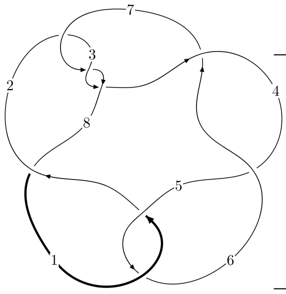
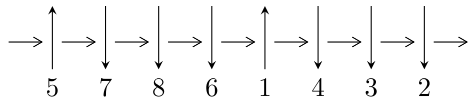
8_6 $(K8a_{10})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{11} - u^{10} + 2u^9 - u^8 + 4u^7 - 2u^6 + 4u^5 - u^4 + 3u^3 + u^2 + 1 \rangle$$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{10} - 4u^8 - 4u^7 - 12u^6 - 4u^5 - 8u^4 - 8u^3 - 8u^2 - 8u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{11} - u^{10} + 2u^9 - u^8 + 4u^7 - 2u^6 + 4u^5 - u^4 + 3u^3 + u^2 + 1$
c_2, c_3, c_7	$u^{11} - u^{10} - 4u^9 + 3u^8 + 6u^7 - 2u^6 - 2u^5 - 3u^4 - 3u^3 + 3u^2 + 2u + 1$
c_4, c_6, c_8	$u^{11} + 3u^{10} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{11} + 3y^{10} + \cdots - 2y - 1$
c_2, c_3, c_7	$y^{11} - 9y^{10} + \cdots - 2y - 1$
c_4, c_6, c_8	$y^{11} + 11y^{10} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.274458+0.988557I$	$-5.18162-2.94672I$	$-9.79937+4.11787I$
$u=-0.274458-0.988557I$	$-5.18162+2.94672I$	$-9.79937-4.11787I$
$u=\quad 0.838197+0.796762I$	$1.97705-1.41699I$	$-3.20869+0.63373I$
$u=\quad 0.838197-0.796762I$	$1.97705+1.41699I$	$-3.20869-0.63373I$
$u=-0.813506+0.895281I$	$5.64260-3.04152I$	$0.06121+2.82242I$
$u=-0.813506-0.895281I$	$5.64260+3.04152I$	$0.06121-2.82242I$
$u=\quad 0.783273+0.973706I$	$1.43178+7.47524I$	$-4.22908-5.55460I$
$u=\quad 0.783273-0.973706I$	$1.43178-7.47524I$	$-4.22908+5.55460I$
$u=\quad 0.267638+0.666716I$	$-0.304732+1.131300I$	$-4.01220-6.05785I$
$u=\quad 0.267638-0.666716I$	$-0.304732-1.131300I$	$-4.01220+6.05785I$
$u=-0.602288$	-2.19537	-3.62370

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{11} - u^{10} + 2u^9 - u^8 + 4u^7 - 2u^6 + 4u^5 - u^4 + 3u^3 + u^2 + 1$
c_2, c_3, c_7	$u^{11} - u^{10} - 4u^9 + 3u^8 + 6u^7 - 2u^6 - 2u^5 - 3u^4 - 3u^3 + 3u^2 + 2u + 1$
c_4, c_6, c_8	$u^{11} + 3u^{10} + \cdots - 2u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{11} + 3y^{10} + \cdots - 2y - 1$
c_2, c_3, c_7	$y^{11} - 9y^{10} + \cdots - 2y - 1$
c_4, c_6, c_8	$y^{11} + 11y^{10} + \cdots + 6y - 1$