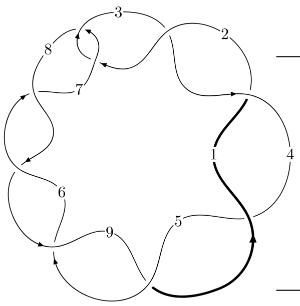
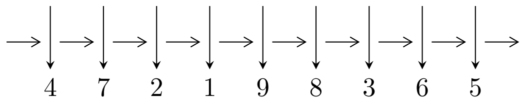
9_2 $(K9a_{27})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

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

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^5 - 4u^4 + 4u^2 + 8u - 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_5, c_6, c_8 c_9	$y^7 + 11y^6 + 46y^5 + 91y^4 + 86y^3 + 34y^2 + 4y - 1$
c_2, c_7	$y^7 - y^6 + 6y^5 - 5y^4 + 10y^3 - 6y^2 + 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.850452 + 0.793787I$	$7.99979 + 2.92126I$	$-2.20347 - 2.94858I$
$u = -0.850452 - 0.793787I$	$7.99979 - 2.92126I$	$-2.20347 + 2.94858I$
$u = 0.676751 + 0.491075I$	$1.26782 - 1.83261I$	$-3.77442 + 5.43914I$
$u = 0.676751 - 0.491075I$	$1.26782 + 1.83261I$	$-3.77442 - 5.43914I$
$u = 0.962510 + 0.950397I$	$-19.5871 - 3.4867I$	$-2.02769 + 2.18600I$
$u = 0.962510 - 0.950397I$	$-19.5871 + 3.4867I$	$-2.02769 - 2.18600I$
$u = -0.577619$	-0.745234	-13.9890

II. u-Polynomials

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

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_5, c_6, c_8 c_9	$y^7 + 11y^6 + 46y^5 + 91y^4 + 86y^3 + 34y^2 + 4y - 1$
c_2, c_7	$y^7 - y^6 + 6y^5 - 5y^4 + 10y^3 - 6y^2 + 4y - 1$