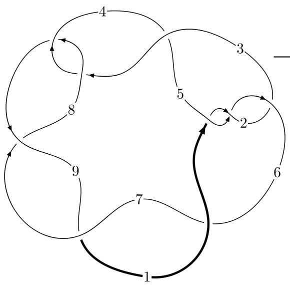
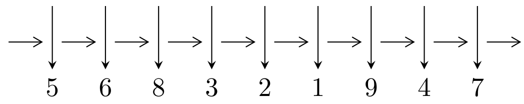
9_7 $(K9a_{26})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{14} - u^{13} - 5u^{12} + 4u^{11} + 10u^{10} - 5u^9 - 7u^8 - 2u^7 - 4u^6 + 8u^5 + 8u^4 - 2u^3 - 2u^2 - 3u - 1\rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 14 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. $I^u_1 = \langle u^{14} - u^{13} - 5u^{12} + 4u^{11} + 10u^{10} - 5u^9 - 7u^8 - 2u^7 - 4u^6 + 8u^5 + 8u^4 - 2u^3 - 2u^2 - 3u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{12} + 20u^{10} + 4u^9 - 36u^8 - 16u^7 + 12u^6 + 20u^5 + 36u^4 + 4u^3 - 28u^2 - 20u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$u^{14} - u^{13} + \cdots - 3u - 1$
c_3, c_8	$u^{14} - u^{13} + \cdots - u - 1$
c_4, c_6, c_7 c_9	$u^{14} + 3u^{13} + \cdots + 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$y^{14} - 11y^{13} + \cdots - 5y + 1$
c_3, c_8	$y^{14} - 3y^{13} + \cdots - 5y + 1$
c_4, c_6, c_7 c_9	$y^{14} + 17y^{13} + \cdots - y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.021800 + 0.901952I$	$9.65121 + 3.26499I$	$-3.90686 - 2.49004I$
$u = -0.021800 - 0.901952I$	$9.65121 - 3.26499I$	$-3.90686 + 2.49004I$
$u = -1.126450 + 0.176078I$	$-1.41287 + 0.85224I$	$-7.59802 - 0.38712I$
$u = -1.126450 - 0.176078I$	$-1.41287 - 0.85224I$	$-7.59802 + 0.38712I$
$u = \quad 1.28972$	-5.55995	-16.7050
$u = \quad 1.279790 + 0.223785I$	$-2.97961 - 4.88256I$	$-11.68599 + 6.44337I$
$u = \quad 1.279790 - 0.223785I$	$-2.97961 + 4.88256I$	$-11.68599 - 6.44337I$
$u = -1.264560 + 0.437504I$	$5.80102 + 1.51934I$	$-7.12222 - 0.64840I$
$u = -1.264560 - 0.437504I$	$5.80102 - 1.51934I$	$-7.12222 + 0.64840I$
$u = \quad 1.299190 + 0.426336I$	$5.53769 - 8.01486I$	$-7.63204 + 5.37427I$
$u = \quad 1.299190 - 0.426336I$	$5.53769 + 8.01486I$	$-7.63204 - 5.37427I$
$u = -0.129663 + 0.583715I$	$1.35226 + 1.98638I$	$-4.65592 - 5.08636I$
$u = -0.129663 - 0.583715I$	$1.35226 - 1.98638I$	$-4.65592 + 5.08636I$
$u = -0.362713$	-0.730641	-14.0930

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$u^{14} - u^{13} + \cdots - 3u - 1$
c_3, c_8	$u^{14} - u^{13} + \cdots - u - 1$
c_4, c_6, c_7 c_9	$u^{14} + 3u^{13} + \cdots + 5u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$y^{14} - 11y^{13} + \cdots - 5y + 1$
c_3, c_8	$y^{14} - 3y^{13} + \cdots - 5y + 1$
c_4, c_6, c_7 c_9	$y^{14} + 17y^{13} + \cdots - y + 1$