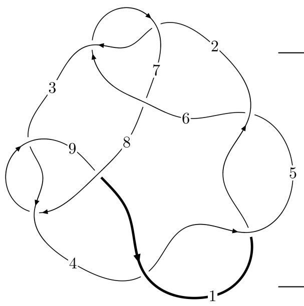
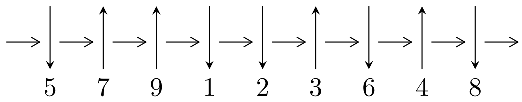
9_{17} $(K9a_{14})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^7 + 2u^5 - u^4 + 2u^3 - u^2 - 1 \rangle$$
$$I_2^u = \langle u^{12} + u^{11} + 4u^{10} + 4u^9 + 7u^8 + 7u^7 + 5u^6 + 5u^5 + u^4 + u^3 + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 19 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. $I_1^u = \langle u^7 + 2u^5 - u^4 + 2u^3 - u^2 - 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^6 + 4u^5 - 4u^4 + 8u^3 - 8u^2 + 4u - 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_5	$y^7 - 7y^6 + 17y^5 - 16y^4 + 6y^3 + 3y^2 - 11y - 4$
c_2, c_3, c_6 c_8	$y^7 + 4y^6 + 8y^5 + 7y^4 + 2y^3 - 3y^2 - 2y - 1$
c_7, c_9	$y^7 + 12y^5 + 3y^4 + 22y^3 - 3y^2 - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.468927 + 1.008510I$	$-2.15041 + 6.00484I$	$-4.26608 - 8.08638I$
$u = \quad 0.468927 - 1.008510I$	$-2.15041 - 6.00484I$	$-4.26608 + 8.08638I$
$u = \quad 0.824481$	-3.34763	-1.23740
$u = -0.391915 + 0.631080I$	$0.40799 - 1.46776I$	$1.41234 + 4.85424I$
$u = -0.391915 - 0.631080I$	$0.40799 + 1.46776I$	$1.41234 - 4.85424I$
$u = -0.489252 + 1.239920I$	$-10.5657 - 9.4746I$	$-7.52754 + 6.21855I$
$u = -0.489252 - 1.239920I$	$-10.5657 + 9.4746I$	$-7.52754 - 6.21855I$

II. $\boldsymbol{I_2^u = \langle u^{12} + u^{11} + 4u^{10} + 4u^9 + 7u^8 + 7u^7 + 5u^6 + 5u^5 + u^4 + u^3 + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^6 - u^4 + 1 \\ -u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^9 - 2u^7 - u^5 + 2u^3 + u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{10} - 3u^8 - 4u^6 - u^4 + u^2 - u + 1 \\ -2u^{11} - u^{10} + \cdots + u - 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{10} - 3u^8 - 4u^6 - u^4 + u^2 - u + 1 \\ -2u^{11} - u^{10} + \cdots + u - 2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^9 - 12u^7 - 12u^5 + 4u^3 + 8u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_5	$(u^6 - u^5 - 3u^4 + 2u^3 + 2u^2 + u - 1)^2$
c_2, c_3, c_6 c_8	$u^{12} - u^{11} + 4u^{10} - 4u^9 + 7u^8 - 7u^7 + 5u^6 - 5u^5 + u^4 - u^3 + 1$
c_7, c_9	$u^{12} + 7u^{11} + \cdots + 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_5	$(y^6 - 7y^5 + 17y^4 - 16y^3 + 6y^2 - 5y + 1)^2$
c_2, c_3, c_6 c_8	$y^{12} + 7y^{11} + \cdots + 2y^2 + 1$
c_7, c_9	$y^{12} - 5y^{11} + \cdots + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.386547 + 0.899125I$	$-0.32962 - 1.97241I$	$-0.57572 + 3.68478I$
$u = -0.386547 - 0.899125I$	$-0.32962 + 1.97241I$	$-0.57572 - 3.68478I$
$u = \quad 0.206575 + 1.062080I$	-4.02872	$-9.41678 + 0.I$
$u = \quad 0.206575 - 1.062080I$	-4.02872	$-9.41678 + 0.I$
$u = -0.869654 + 0.049931I$	$-6.98545 + 4.59213I$	$-4.58114 - 3.20482I$
$u = -0.869654 - 0.049931I$	$-6.98545 - 4.59213I$	$-4.58114 + 3.20482I$
$u = \quad 0.460851 + 1.226450I$	$-6.98545 + 4.59213I$	$-4.58114 - 3.20482I$
$u = \quad 0.460851 - 1.226450I$	$-6.98545 - 4.59213I$	$-4.58114 + 3.20482I$
$u = -0.436607 + 1.253750I$	-10.9500	$-8.26950 + 0.I$
$u = -0.436607 - 1.253750I$	-10.9500	$-8.26950 + 0.I$
$u = \quad 0.525382 + 0.335320I$	$-0.32962 - 1.97241I$	$-0.57572 + 3.68478I$
$u = \quad 0.525382 - 0.335320I$	$-0.32962 + 1.97241I$	$-0.57572 - 3.68478I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4, c_5	$(u^6 - u^5 - 3u^4 + 2u^3 + 2u^2 + u - 1)^2$ $\cdot (u^7 + 3u^6 + u^5 - 2u^4 + 2u^3 + 3u^2 + u + 2)$
c_2, c_3, c_6 c_8	$(u^7 + 2u^5 + u^4 + 2u^3 + u^2 + 1)$ $\cdot (u^{12} - u^{11} + 4u^{10} - 4u^9 + 7u^8 - 7u^7 + 5u^6 - 5u^5 + u^4 - u^3 + 1)$
c_7, c_9	$(u^7 + 4u^6 + \cdots - 2u - 1)(u^{12} + 7u^{11} + \cdots + 2u^2 + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_5	$(y^6 - 7y^5 + 17y^4 - 16y^3 + 6y^2 - 5y + 1)^2$ $\cdot (y^7 - 7y^6 + 17y^5 - 16y^4 + 6y^3 + 3y^2 - 11y - 4)$
c_2, c_3, c_6 c_8	$(y^7 + 4y^6 + \cdots - 2y - 1)(y^{12} + 7y^{11} + \cdots + 2y^2 + 1)$
c_7, c_9	$(y^7 + 12y^5 + \cdots - 2y - 1)(y^{12} - 5y^{11} + \cdots + 4y + 1)$