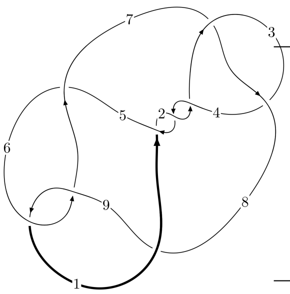
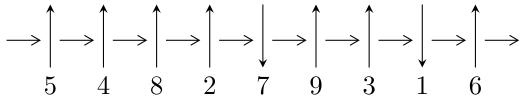
9_{15} $(K9a_{10})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{19} + u^{18} + \cdots - u^2 + 1 \rangle$$

* 1 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. $\boldsymbol{I_1^u = \langle u^{19} + u^{18} - 2u^{17} - 3u^{16} + 6u^{15} + 8u^{14} - 8u^{13} - 13u^{12} + 11u^{11} + 17u^{10} - 10u^9 - 15u^8 + 8u^7 + 10u^6 - 4u^5 - 2u^4 + 3u^3 - u^2 + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{13} + 2u^{11} - 5u^9 + 6u^7 - 6u^5 + 4u^3 - u \\ u^{13} - u^{11} + 3u^9 - 2u^7 + 2u^5 - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ u^{10} - 2u^8 + 3u^6 - 4u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ u^{10} - 2u^8 + 3u^6 - 4u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{18} - 12u^{16} - 4u^{15} + 32u^{14} + 8u^{13} - 56u^{12} - 20u^{11} + 72u^{10} + 24u^9 - 76u^8 - 24u^7 + 52u^6 + 12u^5 - 24u^4 - 4u^3 + 4u^2 - 8u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{19} - 5u^{18} + \cdots + 2u - 1$
c_3, c_7	$u^{19} - u^{18} + \cdots + u^2 - 1$
c_5, c_8	$u^{19} + 7u^{18} + \cdots + 2u - 1$
c_6, c_9	$u^{19} + u^{18} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{19} + 19y^{18} + \cdots + 10y - 1$
c_3, c_7	$y^{19} - 5y^{18} + \cdots + 2y - 1$
c_5, c_8	$y^{19} + 11y^{18} + \cdots + 42y - 1$
c_6, c_9	$y^{19} + 7y^{18} + \cdots + 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.964317 + 0.230449I$	$3.62212 - 0.16816I$	$10.16829 + 0.91431I$
$u = -0.964317 - 0.230449I$	$3.62212 + 0.16816I$	$10.16829 - 0.91431I$
$u = \quad 0.978202 + 0.313897I$	$3.12958 + 5.52702I$	$8.42794 - 7.00248I$
$u = \quad 0.978202 - 0.313897I$	$3.12958 - 5.52702I$	$8.42794 + 7.00248I$
$u = \quad 0.820272 + 0.802988I$	$-2.83381 + 1.53005I$	$4.20605 - 2.54963I$
$u = \quad 0.820272 - 0.802988I$	$-2.83381 - 1.53005I$	$4.20605 + 2.54963I$
$u = -0.809650 + 0.858173I$	$-4.41408 + 3.71612I$	$1.80100 - 2.45937I$
$u = -0.809650 - 0.858173I$	$-4.41408 - 3.71612I$	$1.80100 + 2.45937I$
$u = \quad 0.635698 + 0.450549I$	$-1.41106 + 1.72326I$	$0.18035 - 5.18112I$
$u = \quad 0.635698 - 0.450549I$	$-1.41106 - 1.72326I$	$0.18035 + 5.18112I$
$u = \quad 0.949254 + 0.773576I$	$-2.43770 + 4.39903I$	$4.93348 - 2.80289I$
$u = \quad 0.949254 - 0.773576I$	$-2.43770 - 4.39903I$	$4.93348 + 2.80289I$
$u = -0.903405 + 0.838368I$	$-8.30762 - 3.11880I$	$-1.58624 + 2.69239I$
$u = -0.903405 - 0.838368I$	$-8.30762 + 3.11880I$	$-1.58624 - 2.69239I$
$u = -0.975971 + 0.799116I$	$-3.89635 - 9.88550I$	$2.86128 + 7.31129I$
$u = -0.975971 - 0.799116I$	$-3.89635 + 9.88550I$	$2.86128 - 7.31129I$
$u = -0.667698$	0.907373	11.4720
$u = \quad 0.103765 + 0.589022I$	$0.46836 - 2.32534I$	$2.27174 + 3.09456I$
$u = \quad 0.103765 - 0.589022I$	$0.46836 + 2.32534I$	$2.27174 - 3.09456I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{19} - 5u^{18} + \cdots + 2u - 1$
c_3, c_7	$u^{19} - u^{18} + \cdots + u^2 - 1$
c_5, c_8	$u^{19} + 7u^{18} + \cdots + 2u - 1$
c_6, c_9	$u^{19} + u^{18} + \cdots + 2u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{19} + 19y^{18} + \cdots + 10y - 1$
c_3, c_7	$y^{19} - 5y^{18} + \cdots + 2y - 1$
c_5, c_8	$y^{19} + 11y^{18} + \cdots + 42y - 1$
c_6, c_9	$y^{19} + 7y^{18} + \cdots + 2y - 1$