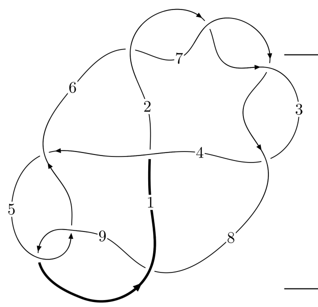
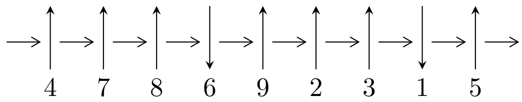
9_{11} $(K9a_{20})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{16} + u^{15} + 3u^{14} + 2u^{13} + 7u^{12} + 4u^{11} + 10u^{10} + 4u^9 + 11u^8 + 2u^7 + 8u^6 + 4u^4 - 2u^3 - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 16 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. $\boldsymbol{I_1^u = \langle u^{16} + u^{15} + 3u^{14} + 2u^{13} + 7u^{12} + 4u^{11} + 10u^{10} + 4u^9 + 11u^8 + 2u^7 + 8u^6 + 4u^4 - 2u^3 - 2u - 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^7 + 2u^5 + 2u^3 + 2u \\ -u^9 - u^7 - u^5 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{10} + u^8 + 2u^6 + u^4 + u^2 + 1 \\ u^{10} + 2u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{14} - 3u^{12} - 6u^{10} - 9u^8 - 8u^6 - 6u^4 - 2u^2 + 1 \\ -u^{15} - u^{14} + \cdots + 2u + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{14} - 3u^{12} - 6u^{10} - 9u^8 - 8u^6 - 6u^4 - 2u^2 + 1 \\ -u^{15} - u^{14} + \cdots + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$
$-4u^{15} - 8u^{13} + 4u^{12} - 20u^{11} + 8u^{10} - 24u^9 + 16u^8 - 28u^7 + 20u^6 - 20u^5 + 16u^4 - 12u^3 + 12u^2 + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} + 5u^{15} + \cdots - 8u - 7$
c_2, c_3, c_6 c_7	$u^{16} - u^{15} + \cdots + 2u^2 - 1$
c_4, c_8	$u^{16} + 5u^{15} + \cdots - 4u + 1$
c_5, c_9	$u^{16} - u^{15} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 7y^{15} + \cdots - 344y + 49$
c_2, c_3, c_6 c_7	$y^{16} - 19y^{15} + \cdots - 4y + 1$
c_4, c_8	$y^{16} + 13y^{15} + \cdots - 48y + 1$
c_5, c_9	$y^{16} + 5y^{15} + \cdots - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.254861 + 1.023380I$	$4.69957 + 3.12434I$	$5.94060 - 3.66013I$
$u = 0.254861 - 1.023380I$	$4.69957 - 3.12434I$	$5.94060 + 3.66013I$
$u = 0.750689 + 0.759364I$	$3.60098 - 0.48968I$	$10.35607 + 1.43137I$
$u = 0.750689 - 0.759364I$	$3.60098 + 0.48968I$	$10.35607 - 1.43137I$
$u = -0.099165 + 0.920214I$	$-1.88705 - 1.52971I$	$1.27263 + 5.08772I$
$u = -0.099165 - 0.920214I$	$-1.88705 + 1.52971I$	$1.27263 - 5.08772I$
$u = -0.665350 + 0.873267I$	$1.01730 - 2.57669I$	$4.69244 + 2.71681I$
$u = -0.665350 - 0.873267I$	$1.01730 + 2.57669I$	$4.69244 - 2.71681I$
$u = -0.847960 + 0.745397I$	$11.90060 + 2.28357I$	$11.92472 - 0.30826I$
$u = -0.847960 - 0.745397I$	$11.90060 - 2.28357I$	$11.92472 + 0.30826I$
$u = 0.716556 + 0.957138I$	$3.00238 + 6.07197I$	$8.61575 - 7.02814I$
$u = 0.716556 - 0.957138I$	$3.00238 - 6.07197I$	$8.61575 + 7.02814I$
$u = -0.761782 + 1.000110I$	$11.11440 - 8.28859I$	$10.57708 + 5.27135I$
$u = -0.761782 - 1.000110I$	$11.11440 + 8.28859I$	$10.57708 - 5.27135I$
$u = 0.689113$	8.00657	12.1480
$u = -0.384812$	0.764093	13.0940

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{16}+5u^{15}+\cdots-8u-7$
c_2, c_3, c_6 c_7	$u^{16}-u^{15}+\cdots+2u^2-1$
c_4, c_8	$u^{16}+5u^{15}+\cdots-4u+1$
c_5, c_9	$u^{16}-u^{15}+\cdots+2u-1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 7y^{15} + \cdots - 344y + 49$
c_2, c_3, c_6 c_7	$y^{16} - 19y^{15} + \cdots - 4y + 1$
c_4, c_8	$y^{16} + 13y^{15} + \cdots - 48y + 1$
c_5, c_9	$y^{16} + 5y^{15} + \cdots - 4y + 1$