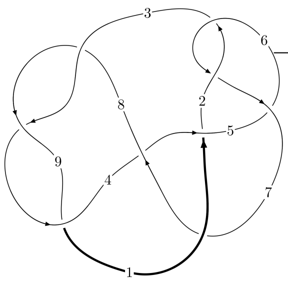
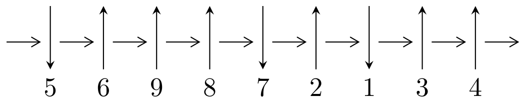
9_{26} $(K9a_{15})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{23} + u^{22} + \cdots - 2u^3 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 23 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. $I_1^u = \langle u^{23} + u^{22} + \cdots - 2u^3 + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{17} - 8u^{15} + 25u^{13} - 36u^{11} + 19u^9 + 4u^7 - 2u^5 - 4u^3 + u \\ -u^{19} + 9u^{17} - 32u^{15} + 55u^{13} - 43u^{11} + 9u^9 + 4u^5 - u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + 3u^4 + u^2 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + 3u^4 + u^2 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 2u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{20} + 36u^{18} - 4u^{17} - 132u^{16} + 32u^{15} + 244u^{14} - 100u^{13} - 220u^{12} + 144u^{11} + 60u^{10} - 80u^9 + 24u^8 + 4u^6 - 12u^5 - 8u^4 + 20u^3 - 4u^2 + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} + u^{22} + \cdots - 8u - 5$
c_2, c_6	$u^{23} - u^{22} + \cdots + 2u - 1$
c_3, c_8, c_9	$u^{23} - u^{22} + \cdots - 2u^3 - 1$
c_4	$u^{23} + 3u^{22} + \cdots + 4u + 1$
c_5	$u^{23} + 11u^{22} + \cdots - 2u^2 - 1$
c_7	$u^{23} - 5u^{22} + \cdots + 32u - 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} - 5y^{22} + \cdots + 264y - 25$
c_2, c_6	$y^{23} + 11y^{22} + \cdots - 2y^2 - 1$
c_3, c_8, c_9	$y^{23} - 21y^{22} + \cdots - 6y^2 - 1$
c_4	$y^{23} - y^{22} + \cdots + 4y - 1$
c_5	$y^{23} + 3y^{22} + \cdots - 4y - 1$
c_7	$y^{23} + 7y^{22} + \cdots - 404y - 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.070060 + 0.182203I$	$-1.02537 + 3.60580I$	$1.11445 - 4.48858I$
$u = \quad 1.070060 - 0.182203I$	$-1.02537 - 3.60580I$	$1.11445 + 4.48858I$
$u = -1.15018$	1.95316	5.52610
$u = \quad 0.285113 + 0.703745I$	$-2.00141 + 7.02777I$	$0.43599 - 7.34039I$
$u = \quad 0.285113 - 0.703745I$	$-2.00141 - 7.02777I$	$0.43599 + 7.34039I$
$u = \quad 0.625021 + 0.336059I$	$-0.61995 - 3.26242I$	$3.19624 + 2.26815I$
$u = \quad 0.625021 - 0.336059I$	$-0.61995 + 3.26242I$	$3.19624 - 2.26815I$
$u = -0.284234 + 0.630366I$	$0.22041 - 2.29224I$	$3.82667 + 3.81893I$
$u = -0.284234 - 0.630366I$	$0.22041 + 2.29224I$	$3.82667 - 3.81893I$
$u = \quad 0.143415 + 0.670993I$	$-3.74248 - 0.30335I$	$-3.41146 - 0.40480I$
$u = \quad 0.143415 - 0.670993I$	$-3.74248 + 0.30335I$	$-3.41146 + 0.40480I$
$u = -1.347540 + 0.251864I$	$0.95696 - 3.02476I$	$1.87787 + 2.21609I$
$u = -1.347540 - 0.251864I$	$0.95696 + 3.02476I$	$1.87787 - 2.21609I$
$u = -0.405548 + 0.414027I$	$1.014040 - 0.946726I$	$6.43633 + 4.33310I$
$u = -0.405548 - 0.414027I$	$1.014040 + 0.946726I$	$6.43633 - 4.33310I$
$u = \quad 1.41968 + 0.16903I$	$6.78087 + 3.16234I$	$9.66460 - 3.46689I$
$u = \quad 1.41968 - 0.16903I$	$6.78087 - 3.16234I$	$9.66460 + 3.46689I$
$u = -1.42608 + 0.11950I$	$5.64121 + 1.73636I$	$7.79313 - 2.46590I$
$u = -1.42608 - 0.11950I$	$5.64121 - 1.73636I$	$7.79313 + 2.46590I$
$u = \quad 1.41107 + 0.24900I$	$5.63952 + 5.52406I$	$8.27222 - 3.52157I$
$u = \quad 1.41107 - 0.24900I$	$5.63952 - 5.52406I$	$8.27222 + 3.52157I$
$u = -1.41586 + 0.27635I$	$3.43142 - 10.59580I$	$5.03092 + 7.47788I$
$u = -1.41586 - 0.27635I$	$3.43142 + 10.59580I$	$5.03092 - 7.47788I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{23} + u^{22} + \cdots - 8u - 5$
c_2, c_6	$u^{23} - u^{22} + \cdots + 2u - 1$
c_3, c_8, c_9	$u^{23} - u^{22} + \cdots - 2u^3 - 1$
c_4	$u^{23} + 3u^{22} + \cdots + 4u + 1$
c_5	$u^{23} + 11u^{22} + \cdots - 2u^2 - 1$
c_7	$u^{23} - 5u^{22} + \cdots + 32u - 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} - 5y^{22} + \cdots + 264y - 25$
c_2, c_6	$y^{23} + 11y^{22} + \cdots - 2y^2 - 1$
c_3, c_8, c_9	$y^{23} - 21y^{22} + \cdots - 6y^2 - 1$
c_4	$y^{23} - y^{22} + \cdots + 4y - 1$
c_5	$y^{23} + 3y^{22} + \cdots - 4y - 1$
c_7	$y^{23} + 7y^{22} + \cdots - 404y - 49$