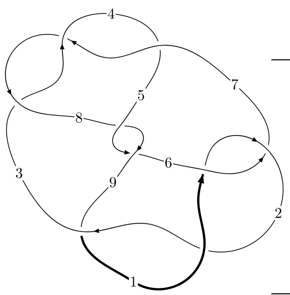
9_{18} $(K9a_{24})$



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow$$

6 1 8 7 9 2 4 5 3

Solving Sequence

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

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

$$I_1^u = \langle u^{20} + u^{19} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 20 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. $\boldsymbol{I^u_1 = \langle u^{20} + u^{19} + 9u^{18} + 8u^{17} + 33u^{16} + 26u^{15} + 60u^{14} + 42u^{13} + 48u^{12} + 31u^{11} - 3u^{10} + 2u^9 - 25u^8 - 10u^7 - 2u^6 - 4u^5 + 9u^4 + u^3 + u^2 + 2u - 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^7 + 2u^5 - 2u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{14} + 5u^{12} + 8u^{10} + u^8 - 8u^6 - 4u^4 + 2u^2 + 1 \\ -u^{14} - 6u^{12} - 13u^{10} - 10u^8 + 2u^6 + 4u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^8 - 3u^6 - 3u^4 + 1 \\ -u^{10} - 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^8 - 3u^6 - 3u^4 + 1 \\ -u^{10} - 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{18} - 4u^{17} - 32u^{16} - 28u^{15} - 104u^{14} - 76u^{13} - 164u^{12} - 92u^{11} - 104u^{10} - 32u^9 + 28u^8 + 20u^7 + 60u^6 + 4u^5 + 4u^4 - 8u^3 - 16u^2 + 4u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{20} - u^{19} + \cdots + 3u^2 - 1$
c_2, c_9	$u^{20} + 7u^{19} + \cdots + 6u + 1$
c_3, c_4, c_7	$u^{20} - u^{19} + \cdots - 2u - 1$
c_5, c_8	$u^{20} + u^{19} + \cdots - 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{20} - 7y^{19} + \cdots - 6y + 1$
c_2, c_9	$y^{20} + 13y^{19} + \cdots - 6y + 1$
c_3, c_4, c_7	$y^{20} + 17y^{19} + \cdots - 6y + 1$
c_5, c_8	$y^{20} - 11y^{19} + \cdots - 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.274747+1.069600I$	$1.26889-2.13456I$	$-8.50898+2.16962I$
$u=-0.274747-1.069600I$	$1.26889+2.13456I$	$-8.50898-2.16962I$
$u=-0.773104+0.153161I$	$-1.48284+6.07240I$	$-11.45285-5.87540I$
$u=-0.773104-0.153161I$	$-1.48284-6.07240I$	$-11.45285+5.87540I$
$u=-0.772326$	-5.55788	-16.4400
$u=\ \ 0.198534+1.239650I$	$2.76418-2.16136I$	$-4.73748+3.31855I$
$u=\ \ 0.198534-1.239650I$	$2.76418+2.16136I$	$-4.73748-3.31855I$
$u=\ \ 0.692333+0.156175I$	$-0.324511-0.815726I$	$-9.67172+1.07888I$
$u=\ \ 0.692333-0.156175I$	$-0.324511+0.815726I$	$-9.67172-1.07888I$
$u=-0.327541+1.260030I$	$-1.65658+3.96853I$	$-11.89349-3.79787I$
$u=-0.327541-1.260030I$	$-1.65658-3.96853I$	$-11.89349+3.79787I$
$u=\ \ 0.201509+0.663357I$	$1.66654-2.35832I$	$-6.35225+4.49783I$
$u=\ \ 0.201509-0.663357I$	$1.66654+2.35832I$	$-6.35225-4.49783I$
$u=\ \ 0.295567+1.352050I$	$4.43062-4.43308I$	$-4.68370+2.52728I$
$u=\ \ 0.295567-1.352050I$	$4.43062+4.43308I$	$-4.68370-2.52728I$
$u=-0.328206+1.357610I$	$3.28242+10.05770I$	$-6.70834-7.26612I$
$u=-0.328206-1.357610I$	$3.28242-10.05770I$	$-6.70834+7.26612I$
$u=\ \ 0.022410+1.403750I$	$7.97473-2.84648I$	$-2.39002+2.97861I$
$u=\ \ 0.022410-1.403750I$	$7.97473+2.84648I$	$-2.39002-2.97861I$
$u=\ \ 0.358818$	-0.680181	-14.7620

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{20} - u^{19} + \cdots + 3u^2 - 1$
c_2, c_9	$u^{20} + 7u^{19} + \cdots + 6u + 1$
c_3, c_4, c_7	$u^{20} - u^{19} + \cdots - 2u - 1$
c_5, c_8	$u^{20} + u^{19} + \cdots - 4u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{20} - 7y^{19} + \cdots - 6y + 1$
c_2, c_9	$y^{20} + 13y^{19} + \cdots - 6y + 1$
c_3, c_4, c_7	$y^{20} + 17y^{19} + \cdots - 6y + 1$
c_5, c_8	$y^{20} - 11y^{19} + \cdots - 6y + 1$