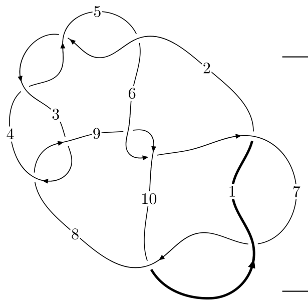
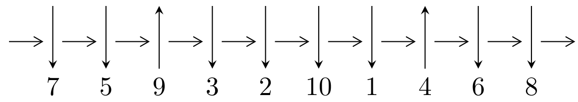
10_{24} $(K10a_{71})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$2,7 \xrightarrow[c_1]{} 1 \xrightarrow[c_7]{} 8 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_6]{} 6 \xrightarrow[c_5]{} 5 \xrightarrow[c_2]{} 3 \xrightarrow[c_4]{} 4 \xrightarrow[c_9]{} 9 \twoheadrightarrow c_3, c_8$$

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

$$I_1^u = \langle u^{27} + u^{26} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 27 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. $I_1^u = \langle u^{27} + u^{26} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^7 - 2u^5 + 2u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{14} + 5u^{12} + 8u^{10} + u^8 - 8u^6 - 4u^4 + 2u^2 + 1 \\ u^{14} + 6u^{12} + 13u^{10} + 10u^8 - 2u^6 - 4u^4 + u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{21} - 8u^{19} - 25u^{17} - 34u^{15} - 6u^{13} + 34u^{11} + 27u^9 - 8u^7 - 13u^5 + 3u \\ -u^{21} - 9u^{19} + \cdots - u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^8 - 3u^6 - 3u^4 + 1 \\ u^{10} + 4u^8 + 5u^6 - 3u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{25} - 4u^{24} - 44u^{23} - 40u^{22} - 208u^{21} - 168u^{20} - 536u^{19} - 372u^{18} - 772u^{17} - 432u^{16} - 508u^{15} - 184u^{14} + 100u^{13} + 92u^{12} + 340u^{11} + 72u^{10} + 68u^9 - 48u^8 - 144u^7 - 28u^6 - 76u^5 + 12u^4 + 16u^3 + 20u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{27} - u^{26} + \cdots + 2u + 1$
c_2, c_4, c_5	$u^{27} + 7u^{26} + \cdots - 2u - 1$
c_3, c_8	$u^{27} + u^{26} + \cdots + u^2 + 1$
c_6, c_9	$u^{27} + u^{26} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{27} + 23y^{26} + \cdots - 2y - 1$
c_2, c_4, c_5	$y^{27} + 27y^{26} + \cdots + 14y - 1$
c_3, c_8	$y^{27} + 7y^{26} + \cdots - 2y - 1$
c_6, c_9	$y^{27} - 13y^{26} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.278071+0.956556I$	$4.70022-3.05015I$	$-2.91169+1.99178I$
$u=-0.278071-0.956556I$	$4.70022+3.05015I$	$-2.91169-1.99178I$
$u=\ \ 0.260338+0.833668I$	$4.87925-2.83072I$	$-2.20196+3.74350I$
$u=\ \ 0.260338-0.833668I$	$4.87925+2.83072I$	$-2.20196-3.74350I$
$u=-0.768863+0.186622I$	$2.29246+7.02686I$	$-6.18454-6.08794I$
$u=-0.768863-0.186622I$	$2.29246-7.02686I$	$-6.18454+6.08794I$
$u=\ \ 0.738973+0.201195I$	$2.75404-0.96140I$	$-5.27084+1.18503I$
$u=\ \ 0.738973-0.201195I$	$2.75404+0.96140I$	$-5.27084-1.18503I$
$u=-0.291604+1.207020I$	$-0.823094+0.986974I$	$-8.82659+0.25321I$
$u=-0.291604-1.207020I$	$-0.823094-0.986974I$	$-8.82659-0.25321I$
$u=-0.750412+0.064416I$	$-4.29886+2.79673I$	$-12.25981-4.61920I$
$u=-0.750412-0.064416I$	$-4.29886-2.79673I$	$-12.25981+4.61920I$
$u=\ \ 0.082485+1.285040I$	$4.34194-2.01066I$	$0.08108+3.90758I$
$u=\ \ 0.082485-1.285040I$	$4.34194+2.01066I$	$0.08108-3.90758I$
$u=\ \ 0.257867+1.292320I$	$2.54425-3.27708I$	$-0.72206+2.87566I$
$u=\ \ 0.257867-1.292320I$	$2.54425+3.27708I$	$-0.72206-2.87566I$
$u=-0.317436+1.304880I$	$-0.01754+6.65682I$	$-6.80212-7.22011I$
$u=-0.317436-1.304880I$	$-0.01754-6.65682I$	$-6.80212+7.22011I$
$u=\ \ 0.649647$	-1.51171	-6.25830
$u=\ \ 0.307012+1.374630I$	$7.73615-4.75862I$	$-0.67410+2.41055I$
$u=\ \ 0.307012-1.374630I$	$7.73615+4.75862I$	$-0.67410-2.41055I$
$u=-0.322115+1.372980I$	$7.22305+10.97750I$	$-1.68833-7.27184I$
$u=-0.322115-1.372980I$	$7.22305-10.97750I$	$-1.68833+7.27184I$
$u=\ \ 0.01000+1.42794I$	$11.72200-3.15301I$	$1.82291+2.60032I$
$u=\ \ 0.01000-1.42794I$	$11.72200+3.15301I$	$1.82291-2.60032I$
$u=\ \ 0.247000+0.300914I$	$-0.352229-0.953640I$	$-6.23281+7.10310I$
$u=\ \ 0.247000-0.300914I$	$-0.352229+0.953640I$	$-6.23281-7.10310I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{27} - u^{26} + \cdots + 2u + 1$
c_2, c_4, c_5	$u^{27} + 7u^{26} + \cdots - 2u - 1$
c_3, c_8	$u^{27} + u^{26} + \cdots + u^2 + 1$
c_6, c_9	$u^{27} + u^{26} + \cdots + 4u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{27} + 23y^{26} + \cdots - 2y - 1$
c_2, c_4, c_5	$y^{27} + 27y^{26} + \cdots + 14y - 1$
c_3, c_8	$y^{27} + 7y^{26} + \cdots - 2y - 1$
c_6, c_9	$y^{27} - 13y^{26} + \cdots - 2y - 1$