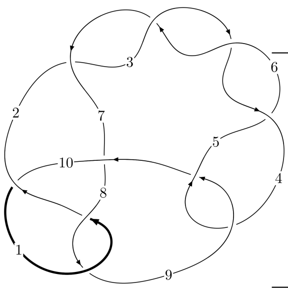
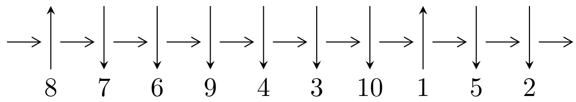
10_{36} $(K10a_5)$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{25} + u^{24} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 25 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. $I_1^u = \langle u^{25} + u^{24} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{19} - 2u^{17} + 8u^{15} - 12u^{13} + 21u^{11} - 22u^9 + 20u^7 - 12u^5 + 5u^3 - 2u \\ -u^{19} + u^{17} - 6u^{15} + 5u^{13} - 11u^{11} + 7u^9 - 6u^7 + 2u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{10} + u^8 - 4u^6 + 3u^4 - 3u^2 + 1 \\ -u^{12} + 2u^{10} - 4u^8 + 6u^6 - 3u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{23} - 4u^{22} + 8u^{21} + 12u^{20} - 36u^{19} - 40u^{18} + 56u^{17} + 80u^{16} - 116u^{15} - 132u^{14} + 136u^{13} + 168u^{12} - 168u^{11} - 164u^{10} + 144u^9 + 112u^8 - 116u^7 - 56u^6 + 76u^5 + 12u^4 - 32u^3 + 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{25} + u^{24} + \cdots + 3u + 1$
c_2, c_3, c_5 c_6	$u^{25} + 5u^{24} + \cdots + u + 1$
c_4, c_9	$u^{25} - u^{24} + \cdots + u + 1$
c_7	$u^{25} - u^{24} + \cdots - 5u + 2$
c_{10}	$u^{25} + 11u^{24} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{25} + 11y^{24} + \cdots + y - 1$
c_2, c_3, c_5 c_6	$y^{25} + 31y^{24} + \cdots + 5y - 1$
c_4, c_9	$y^{25} - 5y^{24} + \cdots + y - 1$
c_7	$y^{25} + 3y^{24} + \cdots - 31y - 4$
c_{10}	$y^{25} + 7y^{24} + \cdots + 21y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.832690 + 0.557074I$	$1.88922 + 3.01264I$	$-1.96862 - 4.46588I$
$u = -0.832690 - 0.557074I$	$1.88922 - 3.01264I$	$-1.96862 + 4.46588I$
$u = \quad 0.907947 + 0.537572I$	$-0.01805 - 7.68313I$	$-5.93165 + 8.92800I$
$u = \quad 0.907947 - 0.537572I$	$-0.01805 + 7.68313I$	$-5.93165 - 8.92800I$
$u = \quad 0.832562 + 0.375712I$	$-2.08350 - 1.12769I$	$-10.19939 + 3.41549I$
$u = \quad 0.832562 - 0.375712I$	$-2.08350 + 1.12769I$	$-10.19939 - 3.41549I$
$u = -0.646586 + 0.624531I$	$2.49752 + 1.43161I$	$0.07046 - 3.44213I$
$u = -0.646586 - 0.624531I$	$2.49752 - 1.43161I$	$0.07046 + 3.44213I$
$u = -0.885238 + 0.093706I$	$-3.47336 + 3.28459I$	$-12.75115 - 5.14665I$
$u = -0.885238 - 0.093706I$	$-3.47336 - 3.28459I$	$-12.75115 + 5.14665I$
$u = \quad 0.532954 + 0.662656I$	$1.18303 + 3.19832I$	$-2.28028 - 2.80466I$
$u = \quad 0.532954 - 0.662656I$	$1.18303 - 3.19832I$	$-2.28028 + 2.80466I$
$u = -0.918325 + 0.864773I$	$5.28985 + 3.20690I$	$-5.88987 - 2.45318I$
$u = -0.918325 - 0.864773I$	$5.28985 - 3.20690I$	$-5.88987 + 2.45318I$
$u = -0.895269 + 0.914484I$	$9.42796 - 3.86019I$	$-2.25009 + 2.37671I$
$u = -0.895269 - 0.914484I$	$9.42796 + 3.86019I$	$-2.25009 - 2.37671I$
$u = \quad 0.714675$	-1.05962	-9.24230
$u = \quad 0.912390 + 0.907488I$	$11.15260 - 1.58500I$	$0.08176 + 2.23225I$
$u = \quad 0.912390 - 0.907488I$	$11.15260 + 1.58500I$	$0.08176 - 2.23225I$
$u = \quad 0.950797 + 0.888223I$	$11.02790 - 5.03718I$	$-0.15373 + 2.54574I$
$u = \quad 0.950797 - 0.888223I$	$11.02790 + 5.03718I$	$-0.15373 - 2.54574I$
$u = -0.965119 + 0.879930I$	$9.20201 + 10.47620I$	$-2.72320 - 7.02847I$
$u = -0.965119 - 0.879930I$	$9.20201 - 10.47620I$	$-2.72320 + 7.02847I$
$u = \quad 0.149237 + 0.487637I$	$-0.32971 - 1.74239I$	$-2.38307 + 3.79759I$
$u = \quad 0.149237 - 0.487637I$	$-0.32971 + 1.74239I$	$-2.38307 - 3.79759I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{25} + u^{24} + \cdots + 3u + 1$
c_2, c_3, c_5 c_6	$u^{25} + 5u^{24} + \cdots + u + 1$
c_4, c_9	$u^{25} - u^{24} + \cdots + u + 1$
c_7	$u^{25} - u^{24} + \cdots - 5u + 2$
c_{10}	$u^{25} + 11u^{24} + \cdots + u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{25} + 11y^{24} + \cdots + y - 1$
c_2, c_3, c_5 c_6	$y^{25} + 31y^{24} + \cdots + 5y - 1$
c_4, c_9	$y^{25} - 5y^{24} + \cdots + y - 1$
c_7	$y^{25} + 3y^{24} + \cdots - 31y - 4$
c_{10}	$y^{25} + 7y^{24} + \cdots + 21y - 1$