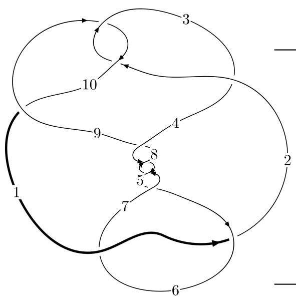
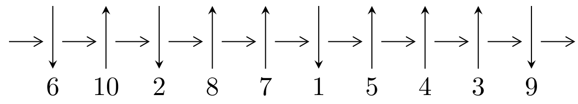
10_{35} $(K10a_{23})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{24} + u^{23} + \cdots + 2u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 24 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. $I_1^u = \langle u^{24} + u^{23} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4 + u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ -u^6 - u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^8 + u^6 + 3u^4 + 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{10} + u^8 + 4u^6 + 3u^4 + 3u^2 + 1 \\ -u^{12} - 2u^{10} - 4u^8 - 6u^6 - 3u^4 - 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{17} + 2u^{15} + 7u^{13} + 10u^{11} + 15u^9 + 14u^7 + 10u^5 + 4u^3 + u \\ -u^{17} - u^{15} - 5u^{13} - 4u^{11} - 7u^9 - 4u^7 - 2u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{23} - 8u^{21} + 4u^{20} - 36u^{19} + 8u^{18} - 56u^{17} + 32u^{16} - 116u^{15} + 44u^{14} - 136u^{13} + 80u^{12} - 160u^{11} + 68u^{10} - 132u^9 + 64u^8 - 84u^7 + 20u^6 - 48u^5 + 4u^4 - 8u^3 - 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{24} + u^{23} + \cdots + 2u + 1$
c_2, c_9	$u^{24} + u^{23} + \cdots - 2u + 1$
c_3, c_{10}	$u^{24} + 9u^{23} + \cdots + 4u + 1$
c_4, c_5, c_7 c_8	$u^{24} - 5u^{23} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{24} + 5y^{23} + \cdots + 4y + 1$
c_2, c_9	$y^{24} + 9y^{23} + \cdots + 4y + 1$
c_3, c_{10}	$y^{24} + 13y^{23} + \cdots + 44y + 1$
c_4, c_5, c_7 c_8	$y^{24} + 29y^{23} + \cdots + 20y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.438618 + 0.887955I$	$1.66329 + 2.08350I$	$4.24893 - 3.59251I$
$u = -0.438618 - 0.887955I$	$1.66329 - 2.08350I$	$4.24893 + 3.59251I$
$u = 0.500467 + 0.918869I$	$0.78944 - 7.34378I$	$2.03585 + 8.70536I$
$u = 0.500467 - 0.918869I$	$0.78944 + 7.34378I$	$2.03585 - 8.70536I$
$u = 0.598969 + 0.738905I$	$-3.49325 - 2.24409I$	$-5.16388 + 4.25877I$
$u = 0.598969 - 0.738905I$	$-3.49325 + 2.24409I$	$-5.16388 - 4.25877I$
$u = -0.039909 + 0.910777I$	$3.76737 + 2.61939I$	$8.11481 - 3.60921I$
$u = -0.039909 - 0.910777I$	$3.76737 - 2.61939I$	$8.11481 + 3.60921I$
$u = 0.638378 + 0.466853I$	$-0.63403 + 3.08008I$	$-2.04297 - 2.82964I$
$u = 0.638378 - 0.466853I$	$-0.63403 - 3.08008I$	$-2.04297 + 2.82964I$
$u = 0.883157 + 0.890417I$	$-6.63583 - 1.57218I$	$0.12166 + 2.29522I$
$u = 0.883157 - 0.890417I$	$-6.63583 + 1.57218I$	$0.12166 - 2.29522I$
$u = -0.906724 + 0.884305I$	$-8.32116 - 3.84160I$	$-2.22402 + 2.38554I$
$u = -0.906724 - 0.884305I$	$-8.32116 + 3.84160I$	$-2.22402 - 2.38554I$
$u = 0.859271 + 0.947484I$	$-6.45491 - 4.87894I$	$0.44407 + 2.58342I$
$u = 0.859271 - 0.947484I$	$-6.45491 + 4.87894I$	$0.44407 - 2.58342I$
$u = -0.895419 + 0.930518I$	$-12.40930 + 3.30322I$	$-5.60088 - 2.43434I$
$u = -0.895419 - 0.930518I$	$-12.40930 - 3.30322I$	$-5.60088 + 2.43434I$
$u = -0.868488 + 0.965452I$	$-8.06054 + 10.39450I$	$-1.68269 - 7.07233I$
$u = -0.868488 - 0.965452I$	$-8.06054 - 10.39450I$	$-1.68269 + 7.07233I$
$u = -0.320922 + 0.618972I$	$0.204139 + 1.110190I$	$3.08627 - 5.87957I$
$u = -0.320922 - 0.618972I$	$0.204139 - 1.110190I$	$3.08627 + 5.87957I$
$u = -0.510161 + 0.301021I$	$0.10636 + 1.48443I$	$-1.33713 - 3.68159I$
$u = -0.510161 - 0.301021I$	$0.10636 - 1.48443I$	$-1.33713 + 3.68159I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{24} + u^{23} + \cdots + 2u + 1$
c_2, c_9	$u^{24} + u^{23} + \cdots - 2u + 1$
c_3, c_{10}	$u^{24} + 9u^{23} + \cdots + 4u + 1$
c_4, c_5, c_7 c_8	$u^{24} - 5u^{23} + \cdots - 4u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{24} + 5y^{23} + \cdots + 4y + 1$
c_2, c_9	$y^{24} + 9y^{23} + \cdots + 4y + 1$
c_3, c_{10}	$y^{24} + 13y^{23} + \cdots + 44y + 1$
c_4, c_5, c_7 c_8	$y^{24} + 29y^{23} + \cdots + 20y + 1$