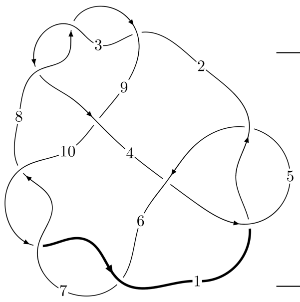
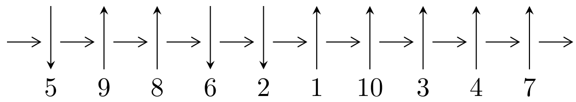
10_{28} $(K10a_{44})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{26} - u^{25} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 26 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. $I^u_1 = \langle u^{26} - u^{25} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^6 - u^4 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^9 + 2u^7 - u^5 - 2u^3 + u \\ -u^9 + 3u^7 - 3u^5 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{23} + 6u^{21} - 16u^{19} + 20u^{17} - 4u^{15} - 22u^{13} + 26u^{11} - 6u^9 - 9u^7 + 6u^5 \\ -u^{23} + 7u^{21} + \cdots - 2u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{14} - 3u^{12} + 4u^{10} - u^8 + 1 \\ u^{16} - 4u^{14} + 8u^{12} - 8u^{10} + 4u^8 + 2u^6 - 4u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{25} - 32u^{23} + 4u^{22} + 116u^{21} - 28u^{20} - 228u^{19} + 88u^{18} + 220u^{17} - 144u^{16} + 16u^{15} + 100u^{14} - 284u^{13} + 52u^{12} + 268u^{11} - 148u^{10} - 20u^9 + 84u^8 - 116u^7 + 20u^6 + 60u^5 - 36u^4 + 4u^3 + 8u^2 - 4u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{26} + u^{25} + \cdots + u + 1$
c_2, c_3, c_8	$u^{26} - u^{25} + \cdots - u + 1$
c_4	$u^{26} + 15u^{25} + \cdots + 3u + 1$
c_6, c_7, c_{10}	$u^{26} + 3u^{25} + \cdots + 11u + 3$
c_9	$u^{26} + u^{25} + \cdots + 13u + 17$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{26} - 15y^{25} + \cdots - 3y + 1$
c_2, c_3, c_8	$y^{26} + 25y^{25} + \cdots - 3y + 1$
c_4	$y^{26} - 7y^{25} + \cdots + 13y + 1$
c_6, c_7, c_{10}	$y^{26} + 29y^{25} + \cdots + 65y + 9$
c_9	$y^{26} + 13y^{25} + \cdots + 3129y + 289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.932207 + 0.261463I$	$-1.57798 - 1.00473I$	$-1.82896 + 0.57498I$
$u = \quad 0.932207 - 0.261463I$	$-1.57798 + 1.00473I$	$-1.82896 - 0.57498I$
$u = -0.963114 + 0.429790I$	$-0.36195 + 3.85582I$	$3.97718 - 7.89236I$
$u = -0.963114 - 0.429790I$	$-0.36195 - 3.85582I$	$3.97718 + 7.89236I$
$u = \quad 0.051158 + 0.880772I$	$-10.59630 + 5.33673I$	$-1.16942 - 2.96646I$
$u = \quad 0.051158 - 0.880772I$	$-10.59630 - 5.33673I$	$-1.16942 + 2.96646I$
$u = -1.098980 + 0.206450I$	$-7.37246 - 0.32949I$	$-5.60033 - 0.20899I$
$u = -1.098980 - 0.206450I$	$-7.37246 + 0.32949I$	$-5.60033 + 0.20899I$
$u = \quad 1.030410 + 0.480033I$	$-5.39158 - 6.75127I$	$-1.33497 + 7.43906I$
$u = \quad 1.030410 - 0.480033I$	$-5.39158 + 6.75127I$	$-1.33497 - 7.43906I$
$u = \quad 0.720594 + 0.453573I$	$-2.18139 - 1.93104I$	$3.25405 + 4.18474I$
$u = \quad 0.720594 - 0.453573I$	$-2.18139 + 1.93104I$	$3.25405 - 4.18474I$
$u = -0.027215 + 0.843903I$	$-4.30846 - 2.13264I$	$2.18965 + 3.16032I$
$u = -0.027215 - 0.843903I$	$-4.30846 + 2.13264I$	$2.18965 - 3.16032I$
$u = \quad 1.237150 + 0.448499I$	$-8.09804 - 2.43962I$	$-1.44223 + 0.17519I$
$u = \quad 1.237150 - 0.448499I$	$-8.09804 + 2.43962I$	$-1.44223 - 0.17519I$
$u = -1.232480 + 0.474736I$	$-7.90858 + 6.86486I$	$-0.85861 - 6.16378I$
$u = -1.232480 - 0.474736I$	$-7.90858 - 6.86486I$	$-0.85861 + 6.16378I$
$u = -1.260650 + 0.436852I$	$-14.6036 - 0.7042I$	$-4.80376 - 0.14810I$
$u = -1.260650 - 0.436852I$	$-14.6036 + 0.7042I$	$-4.80376 + 0.14810I$
$u = \quad 0.311125 + 0.584230I$	$-3.40769 + 2.56217I$	$2.05300 - 2.97329I$
$u = \quad 0.311125 - 0.584230I$	$-3.40769 - 2.56217I$	$2.05300 + 2.97329I$
$u = \quad 1.244860 + 0.491994I$	$-14.1992 - 10.2647I$	$-4.13372 + 5.98641I$
$u = \quad 1.244860 - 0.491994I$	$-14.1992 + 10.2647I$	$-4.13372 - 5.98641I$
$u = -0.445071 + 0.389205I$	$1.050410 - 0.215716I$	$9.69812 + 1.13318I$
$u = -0.445071 - 0.389205I$	$1.050410 + 0.215716I$	$9.69812 - 1.13318I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{26} + u^{25} + \cdots + u + 1$
c_2, c_3, c_8	$u^{26} - u^{25} + \cdots - u + 1$
c_4	$u^{26} + 15u^{25} + \cdots + 3u + 1$
c_6, c_7, c_{10}	$u^{26} + 3u^{25} + \cdots + 11u + 3$
c_9	$u^{26} + u^{25} + \cdots + 13u + 17$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{26} - 15y^{25} + \cdots - 3y + 1$
c_2, c_3, c_8	$y^{26} + 25y^{25} + \cdots - 3y + 1$
c_4	$y^{26} - 7y^{25} + \cdots + 13y + 1$
c_6, c_7, c_{10}	$y^{26} + 29y^{25} + \cdots + 65y + 9$
c_9	$y^{26} + 13y^{25} + \cdots + 3129y + 289$