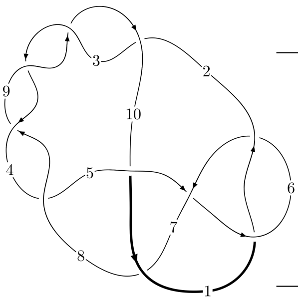
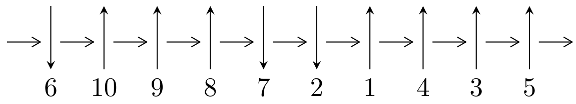
10_{10} $(K10a_{64})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{22} - u^{21} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 22 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. $\boldsymbol{I_1^u = \langle u^{22} - u^{21} - 5u^{20} + 6u^{19} + 12u^{18} - 17u^{17} - 15u^{16} + 28u^{15} + 8u^{14} - 28u^{13} + 4u^{12} + 16u^{11} - 8u^{10} - 5u^9 + 5u^8 + 2u^7 - u^6 - 3u^5 + u^4 + 2u^3 - u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{11} + 2u^9 - 2u^7 + u^3 \\ -u^{11} + 3u^9 - 4u^7 + 3u^5 - u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^8 - u^6 + u^4 + 1 \\ u^{10} - 2u^8 + 3u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{16} - 3u^{14} + 5u^{12} - 4u^{10} + 3u^8 - 2u^6 + 2u^4 + 1 \\ u^{18} - 4u^{16} + 9u^{14} - 12u^{12} + 11u^{10} - 6u^8 + 2u^6 + u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{19} + 4u^{17} - 8u^{15} + 8u^{13} - 3u^{11} - 2u^9 + 2u^7 - u^3 \\ -u^{19} + 5u^{17} - 12u^{15} + 17u^{13} - 15u^{11} + 9u^9 - 4u^7 + 2u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{20} - 20u^{18} + 4u^{17} + 52u^{16} - 16u^{15} - 76u^{14} + 32u^{13} + 68u^{12} - 32u^{11} - 32u^{10} + 16u^9 + 12u^8 - 4u^7 - 8u^6 + 8u^5 + 12u^4 - 8u^3 - 4u^2 + 4u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{22} - u^{21} + \cdots - u + 1$
c_2, c_3, c_4 c_8, c_9	$u^{22} + u^{21} + \cdots + u + 1$
c_5	$u^{22} + 11u^{21} + \cdots + u + 1$
c_7	$u^{22} - 3u^{21} + \cdots - 9u + 8$
c_{10}	$u^{22} + u^{21} + \cdots + 4u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{22} - 11y^{21} + \cdots - y + 1$
c_2, c_3, c_4 c_8, c_9	$y^{22} + 29y^{21} + \cdots - y + 1$
c_5	$y^{22} + y^{21} + \cdots + 11y + 1$
c_7	$y^{22} + 9y^{21} + \cdots + 239y + 64$
c_{10}	$y^{22} + 5y^{21} + \cdots - 40y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.771950 + 0.627160I$	$-9.01082 - 2.42790I$	$0.88720 + 3.18483I$
$u = 0.771950 - 0.627160I$	$-9.01082 + 2.42790I$	$0.88720 - 3.18483I$
$u = -1.013800 + 0.421442I$	$-1.60921 + 1.77285I$	$0.315441 + 0.247623I$
$u = -1.013800 - 0.421442I$	$-1.60921 - 1.77285I$	$0.315441 - 0.247623I$
$u = 1.113890 + 0.304376I$	$-6.14010 - 0.06031I$	$-5.06623 - 0.22454I$
$u = 1.113890 - 0.304376I$	$-6.14010 + 0.06031I$	$-5.06623 + 0.22454I$
$u = 0.254770 + 0.794582I$	$-11.59400 + 4.17420I$	$-0.08704 - 2.12766I$
$u = 0.254770 - 0.794582I$	$-11.59400 - 4.17420I$	$-0.08704 + 2.12766I$
$u = -0.660123 + 0.489854I$	$-0.62516 + 1.83614I$	$2.06876 - 5.29489I$
$u = -0.660123 - 0.489854I$	$-0.62516 - 1.83614I$	$2.06876 + 5.29489I$
$u = 1.069940 + 0.505718I$	$-0.85422 - 4.78547I$	$3.13676 + 6.89182I$
$u = 1.069940 - 0.505718I$	$-0.85422 + 4.78547I$	$3.13676 - 6.89182I$
$u = -1.185860 + 0.285971I$	$-16.0637 - 0.8225I$	$-5.38923 - 0.37902I$
$u = -1.185860 - 0.285971I$	$-16.0637 + 0.8225I$	$-5.38923 + 0.37902I$
$u = -1.124840 + 0.532465I$	$-4.60646 + 7.61506I$	$-2.18846 - 7.28240I$
$u = -1.124840 - 0.532465I$	$-4.60646 - 7.61506I$	$-2.18846 + 7.28240I$
$u = -0.271243 + 0.702058I$	$-2.15136 - 2.90283I$	$0.96971 + 3.73642I$
$u = -0.271243 - 0.702058I$	$-2.15136 + 2.90283I$	$0.96971 - 3.73642I$
$u = 1.158640 + 0.550804I$	$-14.2580 - 9.1806I$	$-3.12638 + 5.65206I$
$u = 1.158640 - 0.550804I$	$-14.2580 + 9.1806I$	$-3.12638 - 5.65206I$
$u = 0.386678 + 0.542882I$	$1.115750 + 0.498475I$	$8.47948 - 1.93150I$
$u = 0.386678 - 0.542882I$	$1.115750 - 0.498475I$	$8.47948 + 1.93150I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{22} - u^{21} + \cdots - u + 1$
c_2, c_3, c_4 c_8, c_9	$u^{22} + u^{21} + \cdots + u + 1$
c_5	$u^{22} + 11u^{21} + \cdots + u + 1$
c_7	$u^{22} - 3u^{21} + \cdots - 9u + 8$
c_{10}	$u^{22} + u^{21} + \cdots + 4u + 4$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{22} - 11y^{21} + \cdots - y + 1$
c_2, c_3, c_4 c_8, c_9	$y^{22} + 29y^{21} + \cdots - y + 1$
c_5	$y^{22} + y^{21} + \cdots + 11y + 1$
c_7	$y^{22} + 9y^{21} + \cdots + 239y + 64$
c_{10}	$y^{22} + 5y^{21} + \cdots - 40y + 16$