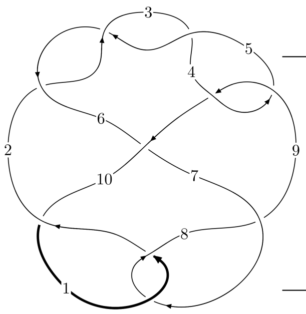
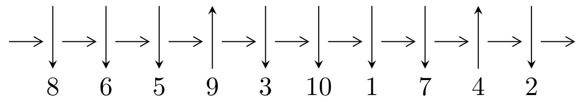
10_{38} $(K10a_{29})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{29} - u^{28} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 29 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. $I_1^u = \langle u^{29} - u^{28} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^8 + u^6 + 3u^4 + 2u^2 + 1 \\ u^{10} + 2u^8 + 3u^6 + 4u^4 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{17} + 2u^{15} + 7u^{13} + 10u^{11} + 15u^9 + 14u^7 + 10u^5 + 4u^3 + u \\ u^{19} + 3u^{17} + 8u^{15} + 15u^{13} + 19u^{11} + 21u^9 + 14u^7 + 6u^5 + u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{15} - 2u^{13} - 6u^{11} - 8u^9 - 10u^7 - 8u^5 - 4u^3 \\ -u^{15} - u^{13} - 4u^{11} - 3u^9 - 4u^7 - 2u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{28} - 12u^{26} - 4u^{25} - 48u^{24} - 12u^{23} - 100u^{22} - 44u^{21} - 208u^{20} - 92u^{19} - 312u^{18} - 172u^{17} - 424u^{16} - 252u^{15} - 456u^{14} - 296u^{13} - 432u^{12} - 288u^{11} - 328u^{10} - 216u^9 - 216u^8 - 128u^7 - 120u^6 - 56u^5 - 48u^4 - 32u^3 - 16u^2 - 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{29} + u^{28} + \cdots + 3u + 1$
c_2, c_3, c_5	$u^{29} + 7u^{28} + \cdots - u - 1$
c_4, c_9	$u^{29} - u^{28} + \cdots + u + 1$
c_6	$u^{29} - u^{28} + \cdots + 15u + 25$
c_8, c_{10}	$u^{29} + 9u^{28} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{29} - 9y^{28} + \cdots - y - 1$
c_2, c_3, c_5	$y^{29} + 31y^{28} + \cdots + 15y - 1$
c_4, c_9	$y^{29} + 7y^{28} + \cdots - y - 1$
c_6	$y^{29} + 11y^{28} + \cdots - 2925y - 625$
c_8, c_{10}	$y^{29} + 23y^{28} + \cdots - 17y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.438147 + 0.901074I$	$1.63523 + 2.09123I$	$-4.28547 - 3.54352I$
$u = \quad 0.438147 - 0.901074I$	$1.63523 - 2.09123I$	$-4.28547 + 3.54352I$
$u = -0.409980 + 0.948974I$	$0.88657 - 7.55674I$	$-6.27529 + 8.69605I$
$u = -0.409980 - 0.948974I$	$0.88657 + 7.55674I$	$-6.27529 - 8.69605I$
$u = -0.273126 + 0.909412I$	$-3.81512 - 2.50065I$	$-13.4942 + 5.2130I$
$u = -0.273126 - 0.909412I$	$-3.81512 + 2.50065I$	$-13.4942 - 5.2130I$
$u = -0.064282 + 0.911143I$	$-0.99960 + 2.39368I$	$-10.11411 - 2.65936I$
$u = -0.064282 - 0.911143I$	$-0.99960 - 2.39368I$	$-10.11411 + 2.65936I$
$u = \quad 0.815394 + 0.851135I$	$2.82194 - 0.04233I$	$-6.03677 + 1.08568I$
$u = \quad 0.815394 - 0.851135I$	$2.82194 + 0.04233I$	$-6.03677 - 1.08568I$
$u = \quad 0.886761 + 0.845005I$	$9.22437 - 4.97924I$	$-1.18288 + 2.83205I$
$u = \quad 0.886761 - 0.845005I$	$9.22437 + 4.97924I$	$-1.18288 - 2.83205I$
$u = -0.829632 + 0.902432I$	$5.95691 - 3.09358I$	$-0.04639 + 2.70964I$
$u = -0.829632 - 0.902432I$	$5.95691 + 3.09358I$	$-0.04639 - 2.70964I$
$u = \quad 0.796082 + 0.934420I$	$2.56729 + 6.08103I$	$-6.75508 - 6.19570I$
$u = \quad 0.796082 - 0.934420I$	$2.56729 - 6.08103I$	$-6.75508 + 6.19570I$
$u = -0.883056 + 0.860857I$	$9.96021 - 1.00685I$	$0.05949 + 2.19242I$
$u = -0.883056 - 0.860857I$	$9.96021 + 1.00685I$	$0.05949 - 2.19242I$
$u = \quad 0.273342 + 0.693824I$	$-0.332830 + 1.166300I$	$-4.21359 - 5.75923I$
$u = \quad 0.273342 - 0.693824I$	$-0.332830 - 1.166300I$	$-4.21359 + 5.75923I$
$u = \quad 0.610942 + 0.390932I$	$3.23356 + 1.79478I$	$-0.02040 - 2.96423I$
$u = \quad 0.610942 - 0.390932I$	$3.23356 - 1.79478I$	$-0.02040 + 2.96423I$
$u = -0.840392 + 0.961339I$	$9.64156 - 5.37662I$	$-0.52039 + 2.73445I$
$u = -0.840392 - 0.961339I$	$9.64156 + 5.37662I$	$-0.52039 - 2.73445I$
$u = \quad 0.833145 + 0.972573I$	$8.8206 + 11.3493I$	$-1.99701 - 7.67243I$
$u = \quad 0.833145 - 0.972573I$	$8.8206 - 11.3493I$	$-1.99701 + 7.67243I$
$u = -0.627727 + 0.308177I$	$2.89789 + 3.74340I$	$-0.78236 - 3.16701I$
$u = -0.627727 - 0.308177I$	$2.89789 - 3.74340I$	$-0.78236 + 3.16701I$
$u = -0.451236$	-1.36635	-6.67120

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{29} + u^{28} + \cdots + 3u + 1$
c_2, c_3, c_5	$u^{29} + 7u^{28} + \cdots - u - 1$
c_4, c_9	$u^{29} - u^{28} + \cdots + u + 1$
c_6	$u^{29} - u^{28} + \cdots + 15u + 25$
c_8, c_{10}	$u^{29} + 9u^{28} + \cdots - u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{29} - 9y^{28} + \cdots - y - 1$
c_2, c_3, c_5	$y^{29} + 31y^{28} + \cdots + 15y - 1$
c_4, c_9	$y^{29} + 7y^{28} + \cdots - y - 1$
c_6	$y^{29} + 11y^{28} + \cdots - 2925y - 625$
c_8, c_{10}	$y^{29} + 23y^{28} + \cdots - 17y - 1$