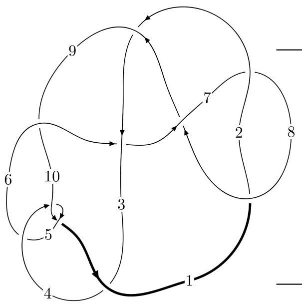
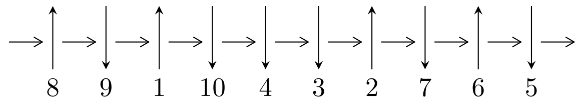
10_{44} $(K10a_{32})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{39} - u^{38} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 39 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. $I^u_1 = \langle u^{39} - u^{38} + \cdots + 2u - 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{11} + 2u^9 - 2u^7 - u^3 \\ u^{11} - 3u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^6 - u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{17} - 4u^{15} + 7u^{13} - 4u^{11} - 3u^9 + 6u^7 - 2u^5 + u \\ -u^{19} + 5u^{17} - 12u^{15} + 15u^{13} - 9u^{11} - u^9 + 4u^7 - 2u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{30} + 7u^{28} + \cdots - 2u^{12} + 1 \\ u^{30} - 8u^{28} + \cdots + 4u^6 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{38} + 44u^{36} - 4u^{35} - 232u^{34} + 40u^{33} + 752u^{32} - 192u^{31} - 1620u^{30} + 564u^{29} + 2316u^{28} - 1092u^{27} - 1948u^{26} + 1380u^{25} + 284u^{24} - 980u^{23} + 1508u^{22} + 16u^{21} - 1892u^{20} + 728u^{19} + 776u^{18} - 660u^{17} + 444u^{16} + 64u^{15} - 692u^{14} + 332u^{13} + 236u^{12} - 252u^{11} + 128u^{10} - 4u^9 - 132u^8 + 96u^7 + 20u^6 - 40u^5 + 20u^4 - 8u^3 - 8u^2 + 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{39} - u^{38} + \cdots + 2u^3 + 1$
c_2	$u^{39} + u^{38} + \cdots - 18u + 17$
c_3, c_9	$u^{39} + 3u^{38} + \cdots + 12u + 1$
c_4, c_{10}	$u^{39} + u^{38} + \cdots + 2u + 1$
c_5	$u^{39} + 21u^{38} + \cdots - 2u^2 + 1$
c_6	$u^{39} - 5u^{38} + \cdots - 12u + 1$
c_8	$u^{39} + 19u^{38} + \cdots + 2u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{39} + 19y^{38} + \cdots + 2y^2 - 1$
c_2	$y^{39} - 13y^{38} + \cdots + 3588y - 289$
c_3, c_9	$y^{39} + 31y^{38} + \cdots - 36y - 1$
c_4, c_{10}	$y^{39} - 21y^{38} + \cdots + 2y^2 - 1$
c_5	$y^{39} - 5y^{38} + \cdots + 4y - 1$
c_6	$y^{39} - y^{38} + \cdots + 28y - 1$
c_8	$y^{39} + 3y^{38} + \cdots + 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.913577 + 0.379498I$	$-2.06381 - 1.25772I$	$-6.67108 + 2.89583I$
$u = 0.913577 - 0.379498I$	$-2.06381 + 1.25772I$	$-6.67108 - 2.89583I$
$u = 0.867921 + 0.539600I$	$-0.02772 - 7.71489I$	$-1.96279 + 8.94046I$
$u = 0.867921 - 0.539600I$	$-0.02772 + 7.71489I$	$-1.96279 - 8.94046I$
$u = -0.824609 + 0.517095I$	$1.91036 + 2.98443I$	$1.85991 - 4.48194I$
$u = -0.824609 - 0.517095I$	$1.91036 - 2.98443I$	$1.85991 + 4.48194I$
$u = -1.027710 + 0.074094I$	$-4.16770 + 3.61917I$	$-10.06501 - 4.33455I$
$u = -1.027710 - 0.074094I$	$-4.16770 - 3.61917I$	$-10.06501 + 4.33455I$
$u = 0.898181$	-1.46294	-6.39810
$u = -0.704254 + 0.512490I$	$2.25704 + 1.23434I$	$3.23691 - 3.43750I$
$u = -0.704254 - 0.512490I$	$2.25704 - 1.23434I$	$3.23691 + 3.43750I$
$u = 0.632327 + 0.547010I$	$0.63380 + 3.33294I$	$0.02170 - 2.50936I$
$u = 0.632327 - 0.547010I$	$0.63380 - 3.33294I$	$0.02170 + 2.50936I$
$u = 0.139221 + 0.807285I$	$-3.46412 + 8.12134I$	$-3.90397 - 6.02892I$
$u = 0.139221 - 0.807285I$	$-3.46412 - 8.12134I$	$-3.90397 + 6.02892I$
$u = 1.114960 + 0.441427I$	$-2.49096 - 1.59434I$	$-3.82288 + 0.43137I$
$u = 1.114960 - 0.441427I$	$-2.49096 + 1.59434I$	$-3.82288 - 0.43137I$
$u = 0.076025 + 0.793162I$	$-5.24072 + 0.25023I$	$-6.76221 + 0.26522I$
$u = 0.076025 - 0.793162I$	$-5.24072 - 0.25023I$	$-6.76221 - 0.26522I$
$u = -0.132738 + 0.775160I$	$-1.00162 - 3.25758I$	$-0.69216 + 2.50620I$
$u = -0.132738 - 0.775160I$	$-1.00162 + 3.25758I$	$-0.69216 - 2.50620I$
$u = -1.142370 + 0.483180I$	$-2.09760 + 6.17588I$	$-2.65093 - 6.87938I$
$u = -1.142370 - 0.483180I$	$-2.09760 - 6.17588I$	$-2.65093 + 6.87938I$
$u = 1.194180 + 0.388571I$	$-4.89443 - 0.66747I$	$-5.40097 + 0.84813I$
$u = 1.194180 - 0.388571I$	$-4.89443 + 0.66747I$	$-5.40097 - 0.84813I$
$u = -1.213030 + 0.378072I$	$-7.52915 - 4.12434I$	$-8.59821 + 2.83806I$
$u = -1.213030 - 0.378072I$	$-7.52915 + 4.12434I$	$-8.59821 - 2.83806I$
$u = -1.210580 + 0.415258I$	$-9.04143 + 3.95701I$	$-10.59268 - 3.75109I$
$u = -1.210580 - 0.415258I$	$-9.04143 - 3.95701I$	$-10.59268 + 3.75109I$
$u = -1.185450 + 0.504016I$	$-4.07758 + 7.98510I$	$-3.85690 - 5.54137I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.185450 - 0.504016I$	$-4.07758 - 7.98510I$	$-3.85690 + 5.54137I$
$u = \quad 1.200000 + 0.486246I$	$-8.53633 - 4.91106I$	$-9.80910 + 3.06121I$
$u = \quad 1.200000 - 0.486246I$	$-8.53633 + 4.91106I$	$-9.80910 - 3.06121I$
$u = \quad 1.194900 + 0.512673I$	$-6.5788 - 12.9690I$	$-6.91871 + 9.04784I$
$u = \quad 1.194900 - 0.512673I$	$-6.5788 + 12.9690I$	$-6.91871 - 9.04784I$
$u = -0.180542 + 0.637095I$	$0.64272 - 1.83013I$	$1.22482 + 3.69155I$
$u = -0.180542 - 0.637095I$	$0.64272 + 1.83013I$	$1.22482 - 3.69155I$
$u = \quad 0.339086 + 0.540694I$	$-0.25067 - 2.27932I$	$-0.43670 + 3.34383I$
$u = \quad 0.339086 - 0.540694I$	$-0.25067 + 2.27932I$	$-0.43670 - 3.34383I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{39} - u^{38} + \cdots + 2u^3 + 1$
c_2	$u^{39} + u^{38} + \cdots - 18u + 17$
c_3, c_9	$u^{39} + 3u^{38} + \cdots + 12u + 1$
c_4, c_{10}	$u^{39} + u^{38} + \cdots + 2u + 1$
c_5	$u^{39} + 21u^{38} + \cdots - 2u^2 + 1$
c_6	$u^{39} - 5u^{38} + \cdots - 12u + 1$
c_8	$u^{39} + 19u^{38} + \cdots + 2u^2 - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{39} + 19y^{38} + \cdots + 2y^2 - 1$
c_2	$y^{39} - 13y^{38} + \cdots + 3588y - 289$
c_3, c_9	$y^{39} + 31y^{38} + \cdots - 36y - 1$
c_4, c_{10}	$y^{39} - 21y^{38} + \cdots + 2y^2 - 1$
c_5	$y^{39} - 5y^{38} + \cdots + 4y - 1$
c_6	$y^{39} - y^{38} + \cdots + 28y - 1$
c_8	$y^{39} + 3y^{38} + \cdots + 4y - 1$