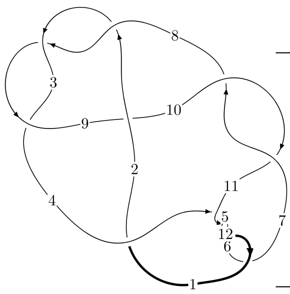
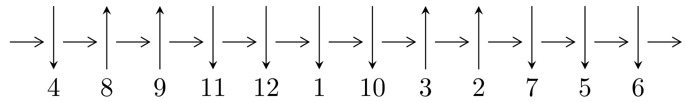
$12a_{1145}$ ($K12a_{1145}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$5,12 \xrightarrow[c_5]{} 6 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_6]{} 7 \xrightarrow[c_{11}]{} 11 \xrightarrow[c_4]{} 4 \xrightarrow[c_1]{} 2 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_7]{} 8 \xrightarrow[c_9]{} 9 \xrightarrow[c_3]{} 3 \gg c_2, c_8$$

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

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

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 - 2u \\ u^7 - 3u^5 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^7 + 4u^5 - 4u^3 + 2u \\ -u^9 + 5u^7 - 7u^5 + 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{12} + 7u^{10} - 17u^8 + 18u^6 - 10u^4 + u^2 + 1 \\ -u^{14} + 8u^{12} - 23u^{10} + 28u^8 - 12u^6 - 2u^4 + 3u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{23} - 14u^{21} + \cdots - 12u^3 + 2u \\ u^{23} - 13u^{21} + \cdots + 6u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{33} + 20u^{31} + \cdots + 12u^3 - u \\ -u^{35} + 21u^{33} + \cdots + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -4u^{35} + 88u^{33} - 864u^{31} + 4u^{30} + 4992u^{29} - 76u^{28} - 18852u^{27} + 632u^{26} + 48892u^{25} - 3020u^{24} - 89008u^{23} + 9160u^{22} + 113828u^{21} - 18396u^{20} - 99164u^{19} + 24724u^{18} + 52076u^{17} - 21696u^{16} - 6724u^{15} + 11000u^{14} - 12088u^{13} - 1160u^{12} + 9184u^{11} - 2344u^{10} - 2088u^9 + 1456u^8 - 600u^7 - 192u^6 + 400u^5 - 112u^4 - 36u^3 + 32u^2 - 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{39} - 5u^{38} + \cdots + 8u + 1$
c_2, c_3, c_8	$u^{39} - u^{38} + \cdots + 2u^2 + 1$
c_4, c_5, c_6 c_{11}, c_{12}	$u^{39} - u^{38} + \cdots + 2u^2 + 1$
c_9	$u^{39} + 3u^{38} + \cdots - 64u - 11$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{39} + 39y^{38} + \cdots + 244y - 1$
c_2, c_3, c_8	$y^{39} - 37y^{38} + \cdots - 4y - 1$
c_4, c_5, c_6 c_{11}, c_{12}	$y^{39} - 49y^{38} + \cdots - 4y - 1$
c_9	$y^{39} - 17y^{38} + \cdots + 8716y - 121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.873826+0.423613I$	$8.93364+8.89763I$	$-1.22130-6.83170I$
$u=-0.873826-0.423613I$	$8.93364-8.89763I$	$-1.22130+6.83170I$
$u=-0.922435+0.227714I$	$1.26466+5.08177I$	$-5.39049-6.97758I$
$u=-0.922435-0.227714I$	$1.26466-5.08177I$	$-5.39049+6.97758I$
$u=\quad 0.857810+0.404783I$	$2.75689-5.58258I$	$-4.65603+7.15219I$
$u=\quad 0.857810-0.404783I$	$2.75689+5.58258I$	$-4.65603-7.15219I$
$u=-0.947855$	-0.837000	-8.85130
$u=-0.823526+0.404955I$	$2.96787+1.34141I$	$-3.94883-0.93763I$
$u=-0.823526-0.404955I$	$2.96787-1.34141I$	$-3.94883+0.93763I$
$u=\quad 0.808094+0.433795I$	$9.33527+1.68479I$	$-0.469786+0.991725I$
$u=\quad 0.808094-0.433795I$	$9.33527-1.68479I$	$-0.469786-0.991725I$
$u=\quad 0.903789+0.146741I$	$-3.37051-2.28297I$	$-12.10756+6.07427I$
$u=\quad 0.903789-0.146741I$	$-3.37051+2.28297I$	$-12.10756-6.07427I$
$u=-0.782444$	-1.49310	-5.17370
$u=\quad 0.031226+0.642633I$	$11.68140-5.30733I$	$3.41369+3.29432I$
$u=\quad 0.031226-0.642633I$	$11.68140+5.30733I$	$3.41369-3.29432I$
$u=-0.016307+0.620475I$	$5.40670+2.12189I$	$0.27996-3.35368I$
$u=-0.016307-0.620475I$	$5.40670-2.12189I$	$0.27996+3.35368I$
$u=\quad 0.511980+0.260557I$	$3.56308+0.25388I$	$-1.48569+2.19421I$
$u=\quad 0.511980-0.260557I$	$3.56308-0.25388I$	$-1.48569-2.19421I$
$u=\quad 0.169814+0.447108I$	$4.60381-2.81067I$	$2.08372+5.83272I$
$u=\quad 0.169814-0.447108I$	$4.60381+2.81067I$	$2.08372-5.83272I$
$u=-1.62352$	-3.95660	0
$u=-1.64697+0.10692I$	$0.881433+0.320859I$	0
$u=-1.64697-0.10692I$	$0.881433-0.320859I$	0
$u=\quad 1.65839+0.09920I$	$-5.63467-3.21417I$	0
$u=\quad 1.65839-0.09920I$	$-5.63467+3.21417I$	0
$u=-0.168097+0.288654I$	$-0.147703+0.791971I$	$-4.18696-8.61927I$
$u=-0.168097-0.288654I$	$-0.147703-0.791971I$	$-4.18696+8.61927I$
$u=\quad 1.67155$	-10.2526	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.66956 + 0.10417I$	$-6.02842 + 7.51655I$	0
$u = -1.66956 - 0.10417I$	$-6.02842 - 7.51655I$	0
$u = \quad 1.67324 + 0.11206I$	$0.08852 - 10.95580I$	0
$u = \quad 1.67324 - 0.11206I$	$0.08852 + 10.95580I$	0
$u = -1.68686 + 0.03375I$	$-12.53770 + 2.95947I$	0
$u = -1.68686 - 0.03375I$	$-12.53770 - 2.95947I$	0
$u = \quad 1.68924$	-10.1491	0
$u = \quad 1.68974 + 0.05249I$	$-7.95265 - 6.13840I$	0
$u = \quad 1.68974 - 0.05249I$	$-7.95265 + 6.13840I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{39} - 5u^{38} + \cdots + 8u + 1$
c_2, c_3, c_8	$u^{39} - u^{38} + \cdots + 2u^2 + 1$
c_4, c_5, c_6 c_{11}, c_{12}	$u^{39} - u^{38} + \cdots + 2u^2 + 1$
c_9	$u^{39} + 3u^{38} + \cdots - 64u - 11$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{39} + 39y^{38} + \cdots + 244y - 1$
c_2, c_3, c_8	$y^{39} - 37y^{38} + \cdots - 4y - 1$
c_4, c_5, c_6 c_{11}, c_{12}	$y^{39} - 49y^{38} + \cdots - 4y - 1$
c_9	$y^{39} - 17y^{38} + \cdots + 8716y - 121$