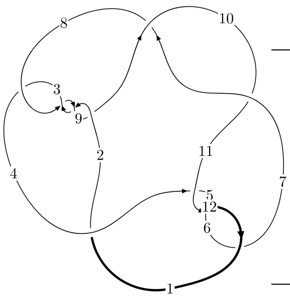
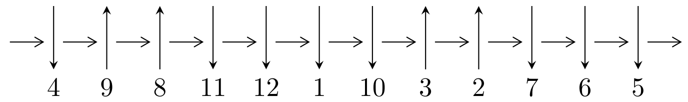
$12a_{1163}$ ($K12a_{1163}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{51} - u^{50} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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. $\boldsymbol{I_1^u = \langle u^{51} - u^{50} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{10} - 5u^8 - 8u^6 - 3u^4 + 3u^2 + 1 \\ -u^{10} - 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{12} - 5u^{10} - 9u^8 - 6u^6 + u^2 + 1 \\ -u^{14} - 6u^{12} - 13u^{10} - 10u^8 + 2u^6 + 4u^4 - u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{19} - 8u^{17} - 26u^{15} - 42u^{13} - 31u^{11} - 2u^9 + 10u^7 + 4u^5 - u^3 - 2u \\ -u^{21} - 9u^{19} + \cdots - u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{43} + 18u^{41} + \cdots - 7u^3 + 2u \\ u^{45} + 19u^{43} + \cdots + 5u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{34} + 15u^{32} + \cdots + 5u^2 + 1 \\ u^{34} + 14u^{32} + \cdots + 16u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{50} + 4u^{49} + \cdots + 20u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{51} - 7u^{50} + \cdots + 112u - 17$
c_2, c_3, c_8 c_9	$u^{51} + u^{50} + \cdots + 3u^2 + 1$
c_4, c_6	$u^{51} - u^{50} + \cdots + 3u^2 + 1$
c_5, c_{11}, c_{12}	$u^{51} + u^{50} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{51} + 47y^{50} + \cdots + 202y - 289$
c_2, c_3, c_8 c_9	$y^{51} + 55y^{50} + \cdots - 6y - 1$
c_4, c_6	$y^{51} - 25y^{50} + \cdots - 6y - 1$
c_5, c_{11}, c_{12}	$y^{51} + 43y^{50} + \cdots - 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.249709 + 0.948226I$	$4.63631 - 2.12088I$	$-1.01844 + 2.80811I$
$u = -0.249709 - 0.948226I$	$4.63631 + 2.12088I$	$-1.01844 - 2.80811I$
$u = 0.295729 + 0.994644I$	$-2.13539 + 4.89833I$	$-5.01649 - 2.19451I$
$u = 0.295729 - 0.994644I$	$-2.13539 - 4.89833I$	$-5.01649 + 2.19451I$
$u = 0.230603 + 0.853532I$	$4.74743 - 1.96048I$	$-0.34668 + 4.23406I$
$u = 0.230603 - 0.853532I$	$4.74743 + 1.96048I$	$-0.34668 - 4.23406I$
$u = -0.273056 + 0.774265I$	$-1.78828 + 4.72311I$	$-4.06394 - 4.26663I$
$u = -0.273056 - 0.774265I$	$-1.78828 - 4.72311I$	$-4.06394 + 4.26663I$
$u = 0.777766 + 0.178377I$	$-4.65007 - 8.93459I$	$-8.10474 + 6.18574I$
$u = 0.777766 - 0.178377I$	$-4.65007 + 8.93459I$	$-8.10474 - 6.18574I$
$u = -0.761639 + 0.184556I$	$2.23741 + 6.02041I$	$-4.49356 - 6.91985I$
$u = -0.761639 - 0.184556I$	$2.23741 - 6.02041I$	$-4.49356 + 6.91985I$
$u = 0.775098 + 0.060463I$	$-11.25330 - 3.44491I$	$-12.79521 + 3.55577I$
$u = 0.775098 - 0.060463I$	$-11.25330 + 3.44491I$	$-12.79521 - 3.55577I$
$u = 0.742257 + 0.192170I$	$2.53020 - 1.80186I$	$-3.57173 + 0.69342I$
$u = 0.742257 - 0.192170I$	$2.53020 + 1.80186I$	$-3.57173 - 0.69342I$
$u = 0.318281 + 1.201370I$	$-7.76752 - 0.51963I$	0
$u = 0.318281 - 1.201370I$	$-7.76752 + 0.51963I$	0
$u = -0.275754 + 1.221110I$	$-0.186542 + 1.326290I$	0
$u = -0.275754 - 1.221110I$	$-0.186542 - 1.326290I$	0
$u = -0.716310 + 0.207468I$	$-3.73927 - 1.03700I$	$-7.10850 - 0.87605I$
$u = -0.716310 - 0.207468I$	$-3.73927 + 1.03700I$	$-7.10850 + 0.87605I$
$u = 0.063850 + 1.258910I$	$4.32614 - 1.52805I$	0
$u = 0.063850 - 1.258910I$	$4.32614 + 1.52805I$	0
$u = -0.731823 + 0.057552I$	$-3.72646 + 2.32596I$	$-11.41052 - 5.70564I$
$u = -0.731823 - 0.057552I$	$-3.72646 - 2.32596I$	$-11.41052 + 5.70564I$
$u = 0.267337 + 1.286100I$	$2.27908 - 3.39012I$	0
$u = 0.267337 - 1.286100I$	$2.27908 + 3.39012I$	0
$u = -0.145806 + 1.317740I$	$-1.58295 + 3.13834I$	0
$u = -0.145806 - 1.317740I$	$-1.58295 - 3.13834I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.671685$	-1.74026	-4.25130
$u = -0.306268 + 1.301300I$	$0.52039 + 6.08284I$	0
$u = -0.306268 - 1.301300I$	$0.52039 - 6.08284I$	0
$u = \quad 0.332711 + 1.301130I$	$-7.00145 - 7.44226I$	0
$u = \quad 0.332711 - 1.301130I$	$-7.00145 + 7.44226I$	0
$u = -0.297050 + 1.372640I$	$1.25075 + 2.64872I$	0
$u = -0.297050 - 1.372640I$	$1.25075 - 2.64872I$	0
$u = \quad 0.309777 + 1.371410I$	$7.47174 - 5.62076I$	0
$u = \quad 0.309777 - 1.371410I$	$7.47174 + 5.62076I$	0
$u = -0.319107 + 1.370980I$	$7.15390 + 9.93639I$	0
$u = -0.319107 - 1.370980I$	$7.15390 - 9.93639I$	0
$u = \quad 0.327378 + 1.370270I$	$0.24340 - 12.93330I$	0
$u = \quad 0.327378 - 1.370270I$	$0.24340 + 12.93330I$	0
$u = \quad 0.00618 + 1.42442I$	$11.54180 - 2.18033I$	0
$u = \quad 0.00618 - 1.42442I$	$11.54180 + 2.18033I$	0
$u = -0.01946 + 1.42477I$	$4.94539 + 5.22241I$	0
$u = -0.01946 - 1.42477I$	$4.94539 - 5.22241I$	0
$u = -0.374516 + 0.344098I$	$-6.57378 + 1.34480I$	$-7.53020 - 4.73780I$
$u = -0.374516 - 0.344098I$	$-6.57378 - 1.34480I$	$-7.53020 + 4.73780I$
$u = \quad 0.187694 + 0.267286I$	$-0.141288 - 0.746703I$	$-4.42303 + 9.26587I$
$u = \quad 0.187694 - 0.267286I$	$-0.141288 + 0.746703I$	$-4.42303 - 9.26587I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{51} - 7u^{50} + \cdots + 112u - 17$
c_2, c_3, c_8 c_9	$u^{51} + u^{50} + \cdots + 3u^2 + 1$
c_4, c_6	$u^{51} - u^{50} + \cdots + 3u^2 + 1$
c_5, c_{11}, c_{12}	$u^{51} + u^{50} + \cdots + 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{51} + 47y^{50} + \cdots + 202y - 289$
c_2, c_3, c_8 c_9	$y^{51} + 55y^{50} + \cdots - 6y - 1$
c_4, c_6	$y^{51} - 25y^{50} + \cdots - 6y - 1$
c_5, c_{11}, c_{12}	$y^{51} + 43y^{50} + \cdots - 6y - 1$