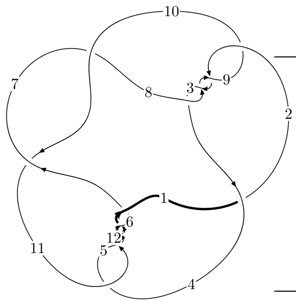
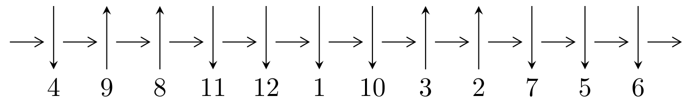
$12a_{1162}$ $(K12a_{1162})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{34} - u^{33} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 34 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. $I_1^u = \langle u^{34} - u^{33} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 - 2u \\ u^7 - 3u^5 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^7 + 4u^5 - 4u^3 + 2u \\ -u^9 + 5u^7 - 7u^5 + 2u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{12} + 7u^{10} - 17u^8 + 18u^6 - 10u^4 + u^2 + 1 \\ -u^{14} + 8u^{12} - 23u^{10} + 28u^8 - 12u^6 - 2u^4 + 3u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{28} + 17u^{26} + \cdots + 3u^2 + 1 \\ -u^{30} + 18u^{28} + \cdots + 12u^4 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{23} - 14u^{21} + \cdots - 12u^3 + 2u \\ u^{23} - 13u^{21} + \cdots + 6u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{30} - 76u^{28} + 632u^{26} - 4u^{25} - 3020u^{24} + 64u^{23} + 9160u^{22} - 436u^{21} - 18396u^{20} + 1648u^{19} + 24724u^{18} - 3780u^{17} - 21696u^{16} + 5412u^{15} + 11000u^{14} - 4760u^{13} - 1160u^{12} + 2280u^{11} - 2344u^{10} - 168u^9 + 1456u^8 - 424u^7 - 192u^6 + 192u^5 - 112u^4 + 32u^2 - 16u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{34} - 5u^{33} + \cdots - 37u + 11$
c_2, c_3, c_8 c_9	$u^{34} + u^{33} + \cdots - u - 1$
c_4, c_5, c_6 c_{11}, c_{12}	$u^{34} - u^{33} + \cdots - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{34} + 29y^{33} + \cdots - 1171y + 121$
c_2, c_3, c_8 c_9	$y^{34} + 37y^{33} + \cdots + 5y + 1$
c_4, c_5, c_6 c_{11}, c_{12}	$y^{34} - 43y^{33} + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.991821 + 0.158095I$	$-10.68960 + 3.15183I$	$-14.0763 - 3.9724I$
$u = -0.991821 - 0.158095I$	$-10.68960 - 3.15183I$	$-14.0763 + 3.9724I$
$u = -0.893573 + 0.396504I$	$-4.49049 + 8.32995I$	$-9.15739 - 6.65948I$
$u = -0.893573 - 0.396504I$	$-4.49049 - 8.32995I$	$-9.15739 + 6.65948I$
$u = 0.859035 + 0.393675I$	$2.35629 - 5.47047I$	$-5.42904 + 7.39488I$
$u = 0.859035 - 0.393675I$	$2.35629 + 5.47047I$	$-5.42904 - 7.39488I$
$u = -0.818764 + 0.392887I$	$2.60490 + 1.31090I$	$-4.52445 - 0.97294I$
$u = -0.818764 - 0.392887I$	$2.60490 - 1.31090I$	$-4.52445 + 0.97294I$
$u = 0.893463 + 0.130044I$	$-3.31682 - 2.12721I$	$-12.9145 + 6.3416I$
$u = 0.893463 - 0.130044I$	$-3.31682 + 2.12721I$	$-12.9145 - 6.3416I$
$u = 0.766255 + 0.403391I$	$-3.72832 + 1.46235I$	$-8.04381 + 1.15427I$
$u = 0.766255 - 0.403391I$	$-3.72832 - 1.46235I$	$-8.04381 - 1.15427I$
$u = -0.769926$	-1.46282	-5.15730
$u = 0.058238 + 0.615568I$	$-1.59411 - 4.91155I$	$-4.11375 + 3.54526I$
$u = 0.058238 - 0.615568I$	$-1.59411 + 4.91155I$	$-4.11375 - 3.54526I$
$u = -0.019163 + 0.609431I$	$5.01871 + 2.08023I$	$-0.25628 - 3.52395I$
$u = -0.019163 - 0.609431I$	$5.01871 - 2.08023I$	$-0.25628 + 3.52395I$
$u = 0.311005 + 0.396451I$	$-6.63940 - 1.35507I$	$-7.90199 + 4.63231I$
$u = 0.311005 - 0.396451I$	$-6.63940 + 1.35507I$	$-7.90199 - 4.63231I$
$u = -1.63888 + 0.08443I$	$-12.00830 + 0.25970I$	0
$u = -1.63888 - 0.08443I$	$-12.00830 - 0.25970I$	0
$u = 1.65843 + 0.09430I$	$-5.99222 - 3.10866I$	0
$u = 1.65843 - 0.09430I$	$-5.99222 + 3.10866I$	0
$u = 1.66496$	-10.1351	0
$u = -1.67097 + 0.10038I$	$-6.45085 + 7.34504I$	0
$u = -1.67097 - 0.10038I$	$-6.45085 - 7.34504I$	0
$u = -0.165695 + 0.272869I$	$-0.148667 + 0.754720I$	$-4.59527 - 9.11142I$
$u = -0.165695 - 0.272869I$	$-0.148667 - 0.754720I$	$-4.59527 + 9.11142I$
$u = -1.68383 + 0.02823I$	$-12.43350 + 2.70866I$	0
$u = -1.68383 - 0.02823I$	$-12.43350 - 2.70866I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.68188 + 0.10424I$	$-13.4764 - 10.2661I$	0
$u =$	$1.68188 - 0.10424I$	$-13.4764 + 10.2661I$	0
$u =$	$1.70687 + 0.03573I$	$19.2149 - 3.8937I$	0
$u =$	$1.70687 - 0.03573I$	$19.2149 + 3.8937I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{10}	$u^{34} - 5u^{33} + \cdots - 37u + 11$
c_2, c_3, c_8 c_9	$u^{34} + u^{33} + \cdots - u - 1$
c_4, c_5, c_6 c_{11}, c_{12}	$u^{34} - u^{33} + \cdots - u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{10}	$y^{34} + 29y^{33} + \cdots - 1171y + 121$
c_2, c_3, c_8 c_9	$y^{34} + 37y^{33} + \cdots + 5y + 1$
c_4, c_5, c_6 c_{11}, c_{12}	$y^{34} - 43y^{33} + \cdots + 5y + 1$