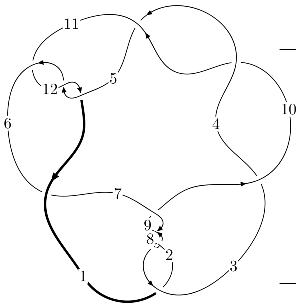
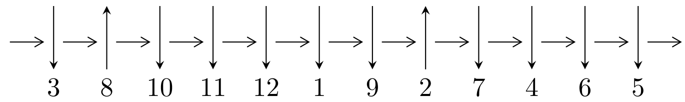
$12a_{0763}$ $(K12a_{0763})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{48} + u^{47} + \cdots - 4u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 48 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. $I_1^u = \langle u^{48} + u^{47} + \cdots - 4u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^6 - 3u^4 - 2u^2 + 1 \\ -u^6 - 2u^4 - u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^9 - 4u^7 - 5u^5 + 3u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{22} - 9u^{20} + \cdots + 4u^2 + 1 \\ -u^{22} - 8u^{20} + \cdots - 4u^4 + 3u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{18} + 7u^{16} + 20u^{14} + 27u^{12} + 11u^{10} - 13u^8 - 16u^6 - 6u^4 - u^2 + 1 \\ u^{20} + 8u^{18} + 26u^{16} + 40u^{14} + 19u^{12} - 24u^{10} - 30u^8 - 2u^6 + 5u^4 - 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{31} - 12u^{29} + \cdots + 4u^3 - 2u \\ -u^{33} - 13u^{31} + \cdots - 18u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{47} + 4u^{46} + \cdots - 40u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_9	$u^{48} + 13u^{47} + \cdots - 20u^2 + 1$
c_2, c_8	$u^{48} - u^{47} + \cdots - 4u^3 - 1$
c_3, c_4, c_6 c_{10}	$u^{48} - u^{47} + \cdots - 8u - 1$
c_5, c_{11}, c_{12}	$u^{48} + u^{47} + \cdots - 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9	$y^{48} + 45y^{47} + \cdots - 40y + 1$
c_2, c_8	$y^{48} + 13y^{47} + \cdots - 20y^2 + 1$
c_3, c_4, c_6 c_{10}	$y^{48} - 55y^{47} + \cdots + 16y + 1$
c_5, c_{11}, c_{12}	$y^{48} + 37y^{47} + \cdots + 40y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.902489 + 0.013088I$	$-11.82170 + 3.20969I$	$-16.0349 - 3.5979I$
$u = -0.902489 - 0.013088I$	$-11.82170 - 3.20969I$	$-16.0349 + 3.5979I$
$u = -0.896963 + 0.039791I$	$-5.15426 + 8.27036I$	$-11.18543 - 5.30830I$
$u = -0.896963 - 0.039791I$	$-5.15426 - 8.27036I$	$-11.18543 + 5.30830I$
$u = 0.106016 + 0.890046I$	$4.71074 + 2.89935I$	$-6.28054 - 2.45278I$
$u = 0.106016 - 0.890046I$	$4.71074 - 2.89935I$	$-6.28054 + 2.45278I$
$u = 0.888507 + 0.037659I$	$-4.44635 - 2.20706I$	$-10.05242 + 0.41932I$
$u = 0.888507 - 0.037659I$	$-4.44635 + 2.20706I$	$-10.05242 - 0.41932I$
$u = 0.888170$	-8.51708	-10.0950
$u = 0.208888 + 1.136380I$	$-0.286683 - 0.633763I$	$-12.86737 + 0.I$
$u = 0.208888 - 1.136380I$	$-0.286683 + 0.633763I$	$-12.86737 + 0.I$
$u = -0.055446 + 1.242230I$	$3.87211 + 1.66687I$	$-8.00000 + 0.I$
$u = -0.055446 - 1.242230I$	$3.87211 - 1.66687I$	$-8.00000 + 0.I$
$u = -0.172886 + 1.232050I$	$2.76935 + 2.33914I$	0
$u = -0.172886 - 1.232050I$	$2.76935 - 2.33914I$	0
$u = 0.237255 + 1.249610I$	$0.73776 - 5.42844I$	0
$u = 0.237255 - 1.249610I$	$0.73776 + 5.42844I$	0
$u = 0.429212 + 1.245610I$	$-0.71161 - 2.50358I$	0
$u = 0.429212 - 1.245610I$	$-0.71161 + 2.50358I$	0
$u = -0.438389 + 1.246210I$	$-1.42518 - 3.50108I$	0
$u = -0.438389 - 1.246210I$	$-1.42518 + 3.50108I$	0
$u = -0.100503 + 0.671222I$	$4.73942 + 2.93301I$	$-5.08982 - 3.47848I$
$u = -0.100503 - 0.671222I$	$4.73942 - 2.93301I$	$-5.08982 + 3.47848I$
$u = -0.206929 + 1.315630I$	$7.95747 + 2.83644I$	0
$u = -0.206929 - 1.315630I$	$7.95747 - 2.83644I$	0
$u = -0.006952 + 1.332280I$	$10.37430 + 3.07654I$	0
$u = -0.006952 - 1.332280I$	$10.37430 - 3.07654I$	0
$u = 0.220070 + 1.316800I$	$7.61366 - 8.95984I$	0
$u = 0.220070 - 1.316800I$	$7.61366 + 8.95984I$	0
$u = -0.435687 + 1.271790I$	$-7.91815 + 1.57073I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.435687 - 1.271790I$	$-7.91815 - 1.57073I$	0
$u = 0.420722 + 1.279510I$	$-4.54259 - 4.68294I$	0
$u = 0.420722 - 1.279510I$	$-4.54259 + 4.68294I$	0
$u = 0.601719 + 0.218980I$	$2.84333 - 6.05138I$	$-9.37196 + 7.32890I$
$u = 0.601719 - 0.218980I$	$2.84333 + 6.05138I$	$-9.37196 - 7.32890I$
$u = -0.429025 + 1.292620I$	$-7.75996 + 7.96966I$	0
$u = -0.429025 - 1.292620I$	$-7.75996 - 7.96966I$	0
$u = 0.413817 + 1.307110I$	$-0.25199 - 6.87039I$	0
$u = 0.413817 - 1.307110I$	$-0.25199 + 6.87039I$	0
$u = -0.418825 + 1.310300I$	$-0.94233 + 12.97910I$	0
$u = -0.418825 - 1.310300I$	$-0.94233 - 12.97910I$	0
$u = -0.571774 + 0.231822I$	$3.16611 + 0.08411I$	$-8.52562 - 2.22903I$
$u = -0.571774 - 0.231822I$	$3.16611 - 0.08411I$	$-8.52562 + 2.22903I$
$u = 0.606213 + 0.082718I$	$-3.31656 - 2.39276I$	$-16.3721 + 5.8805I$
$u = 0.606213 - 0.082718I$	$-3.31656 + 2.39276I$	$-16.3721 - 5.8805I$
$u = -0.476571$	-0.944117	-10.2930
$u = -0.202351 + 0.264057I$	$-0.411106 + 0.845422I$	$-8.88692 - 7.79987I$
$u = -0.202351 - 0.264057I$	$-0.411106 - 0.845422I$	$-8.88692 + 7.79987I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_9	$u^{48} + 13u^{47} + \cdots - 20u^2 + 1$
c_2, c_8	$u^{48} - u^{47} + \cdots - 4u^3 - 1$
c_3, c_4, c_6 c_{10}	$u^{48} - u^{47} + \cdots - 8u - 1$
c_5, c_{11}, c_{12}	$u^{48} + u^{47} + \cdots - 4u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9	$y^{48} + 45y^{47} + \cdots - 40y + 1$
c_2, c_8	$y^{48} + 13y^{47} + \cdots - 20y^2 + 1$
c_3, c_4, c_6 c_{10}	$y^{48} - 55y^{47} + \cdots + 16y + 1$
c_5, c_{11}, c_{12}	$y^{48} + 37y^{47} + \cdots + 40y^2 + 1$