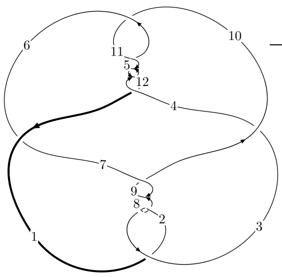
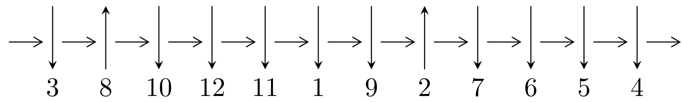
$12a_{0775}$ $(K12a_{0775})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$2{,}9 \underset{c_8}{\rightarrow} 8 \underset{c_2}{\rightarrow} 3 \underset{c_1}{\rightarrow} 1 \underset{c_7}{\rightarrow} 7 \underset{c_9}{\rightarrow} 10 \underset{c_3}{\rightarrow} 4 \underset{c_6}{\rightarrow} 6 \underset{c_{10}}{\rightarrow} 11 \underset{c_5}{\rightarrow} 5 \underset{c_{12}}{\rightarrow} 12 \twoheadrightarrow c_4, c_{11}$$

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

$$I_1^u = \langle u^{43} - u^{42} + \cdots + u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 43 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. $I_1^u = \langle u^{43} - u^{42} + \cdots + u^2 + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} -u^{11} - 2u^9 - 4u^7 - 4u^5 - 3u^3 \\ -u^{11} - u^9 - 2u^7 - u^5 + u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{10} - u^8 - 2u^6 - u^4 + u^2 + 1 \\ -u^{12} - 2u^{10} - 4u^8 - 4u^6 - 3u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{26} + 3u^{24} + \cdots + u^2 + 1 \\ u^{28} + 4u^{26} + \cdots + 12u^8 + u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{42} - 5u^{40} + \cdots + u^2 + 1 \\ -u^{42} + u^{41} + \cdots + u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{27} + 4u^{25} + \cdots + 12u^7 + u^3 \\ u^{27} + 3u^{25} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{42} - 20u^{40} + \cdots - 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_9	$u^{43} + 11u^{42} + \cdots - 2u - 1$
c_2, c_8	$u^{43} - u^{42} + \cdots + u^2 + 1$
c_3, c_6	$u^{43} - u^{42} + \cdots - 16u + 5$
c_4, c_5, c_{10} c_{11}, c_{12}	$u^{43} - u^{42} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9	$y^{43} + 43y^{42} + \cdots + 22y - 1$
c_2, c_8	$y^{43} + 11y^{42} + \cdots - 2y - 1$
c_3, c_6	$y^{43} - 17y^{42} + \cdots + 6y - 25$
c_4, c_5, c_{10} c_{11}, c_{12}	$y^{43} + 55y^{42} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.277924 + 0.951909I$	$-3.90188 - 2.73159I$	$-14.1982 + 4.9259I$
$u = -0.277924 - 0.951909I$	$-3.90188 + 2.73159I$	$-14.1982 - 4.9259I$
$u = -0.171363 + 0.973104I$	$6.85402 + 1.62529I$	$-8.25292 + 0.49765I$
$u = -0.171363 - 0.973104I$	$6.85402 - 1.62529I$	$-8.25292 - 0.49765I$
$u = \quad 0.322382 + 0.965498I$	$-1.09525 + 5.77920I$	$-7.86814 - 8.38864I$
$u = \quad 0.322382 - 0.965498I$	$-1.09525 - 5.77920I$	$-7.86814 + 8.38864I$
$u = \quad 0.218790 + 0.942416I$	$-1.70142 - 0.27515I$	$-9.76443 + 0.48327I$
$u = \quad 0.218790 - 0.942416I$	$-1.70142 + 0.27515I$	$-9.76443 - 0.48327I$
$u = -0.349470 + 0.985821I$	$7.87866 - 7.40221I$	$-6.00523 + 6.67601I$
$u = -0.349470 - 0.985821I$	$7.87866 + 7.40221I$	$-6.00523 - 6.67601I$
$u = \quad 0.605298 + 0.622434I$	$12.21750 + 2.21577I$	$0.00606 - 3.15863I$
$u = \quad 0.605298 - 0.622434I$	$12.21750 - 2.21577I$	$0.00606 + 3.15863I$
$u = \quad 0.724879 + 0.902558I$	$11.90850 + 2.74938I$	$-2.70691 - 3.06690I$
$u = \quad 0.724879 - 0.902558I$	$11.90850 - 2.74938I$	$-2.70691 + 3.06690I$
$u = -0.806200 + 0.845885I$	$4.50177 - 2.35046I$	$-3.49635 + 4.76108I$
$u = -0.806200 - 0.845885I$	$4.50177 + 2.35046I$	$-3.49635 - 4.76108I$
$u = \quad 0.834116 + 0.820628I$	$3.12542 - 0.75919I$	$-6.95792 + 1.59263I$
$u = \quad 0.834116 - 0.820628I$	$3.12542 + 0.75919I$	$-6.95792 - 1.59263I$
$u = -0.858422 + 0.817028I$	$6.46803 + 3.80376I$	$-1.40821 - 3.43849I$
$u = -0.858422 - 0.817028I$	$6.46803 - 3.80376I$	$-1.40821 + 3.43849I$
$u = \quad 0.874607 + 0.815183I$	$15.8059 - 5.4998I$	$-0.14982 + 1.94040I$
$u = \quad 0.874607 - 0.815183I$	$15.8059 + 5.4998I$	$-0.14982 - 1.94040I$
$u = -0.782409 + 0.935028I$	$4.22457 - 3.61643I$	$-4.15250 + 0.77790I$
$u = -0.782409 - 0.935028I$	$4.22457 + 3.61643I$	$-4.15250 - 0.77790I$
$u = -0.470068 + 0.618631I$	$3.05318 - 1.77992I$	$0.16951 + 4.97625I$
$u = -0.470068 - 0.618631I$	$3.05318 + 1.77992I$	$0.16951 - 4.97625I$
$u = \quad 0.836155 + 0.902083I$	$9.93224 + 3.11134I$	$1.49937 - 2.73102I$
$u = \quad 0.836155 - 0.902083I$	$9.93224 - 3.11134I$	$1.49937 + 2.73102I$
$u = \quad 0.791521 + 0.959516I$	$2.69617 + 6.83503I$	$-8.00000 - 6.45647I$
$u = \quad 0.791521 - 0.959516I$	$2.69617 - 6.83503I$	$-8.00000 + 6.45647I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.856944+0.910402I$	$-19.5349-3.1770I$	$1.83688+2.53616I$
$u=-0.856944-0.910402I$	$-19.5349+3.1770I$	$1.83688-2.53616I$
$u=-0.802935+0.972136I$	$5.98468-9.98705I$	$-2.44159+8.35153I$
$u=-0.802935-0.972136I$	$5.98468+9.98705I$	$-2.44159-8.35153I$
$u=0.810427+0.981246I$	$15.2854+11.7553I$	$-1.12118-6.76515I$
$u=0.810427-0.981246I$	$15.2854-11.7553I$	$-1.12118+6.76515I$
$u=-0.637340+0.169138I$	$10.43140+3.87845I$	$-0.23993-2.25081I$
$u=-0.637340-0.169138I$	$10.43140-3.87845I$	$-0.23993+2.25081I$
$u=0.178947+0.606236I$	$-0.367517+0.825434I$	$-8.23829-8.13586I$
$u=0.178947-0.606236I$	$-0.367517-0.825434I$	$-8.23829+8.13586I$
$u=0.571695+0.133672I$	$1.42336-2.56705I$	$-1.44027+4.09761I$
$u=0.571695-0.133672I$	$1.42336+2.56705I$	$-1.44027-4.09761I$
$u=-0.511485$	-1.21227	-8.49140

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_9	$u^{43} + 11u^{42} + \cdots - 2u - 1$
c_2, c_8	$u^{43} - u^{42} + \cdots + u^2 + 1$
c_3, c_6	$u^{43} - u^{42} + \cdots - 16u + 5$
c_4, c_5, c_{10} c_{11}, c_{12}	$u^{43} - u^{42} + \cdots + 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9	$y^{43} + 43y^{42} + \cdots + 22y - 1$
c_2, c_8	$y^{43} + 11y^{42} + \cdots - 2y - 1$
c_3, c_6	$y^{43} - 17y^{42} + \cdots + 6y - 25$
c_4, c_5, c_{10} c_{11}, c_{12}	$y^{43} + 55y^{42} + \cdots - 2y - 1$