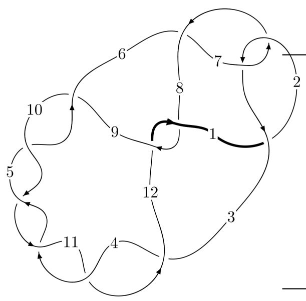
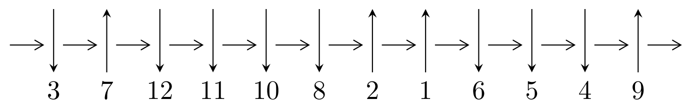
$12a_{0691}$ ($K12a_{0691}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{38} - u^{37} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 38 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. $I^u_1 = \langle u^{38} - u^{37} + \cdots + u + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^8 - u^6 - u^4 + 1 \\ -u^{10} - 2u^8 - 3u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{14} + 3u^{12} + 6u^{10} + 7u^8 + 6u^6 + 4u^4 + 2u^2 + 1 \\ u^{14} + 2u^{12} + 3u^{10} + 2u^8 - u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{26} + 5u^{24} + \cdots + 3u^2 + 1 \\ u^{26} + 4u^{24} + \cdots - 2u^4 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{13} + 2u^{11} + 3u^9 + 2u^7 - u \\ u^{15} + 3u^{13} + 6u^{11} + 7u^9 + 6u^7 + 4u^5 + 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{25} + 4u^{23} + \cdots - 2u^3 + u \\ u^{27} + 5u^{25} + \cdots + 3u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{37} + 6u^{35} + \cdots + 2u^3 - u \\ u^{37} - u^{36} + \cdots - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{36} + 4u^{35} - 24u^{34} + 24u^{33} - 96u^{32} + 92u^{31} - 268u^{30} + 252u^{29} - 592u^{28} + 540u^{27} - 1060u^{26} + 952u^{25} - 1584u^{24} + 1400u^{23} - 2012u^{22} + 1768u^{21} - 2176u^{20} + 1916u^{19} - 2032u^{18} + 1800u^{17} - 1620u^{16} + 1468u^{15} - 1108u^{14} + 1020u^{13} - 656u^{12} + 620u^{11} - 332u^{10} + 312u^9 - 172u^8 + 140u^7 - 80u^6 + 60u^5 - 40u^4 + 16u^3 - 20u^2 + 16u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{38} + 13u^{37} + \cdots + 7u + 1$
c_2, c_7	$u^{38} + u^{37} + \cdots - u + 1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{38} - u^{37} + \cdots + u + 1$
c_8, c_{12}	$u^{38} - 5u^{37} + \cdots - 43u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{38} + 25y^{37} + \cdots + 43y + 1$
c_2, c_7	$y^{38} + 13y^{37} + \cdots + 7y + 1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{38} + 53y^{37} + \cdots + 7y + 1$
c_8, c_{12}	$y^{38} + 17y^{37} + \cdots + 1007y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.785008 + 0.649793I$	$6.10190 + 4.16394I$	$3.37344 - 3.02116I$
$u = -0.785008 - 0.649793I$	$6.10190 - 4.16394I$	$3.37344 + 3.02116I$
$u = 0.730269 + 0.644542I$	$0.94462 - 2.02582I$	$-0.68357 + 4.59473I$
$u = 0.730269 - 0.644542I$	$0.94462 + 2.02582I$	$-0.68357 - 4.59473I$
$u = 0.814326 + 0.650738I$	$16.8516 - 5.2799I$	$3.87997 + 1.90463I$
$u = 0.814326 - 0.650738I$	$16.8516 + 5.2799I$	$3.87997 - 1.90463I$
$u = -0.025785 + 1.048230I$	$-4.47966 - 1.53475I$	$-9.06312 + 4.43669I$
$u = -0.025785 - 1.048230I$	$-4.47966 + 1.53475I$	$-9.06312 - 4.43669I$
$u = 0.654268 + 0.833043I$	$3.14804 + 2.52122I$	$3.28713 - 4.41582I$
$u = 0.654268 - 0.833043I$	$3.14804 - 2.52122I$	$3.28713 + 4.41582I$
$u = 0.080735 + 1.061190I$	$0.09168 + 3.78809I$	$-3.89254 - 4.31436I$
$u = 0.080735 - 1.061190I$	$0.09168 - 3.78809I$	$-3.89254 + 4.31436I$
$u = -0.639539 + 0.663993I$	$0.265690 - 0.797415I$	$-4.10631 + 3.70217I$
$u = -0.639539 - 0.663993I$	$0.265690 + 0.797415I$	$-4.10631 - 3.70217I$
$u = -0.109202 + 1.085250I$	$10.48400 - 4.85419I$	$-3.00023 + 3.33458I$
$u = -0.109202 - 1.085250I$	$10.48400 + 4.85419I$	$-3.00023 - 3.33458I$
$u = 0.586445 + 0.954998I$	$2.99416 + 2.14683I$	$-0.16925 - 2.03219I$
$u = 0.586445 - 0.954998I$	$2.99416 - 2.14683I$	$-0.16925 + 2.03219I$
$u = -0.531925 + 0.996040I$	$12.99160 - 1.57463I$	$-0.41006 + 2.81861I$
$u = -0.531925 - 0.996040I$	$12.99160 + 1.57463I$	$-0.41006 - 2.81861I$
$u = -0.743291 + 0.862329I$	$9.38858 - 2.81451I$	$5.58147 + 3.08080I$
$u = -0.743291 - 0.862329I$	$9.38858 + 2.81451I$	$5.58147 - 3.08080I$
$u = 0.774318 + 0.870795I$	$-18.8968 + 2.9099I$	$5.56545 - 2.80206I$
$u = 0.774318 - 0.870795I$	$-18.8968 - 2.9099I$	$5.56545 + 2.80206I$
$u = -0.647956 + 0.990345I$	$-0.71767 - 4.29382I$	$-5.30056 + 1.95497I$
$u = -0.647956 - 0.990345I$	$-0.71767 + 4.29382I$	$-5.30056 - 1.95497I$
$u = 0.673899 + 1.007270I$	$-0.13128 + 7.41129I$	$-2.83974 - 9.20509I$
$u = 0.673899 - 1.007270I$	$-0.13128 - 7.41129I$	$-2.83974 + 9.20509I$
$u = -0.695935 + 1.019730I$	$4.99103 - 9.76385I$	$1.35355 + 7.84198I$
$u = -0.695935 - 1.019730I$	$4.99103 + 9.76385I$	$1.35355 - 7.84198I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.708338 + 1.029460I$	$15.7065 + 11.0006I$	$1.99618 - 6.60656I$
$u = \quad 0.708338 - 1.029460I$	$15.7065 - 11.0006I$	$1.99618 + 6.60656I$
$u = -0.656047 + 0.279828I$	$14.9167 - 2.7033I$	$3.69688 + 2.42115I$
$u = -0.656047 - 0.279828I$	$14.9167 + 2.7033I$	$3.69688 - 2.42115I$
$u = \quad 0.570510 + 0.309104I$	$4.40699 + 2.04814I$	$3.39295 - 3.69904I$
$u = \quad 0.570510 - 0.309104I$	$4.40699 - 2.04814I$	$3.39295 + 3.69904I$
$u = -0.258419 + 0.396169I$	$-0.100897 - 0.808958I$	$-2.66162 + 8.38304I$
$u = -0.258419 - 0.396169I$	$-0.100897 + 0.808958I$	$-2.66162 - 8.38304I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{38} + 13u^{37} + \cdots + 7u + 1$
c_2, c_7	$u^{38} + u^{37} + \cdots - u + 1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{38} - u^{37} + \cdots + u + 1$
c_8, c_{12}	$u^{38} - 5u^{37} + \cdots - 43u + 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{38} + 25y^{37} + \cdots + 43y + 1$
c_2, c_7	$y^{38} + 13y^{37} + \cdots + 7y + 1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{38} + 53y^{37} + \cdots + 7y + 1$
c_8, c_{12}	$y^{38} + 17y^{37} + \cdots + 1007y + 49$