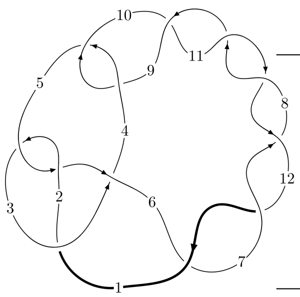
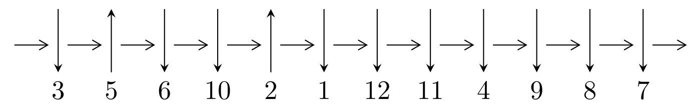
$12a_{0038}$ $(K12a_{0038})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{35} - u^{34} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 35 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. $I_1^u = \langle u^{35} - u^{34} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{10} + u^8 - 4u^6 + 3u^4 - 3u^2 + 1 \\ u^{10} + 3u^6 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{12} - u^{10} + 5u^8 - 4u^6 + 6u^4 - 3u^2 + 1 \\ -u^{12} - 4u^8 - 3u^4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{25} - 2u^{23} + \cdots - 6u^3 + u \\ -u^{25} + u^{23} + \cdots - 3u^5 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{29} - 2u^{27} + \cdots - 8u^3 + u \\ u^{31} - 3u^{29} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{34} + 12u^{32} - 4u^{31} - 68u^{30} + 8u^{29} + 160u^{28} - 52u^{27} - 460u^{26} + 88u^{25} + 852u^{24} - 268u^{23} - 1596u^{22} + 376u^{21} + 2304u^{20} - 704u^{19} - 3032u^{18} + 800u^{17} + 3316u^{16} - 1020u^{15} - 3092u^{14} + 920u^{13} + 2408u^{12} - 836u^{11} - 1512u^{10} + 588u^9 + 728u^8 - 372u^7 - 256u^6 + 192u^5 + 48u^4 - 64u^3 + 12u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{35} + 15u^{34} + \cdots + 2u - 1$
c_2, c_5	$u^{35} + u^{34} + \cdots + 4u + 1$
c_3	$u^{35} - u^{34} + \cdots - 8u + 1$
c_4, c_9	$u^{35} + u^{34} + \cdots + 2u + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{35} + 5u^{34} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} + 11y^{34} + \cdots + 50y - 1$
c_2, c_5	$y^{35} + 15y^{34} + \cdots + 2y - 1$
c_3	$y^{35} + 7y^{34} + \cdots - 30y - 1$
c_4, c_9	$y^{35} - 5y^{34} + \cdots + 2y - 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{35} + 51y^{34} + \cdots + 10y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.827985 + 0.442924I$	$-0.41301 - 6.75076I$	$-7.52201 + 10.31083I$
$u = 0.827985 - 0.442924I$	$-0.41301 + 6.75076I$	$-7.52201 - 10.31083I$
$u = -0.819369 + 0.722392I$	$3.00560 + 2.68433I$	$-6.38966 - 3.26103I$
$u = -0.819369 - 0.722392I$	$3.00560 - 2.68433I$	$-6.38966 + 3.26103I$
$u = -0.748025 + 0.473052I$	$1.37372 + 2.37460I$	$-2.95509 - 5.64025I$
$u = -0.748025 - 0.473052I$	$1.37372 - 2.37460I$	$-2.95509 + 5.64025I$
$u = -0.781691 + 0.815109I$	$6.78620 - 3.64652I$	$-2.24620 + 2.51117I$
$u = -0.781691 - 0.815109I$	$6.78620 + 3.64652I$	$-2.24620 - 2.51117I$
$u = 0.812484 + 0.804258I$	$8.37825 - 1.52833I$	$0.15922 + 2.57141I$
$u = 0.812484 - 0.804258I$	$8.37825 + 1.52833I$	$0.15922 - 2.57141I$
$u = 0.876029 + 0.769070I$	$8.16101 - 4.25998I$	$-0.39518 + 3.37976I$
$u = 0.876029 - 0.769070I$	$8.16101 + 4.25998I$	$-0.39518 - 3.37976I$
$u = -0.899548 + 0.751693I$	$6.38574 + 9.40965I$	$-3.35814 - 8.21027I$
$u = -0.899548 - 0.751693I$	$6.38574 - 9.40965I$	$-3.35814 + 8.21027I$
$u = 0.764387 + 0.291862I$	$-2.05998 - 0.57416I$	$-12.32788 + 4.08784I$
$u = 0.764387 - 0.291862I$	$-2.05998 + 0.57416I$	$-12.32788 - 4.08784I$
$u = -0.796033 + 0.081424I$	$-3.02472 + 3.09558I$	$-15.0272 - 5.6835I$
$u = -0.796033 - 0.081424I$	$-3.02472 - 3.09558I$	$-15.0272 + 5.6835I$
$u = -0.569720 + 0.552671I$	$1.96860 + 1.39447I$	$-0.18894 - 3.96327I$
$u = -0.569720 - 0.552671I$	$1.96860 - 1.39447I$	$-0.18894 + 3.96327I$
$u = 0.446314 + 0.583151I$	$0.82978 + 3.00776I$	$-2.26446 - 2.93479I$
$u = 0.446314 - 0.583151I$	$0.82978 - 3.00776I$	$-2.26446 + 2.93479I$
$u = 0.954730 + 0.937736I$	$13.9541 - 3.4440I$	$-5.66125 + 2.21477I$
$u = 0.954730 - 0.937736I$	$13.9541 + 3.4440I$	$-5.66125 - 2.21477I$
$u = 0.947637 + 0.954402I$	$18.2191 + 3.9502I$	$-2.24732 - 2.32186I$
$u = 0.947637 - 0.954402I$	$18.2191 - 3.9502I$	$-2.24732 + 2.32186I$
$u = -0.953750 + 0.951945I$	$-19.4865 + 1.6085I$	$0. - 2.11449I$
$u = -0.953750 - 0.951945I$	$-19.4865 - 1.6085I$	$0. + 2.11449I$
$u = -0.967443 + 0.943280I$	$-19.5330 + 5.3455I$	$0. - 2.28570I$
$u = -0.967443 - 0.943280I$	$-19.5330 - 5.3455I$	$0. + 2.28570I$

Solutions to I_1^u		$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.972104 + 0.939042I$	$18.1363 - 10.8977I$	$-2.41433 + 6.69442I$
$u =$	$0.972104 - 0.939042I$	$18.1363 + 10.8977I$	$-2.41433 - 6.69442I$
$u =$	0.628123	-0.861815	-11.7130
$u =$	$0.119848 + 0.450363I$	$-0.30459 - 1.79271I$	$-2.31417 + 3.71994I$
$u =$	$0.119848 - 0.450363I$	$-0.30459 + 1.79271I$	$-2.31417 - 3.71994I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{35} + 15u^{34} + \cdots + 2u - 1$
c_2, c_5	$u^{35} + u^{34} + \cdots + 4u + 1$
c_3	$u^{35} - u^{34} + \cdots - 8u + 1$
c_4, c_9	$u^{35} + u^{34} + \cdots + 2u + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{35} + 5u^{34} + \cdots + 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} + 11y^{34} + \cdots + 50y - 1$
c_2, c_5	$y^{35} + 15y^{34} + \cdots + 2y - 1$
c_3	$y^{35} + 7y^{34} + \cdots - 30y - 1$
c_4, c_9	$y^{35} - 5y^{34} + \cdots + 2y - 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{35} + 51y^{34} + \cdots + 10y - 1$