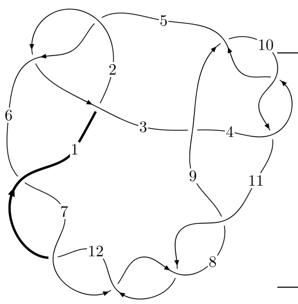
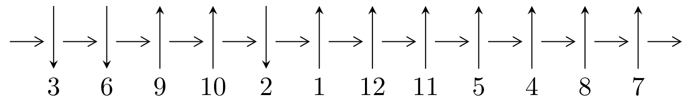
$12a_{0380}$ $(K12a_{0380})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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.

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^8 + 3u^6 + u^4 - 2u^2 + 1 \\ -u^8 - 4u^6 - 4u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{12} - 5u^{10} - 7u^8 + 2u^4 - 3u^2 + 1 \\ u^{12} + 6u^{10} + 12u^8 + 8u^6 + u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{16} + 7u^{14} + 17u^{12} + 14u^{10} - u^8 + 2u^6 + 6u^4 - 4u^2 + 1 \\ -u^{16} - 8u^{14} - 24u^{12} - 32u^{10} - 18u^8 - 8u^6 - 8u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{28} + 13u^{26} + \cdots - 5u^2 + 1 \\ u^{30} + 14u^{28} + \cdots - 16u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{20} - 9u^{18} + \cdots - 5u^2 + 1 \\ u^{20} + 10u^{18} + 40u^{16} + 80u^{14} + 83u^{12} + 50u^{10} + 36u^8 + 24u^6 + u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{36} - 4u^{35} - 72u^{34} - 68u^{33} - 580u^{32} - 516u^{31} - 2748u^{30} - 2292u^{29} - 8476u^{28} - 6576u^{27} - 17864u^{26} - 12736u^{25} - 26568u^{24} - 17112u^{23} - 29228u^{22} - 16736u^{21} - 26160u^{20} - 13388u^{19} - 21072u^{18} - 9832u^{17} - 14636u^{16} - 5896u^{15} - 7812u^{14} - 2336u^{13} - 3700u^{12} - 856u^{11} - 1816u^{10} - 336u^9 - 456u^8 + 80u^7 - 56u^6 + 40u^5 - 68u^4 + 20u^3 + 24u^2 + 16u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{38} + 23u^{37} + \cdots + 5u + 1$
c_2, c_5	$u^{38} + u^{37} + \cdots + u + 1$
c_3	$u^{38} - u^{37} + \cdots + 81u + 317$
c_4, c_9, c_{10}	$u^{38} + u^{37} + \cdots + u + 1$
c_6, c_7, c_8 c_{11}, c_{12}	$u^{38} + 3u^{37} + \cdots + 15u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{38} - 15y^{37} + \cdots + 3y + 1$
c_2, c_5	$y^{38} - 23y^{37} + \cdots - 5y + 1$
c_3	$y^{38} + 25y^{37} + \cdots + 1416135y + 100489$
c_4, c_9, c_{10}	$y^{38} + 37y^{37} + \cdots - 5y + 1$
c_6, c_7, c_8 c_{11}, c_{12}	$y^{38} + 53y^{37} + \cdots + 123y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.699030 + 0.516783I$	$-16.5834 + 2.6642I$	$-1.43407 - 0.13323I$
$u = -0.699030 - 0.516783I$	$-16.5834 - 2.6642I$	$-1.43407 + 0.13323I$
$u = -0.709471 + 0.500003I$	$-16.5259 - 7.3585I$	$-1.27138 + 5.67363I$
$u = -0.709471 - 0.500003I$	$-16.5259 + 7.3585I$	$-1.27138 - 5.67363I$
$u = 0.699159 + 0.504973I$	$-12.61000 + 2.32929I$	$1.79922 - 2.79577I$
$u = 0.699159 - 0.504973I$	$-12.61000 - 2.32929I$	$1.79922 + 2.79577I$
$u = 0.046655 + 1.266040I$	$-2.65817 + 1.73113I$	$5.04604 - 4.55747I$
$u = 0.046655 - 1.266040I$	$-2.65817 - 1.73113I$	$5.04604 + 4.55747I$
$u = 0.617788 + 0.394340I$	$-5.75531 + 5.89610I$	$-0.12847 - 7.53727I$
$u = 0.617788 - 0.394340I$	$-5.75531 - 5.89610I$	$-0.12847 + 7.53727I$
$u = 0.548294 + 0.475497I$	$-6.07647 - 2.03534I$	$-1.49342 + 0.25635I$
$u = 0.548294 - 0.475497I$	$-6.07647 + 2.03534I$	$-1.49342 - 0.25635I$
$u = -0.553289 + 0.398678I$	$-2.61813 - 1.78595I$	$2.96437 + 4.13592I$
$u = -0.553289 - 0.398678I$	$-2.61813 + 1.78595I$	$2.96437 - 4.13592I$
$u = 0.108014 + 1.329890I$	$-3.47258 + 1.99659I$	$3.63851 - 3.32884I$
$u = 0.108014 - 1.329890I$	$-3.47258 - 1.99659I$	$3.63851 + 3.32884I$
$u = -0.165337 + 1.349130I$	$-5.18486 - 5.72137I$	$0. + 8.45786I$
$u = -0.165337 - 1.349130I$	$-5.18486 + 5.72137I$	$0. - 8.45786I$
$u = -0.070878 + 1.410250I$	$-7.16634 - 0.25397I$	0
$u = -0.070878 - 1.410250I$	$-7.16634 + 0.25397I$	0
$u = -0.529018 + 0.191801I$	$-0.35654 - 3.20662I$	$5.93778 + 9.20174I$
$u = -0.529018 - 0.191801I$	$-0.35654 + 3.20662I$	$5.93778 - 9.20174I$
$u = -0.19412 + 1.44071I$	$-8.51769 - 4.51489I$	0
$u = -0.19412 - 1.44071I$	$-8.51769 + 4.51489I$	0
$u = 0.21879 + 1.44502I$	$-11.6645 + 8.9374I$	0
$u = 0.21879 - 1.44502I$	$-11.6645 - 8.9374I$	0
$u = 0.18046 + 1.46649I$	$-12.33810 + 0.59580I$	0
$u = 0.18046 - 1.46649I$	$-12.33810 - 0.59580I$	0
$u = 0.24198 + 1.50771I$	$-19.1586 + 5.7629I$	0
$u = 0.24198 - 1.50771I$	$-19.1586 - 5.7629I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.24749 + 1.50794I$	$16.4216 - 10.8522I$	0
$u = -0.24749 - 1.50794I$	$16.4216 + 10.8522I$	0
$u = -0.23899 + 1.51269I$	$16.2818 - 0.7569I$	0
$u = -0.23899 - 1.51269I$	$16.2818 + 0.7569I$	0
$u = \quad 0.455694 + 0.048977I$	$0.826554 + 0.063442I$	$12.58366 - 0.84901I$
$u = \quad 0.455694 - 0.048977I$	$0.826554 - 0.063442I$	$12.58366 + 0.84901I$
$u = -0.209212 + 0.399902I$	$-1.53939 + 0.81265I$	$-1.98721 - 0.48886I$
$u = -0.209212 - 0.399902I$	$-1.53939 - 0.81265I$	$-1.98721 + 0.48886I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{38} + 23u^{37} + \cdots + 5u + 1$
c_2, c_5	$u^{38} + u^{37} + \cdots + u + 1$
c_3	$u^{38} - u^{37} + \cdots + 81u + 317$
c_4, c_9, c_{10}	$u^{38} + u^{37} + \cdots + u + 1$
c_6, c_7, c_8 c_{11}, c_{12}	$u^{38} + 3u^{37} + \cdots + 15u + 3$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{38} - 15y^{37} + \cdots + 3y + 1$
c_2, c_5	$y^{38} - 23y^{37} + \cdots - 5y + 1$
c_3	$y^{38} + 25y^{37} + \cdots + 1416135y + 100489$
c_4, c_9, c_{10}	$y^{38} + 37y^{37} + \cdots - 5y + 1$
c_6, c_7, c_8 c_{11}, c_{12}	$y^{38} + 53y^{37} + \cdots + 123y + 9$