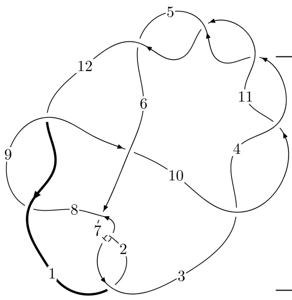
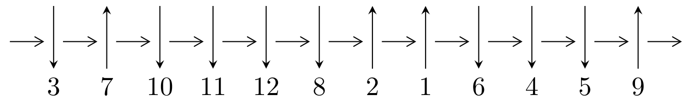
$12a_{0651}$ ($K12a_{0651}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{48} - u^{47} + \cdots - 2u^2 - 1\rangle$$

* 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. $I_1^u = \langle u^{48} - u^{47} + \cdots - 2u^2 - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^8 - u^6 - u^4 + 1 \\ -u^{10} - 2u^8 - 3u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{14} + 3u^{12} + 6u^{10} + 7u^8 + 6u^6 + 4u^4 + 2u^2 + 1 \\ u^{14} + 2u^{12} + 3u^{10} + 2u^8 - u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{31} - 6u^{29} + \cdots - 18u^5 - 6u^3 \\ -u^{31} - 5u^{29} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{13} + 2u^{11} + 3u^9 + 2u^7 - u \\ u^{15} + 3u^{13} + 6u^{11} + 7u^9 + 6u^7 + 4u^5 + 2u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{30} - 5u^{28} + \cdots + 2u^2 + 1 \\ -u^{32} - 6u^{30} + \cdots - 18u^6 - 6u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{47} - 8u^{45} + \cdots + 18u^5 + 6u^3 \\ -u^{47} + u^{46} + \cdots - 2u^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{46} - 4u^{45} + \cdots + 12u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{48} + 17u^{47} + \cdots + 4u + 1$
c_2, c_7	$u^{48} + u^{47} + \cdots - 2u^2 - 1$
c_3, c_4, c_5 c_{10}, c_{11}	$u^{48} - u^{47} + \cdots - 2u - 1$
c_8, c_{12}	$u^{48} - 5u^{47} + \cdots + 100u - 39$
c_9	$u^{48} - 5u^{47} + \cdots + 912u + 1305$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{48} + 29y^{47} + \cdots - 16y + 1$
c_2, c_7	$y^{48} + 17y^{47} + \cdots + 4y + 1$
c_3, c_4, c_5 c_{10}, c_{11}	$y^{48} - 63y^{47} + \cdots + 4y + 1$
c_8, c_{12}	$y^{48} + 37y^{47} + \cdots + 24632y + 1521$
c_9	$y^{48} - 23y^{47} + \cdots - 23246424y + 1703025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.802127 + 0.589214I$	$-13.2341 - 6.6512I$	$-8.69292 + 2.70499I$
$u = 0.802127 - 0.589214I$	$-13.2341 + 6.6512I$	$-8.69292 - 2.70499I$
$u = -0.780450 + 0.595412I$	$-3.45383 + 5.14659I$	$-7.86923 - 4.15340I$
$u = -0.780450 - 0.595412I$	$-3.45383 - 5.14659I$	$-7.86923 + 4.15340I$
$u = -0.306787 + 0.928044I$	$-13.29560 - 2.74578I$	$-13.24399 + 4.02587I$
$u = -0.306787 - 0.928044I$	$-13.29560 + 2.74578I$	$-13.24399 - 4.02587I$
$u = 0.744340 + 0.609755I$	$0.47988 - 2.41400I$	$-2.77620 + 3.95017I$
$u = 0.744340 - 0.609755I$	$0.47988 + 2.41400I$	$-2.77620 - 3.95017I$
$u = -0.709694 + 0.805377I$	$1.43993 - 0.10326I$	$-4.11691 - 1.57301I$
$u = -0.709694 - 0.805377I$	$1.43993 + 0.10326I$	$-4.11691 + 1.57301I$
$u = -0.019095 + 1.077630I$	$-5.06998 - 1.60211I$	$-10.45738 + 4.05120I$
$u = -0.019095 - 1.077630I$	$-5.06998 + 1.60211I$	$-10.45738 - 4.05120I$
$u = 0.750182 + 0.779791I$	$-7.19201 - 0.77835I$	$-5.36224 + 0.06889I$
$u = 0.750182 - 0.779791I$	$-7.19201 + 0.77835I$	$-5.36224 - 0.06889I$
$u = -0.669363 + 0.604587I$	$0.001527 - 0.587302I$	$-4.68221 + 4.09309I$
$u = -0.669363 - 0.604587I$	$0.001527 + 0.587302I$	$-4.68221 - 4.09309I$
$u = 0.040819 + 1.103530I$	$-9.34090 + 4.19623I$	$-14.8023 - 4.2142I$
$u = 0.040819 - 1.103530I$	$-9.34090 - 4.19623I$	$-14.8023 + 4.2142I$
$u = 0.701243 + 0.856750I$	$3.68589 + 2.68723I$	$1.90848 - 3.59326I$
$u = 0.701243 - 0.856750I$	$3.68589 - 2.68723I$	$1.90848 + 3.59326I$
$u = 0.303851 + 0.826787I$	$-3.75546 + 2.27659I$	$-12.89646 - 5.30128I$
$u = 0.303851 - 0.826787I$	$-3.75546 - 2.27659I$	$-12.89646 + 5.30128I$
$u = -0.050388 + 1.121400I$	$-19.3092 - 5.5995I$	$-15.3152 + 3.0524I$
$u = -0.050388 - 1.121400I$	$-19.3092 + 5.5995I$	$-15.3152 - 3.0524I$
$u = -0.701027 + 0.900492I$	$1.15320 - 5.29793I$	$-5.03627 + 7.68449I$
$u = -0.701027 - 0.900492I$	$1.15320 + 5.29793I$	$-5.03627 - 7.68449I$
$u = -0.715058 + 0.438137I$	$-14.1380 - 3.7995I$	$-9.38326 + 2.79474I$
$u = -0.715058 - 0.438137I$	$-14.1380 + 3.7995I$	$-9.38326 - 2.79474I$
$u = 0.719743 + 0.928582I$	$-7.64175 + 6.35454I$	$-6.48748 - 5.77861I$
$u = 0.719743 - 0.928582I$	$-7.64175 - 6.35454I$	$-6.48748 + 5.77861I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.672923 + 0.473750I$	$-4.26296 + 2.63953I$	$-9.04168 - 4.04694I$
$u = \quad 0.672923 - 0.473750I$	$-4.26296 - 2.63953I$	$-9.04168 + 4.04694I$
$u = \quad 0.620090 + 1.027290I$	$-5.75948 + 2.34942I$	$-11.55550 - 1.52820I$
$u = \quad 0.620090 - 1.027290I$	$-5.75948 - 2.34942I$	$-11.55550 + 1.52820I$
$u = -0.648633 + 1.012460I$	$-1.18407 - 4.57916I$	$-6.64611 + 1.38024I$
$u = -0.648633 - 1.012460I$	$-1.18407 + 4.57916I$	$-6.64611 - 1.38024I$
$u = -0.608868 + 1.044010I$	$-15.8277 - 1.2103I$	$-12.22073 + 2.35699I$
$u = -0.608868 - 1.044010I$	$-15.8277 + 1.2103I$	$-12.22073 - 2.35699I$
$u = \quad 0.668938 + 1.023950I$	$-0.74329 + 7.81387I$	$-4.00000 - 8.53366I$
$u = \quad 0.668938 - 1.023950I$	$-0.74329 - 7.81387I$	$-4.00000 + 8.53366I$
$u = -0.676813 + 1.038570I$	$-4.76998 - 10.66020I$	$-9.85701 + 8.71110I$
$u = -0.676813 - 1.038570I$	$-4.76998 + 10.66020I$	$-9.85701 - 8.71110I$
$u = \quad 0.681817 + 1.047990I$	$-14.6043 + 12.2368I$	$-10.70547 - 7.24531I$
$u = \quad 0.681817 - 1.047990I$	$-14.6043 - 12.2368I$	$-10.70547 + 7.24531I$
$u = -0.545430$	-10.6248	-6.00350
$u = -0.257194 + 0.480005I$	$-0.181190 - 0.868139I$	$-4.26608 + 7.69273I$
$u = -0.257194 - 0.480005I$	$-0.181190 + 0.868139I$	$-4.26608 - 7.69273I$
$u = \quad 0.420030$	-1.58694	-4.88980

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{48}+17u^{47}+\cdots+4u+1$
c_2, c_7	$u^{48}+u^{47}+\cdots-2u^2-1$
c_3, c_4, c_5 c_{10}, c_{11}	$u^{48}-u^{47}+\cdots-2u-1$
c_8, c_{12}	$u^{48}-5u^{47}+\cdots+100u-39$
c_9	$u^{48}-5u^{47}+\cdots+912u+1305$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{48} + 29y^{47} + \cdots - 16y + 1$
c_2, c_7	$y^{48} + 17y^{47} + \cdots + 4y + 1$
c_3, c_4, c_5 c_{10}, c_{11}	$y^{48} - 63y^{47} + \cdots + 4y + 1$
c_8, c_{12}	$y^{48} + 37y^{47} + \cdots + 24632y + 1521$
c_9	$y^{48} - 23y^{47} + \cdots - 23246424y + 1703025$