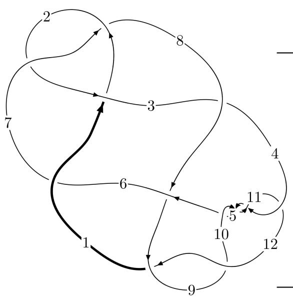
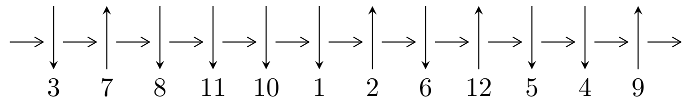
$12a_{0552}$ $(K12a_{0552})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{65} + u^{64} + \cdots + 3u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 65 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. $I^u_1 = \langle u^{65} + u^{64} + \cdots + 3u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 - 2u^3 + u \\ u^5 + 3u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^9 - 4u^7 - 3u^5 + 2u^3 - u \\ u^9 + 5u^7 + 7u^5 + 2u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{22} - 11u^{20} + \cdots - 3u^4 + 1 \\ u^{22} + 12u^{20} + \cdots + 8u^4 + 3u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{11} + 6u^9 + 12u^7 + 8u^5 + u^3 + 2u \\ u^{13} + 7u^{11} + 17u^9 + 16u^7 + 6u^5 + 5u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{24} - 13u^{22} + \cdots - 2u^2 + 1 \\ -u^{26} - 14u^{24} + \cdots - 10u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{59} - 32u^{57} + \cdots + 5u^3 - 2u \\ -u^{61} - 33u^{59} + \cdots + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{64} - 4u^{63} + \cdots - 24u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 35u^{64} + \cdots - 3u - 1$
c_2, c_7	$u^{65} + u^{64} + \cdots + u + 1$
c_3, c_6	$u^{65} - u^{64} + \cdots + u + 1$
c_4, c_5, c_{10} c_{11}	$u^{65} + u^{64} + \cdots + 3u + 1$
c_8	$u^{65} - 9u^{64} + \cdots - 871u + 109$
c_9, c_{12}	$u^{65} + 11u^{64} + \cdots + 1417u + 187$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 9y^{64} + \cdots + y - 1$
c_2, c_7	$y^{65} + 35y^{64} + \cdots - 3y - 1$
c_3, c_6	$y^{65} - 53y^{64} + \cdots - 99y - 1$
c_4, c_5, c_{10} c_{11}	$y^{65} + 71y^{64} + \cdots - 3y - 1$
c_8	$y^{65} - 13y^{64} + \cdots + 40113y - 11881$
c_9, c_{12}	$y^{65} + 43y^{64} + \cdots - 640031y - 34969$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.595719 + 0.578948I$	$-7.70647 + 11.34340I$	$-8.26251 - 9.40428I$
$u = -0.595719 - 0.578948I$	$-7.70647 - 11.34340I$	$-8.26251 + 9.40428I$
$u = -0.599254 + 0.561085I$	$-8.54295 + 2.41798I$	$-9.80276 - 3.05774I$
$u = -0.599254 - 0.561085I$	$-8.54295 - 2.41798I$	$-9.80276 + 3.05774I$
$u = 0.589572 + 0.570914I$	$-4.51819 - 6.51331I$	$-5.31750 + 6.37538I$
$u = 0.589572 - 0.570914I$	$-4.51819 + 6.51331I$	$-5.31750 - 6.37538I$
$u = 0.538749 + 0.569567I$	$-0.93086 - 6.41545I$	$-3.67996 + 9.86351I$
$u = 0.538749 - 0.569567I$	$-0.93086 + 6.41545I$	$-3.67996 - 9.86351I$
$u = 0.220912 + 0.733421I$	$-2.38478 - 6.60693I$	$-2.78190 + 7.82097I$
$u = 0.220912 - 0.733421I$	$-2.38478 + 6.60693I$	$-2.78190 - 7.82097I$
$u = 0.569041 + 0.489543I$	$-4.59319 - 1.95369I$	$-11.39399 + 3.79158I$
$u = 0.569041 - 0.489543I$	$-4.59319 + 1.95369I$	$-11.39399 - 3.79158I$
$u = -0.621187 + 0.418285I$	$-8.96370 + 1.72981I$	$-11.03048 - 3.35966I$
$u = -0.621187 - 0.418285I$	$-8.96370 - 1.72981I$	$-11.03048 + 3.35966I$
$u = -0.505578 + 0.547288I$	$-0.07972 + 2.16929I$	$-1.40597 - 3.65142I$
$u = -0.505578 - 0.547288I$	$-0.07972 - 2.16929I$	$-1.40597 + 3.65142I$
$u = -0.624357 + 0.395701I$	$-8.24591 - 7.19806I$	$-9.88810 + 3.21124I$
$u = -0.624357 - 0.395701I$	$-8.24591 + 7.19806I$	$-9.88810 - 3.21124I$
$u = 0.613226 + 0.403101I$	$-5.01179 + 2.41777I$	$-6.90071 - 0.01179I$
$u = 0.613226 - 0.403101I$	$-5.01179 - 2.41777I$	$-6.90071 + 0.01179I$
$u = 0.274381 + 0.668482I$	$-2.83652 + 1.62881I$	$-4.05285 + 1.38314I$
$u = 0.274381 - 0.668482I$	$-2.83652 - 1.62881I$	$-4.05285 - 1.38314I$
$u = -0.043462 + 0.719036I$	$2.69348 + 2.02135I$	$4.11374 - 4.67175I$
$u = -0.043462 - 0.719036I$	$2.69348 - 2.02135I$	$4.11374 + 4.67175I$
$u = -0.195350 + 0.687690I$	$0.60698 + 2.16613I$	$0.97582 - 4.91748I$
$u = -0.195350 - 0.687690I$	$0.60698 - 2.16613I$	$0.97582 + 4.91748I$
$u = 0.537336 + 0.377380I$	$-1.48399 + 2.68474I$	$-5.93567 - 3.09855I$
$u = 0.537336 - 0.377380I$	$-1.48399 - 2.68474I$	$-5.93567 + 3.09855I$
$u = -0.463936 + 0.448567I$	$-0.422225 + 1.251880I$	$-2.42688 - 4.39107I$
$u = -0.463936 - 0.448567I$	$-0.422225 - 1.251880I$	$-2.42688 + 4.39107I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.15190 + 1.44967I$	$-2.33616 - 4.48271I$	0
$u = -0.15190 - 1.44967I$	$-2.33616 + 4.48271I$	0
$u = \quad 0.14927 + 1.46063I$	$0.981805 - 0.236082I$	0
$u = \quad 0.14927 - 1.46063I$	$0.981805 + 0.236082I$	0
$u = -0.16115 + 1.46529I$	$-2.88598 + 4.47628I$	0
$u = -0.16115 - 1.46529I$	$-2.88598 - 4.47628I$	0
$u = \quad 0.09486 + 1.50450I$	$4.62328 + 0.70657I$	0
$u = \quad 0.09486 - 1.50450I$	$4.62328 - 0.70657I$	0
$u = \quad 0.486503 + 0.034595I$	$-4.82132 - 4.20427I$	$-10.67761 + 3.89462I$
$u = \quad 0.486503 - 0.034595I$	$-4.82132 + 4.20427I$	$-10.67761 - 3.89462I$
$u = \quad 0.15753 + 1.51877I$	$2.03909 - 4.52101I$	0
$u = \quad 0.15753 - 1.51877I$	$2.03909 + 4.52101I$	0
$u = -0.12554 + 1.53196I$	$6.27220 + 3.29095I$	0
$u = -0.12554 - 1.53196I$	$6.27220 - 3.29095I$	0
$u = -0.14729 + 1.54850I$	$6.93976 + 4.52566I$	0
$u = -0.14729 - 1.54850I$	$6.93976 - 4.52566I$	0
$u = -0.18149 + 1.54544I$	$-1.55418 + 5.25395I$	0
$u = -0.18149 - 1.54544I$	$-1.55418 - 5.25395I$	0
$u = \quad 0.05974 + 1.55575I$	$4.61583 + 0.48659I$	0
$u = \quad 0.05974 - 1.55575I$	$4.61583 - 0.48659I$	0
$u = -0.440342$	-1.55260	-7.73470
$u = \quad 0.17813 + 1.55071I$	$2.53593 - 9.30655I$	0
$u = \quad 0.17813 - 1.55071I$	$2.53593 + 9.30655I$	0
$u = \quad 0.15865 + 1.55295I$	$6.15977 - 8.94433I$	0
$u = \quad 0.15865 - 1.55295I$	$6.15977 + 8.94433I$	0
$u = -0.18134 + 1.55369I$	$-0.6147 + 14.1782I$	0
$u = -0.18134 - 1.55369I$	$-0.6147 - 14.1782I$	0
$u = -0.03741 + 1.57557I$	$8.26236 + 2.91932I$	0
$u = -0.03741 - 1.57557I$	$8.26236 - 2.91932I$	0
$u = -0.00764 + 1.58238I$	$10.48530 + 2.18126I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.00764-1.58238I$	$10.48530-2.18126I$	0
$u=\ \ 0.04591+1.58470I$	$5.45364-7.49920I$	0
$u=\ \ 0.04591-1.58470I$	$5.45364+7.49920I$	0
$u=-0.311030+0.259147I$	$-0.362697+1.022000I$	$-5.86257-6.20252I$
$u=-0.311030-0.259147I$	$-0.362697-1.022000I$	$-5.86257+6.20252I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 35u^{64} + \cdots - 3u - 1$
c_2, c_7	$u^{65} + u^{64} + \cdots + u + 1$
c_3, c_6	$u^{65} - u^{64} + \cdots + u + 1$
c_4, c_5, c_{10} c_{11}	$u^{65} + u^{64} + \cdots + 3u + 1$
c_8	$u^{65} - 9u^{64} + \cdots - 871u + 109$
c_9, c_{12}	$u^{65} + 11u^{64} + \cdots + 1417u + 187$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 9y^{64} + \cdots + y - 1$
c_2, c_7	$y^{65} + 35y^{64} + \cdots - 3y - 1$
c_3, c_6	$y^{65} - 53y^{64} + \cdots - 99y - 1$
c_4, c_5, c_{10} c_{11}	$y^{65} + 71y^{64} + \cdots - 3y - 1$
c_8	$y^{65} - 13y^{64} + \cdots + 40113y - 11881$
c_9, c_{12}	$y^{65} + 43y^{64} + \cdots - 640031y - 34969$