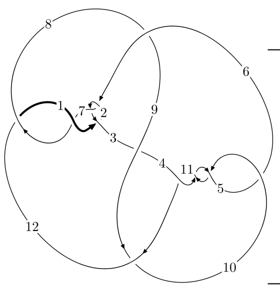
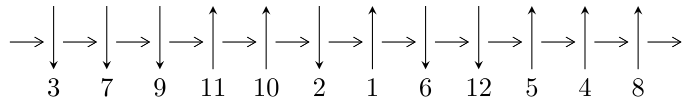
$12a_{0595}$ $(K12a_{0595})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{69} + u^{68} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $I_1^u = \langle u^{69} + u^{68} + \cdots - u - 1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5-2u^3+u \\ u^5-u^3+u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9+2u^7-u^5-2u^3+u \\ u^{11}-3u^9+4u^7-u^5-u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{20}+5u^{18}-11u^{16}+10u^{14}+2u^{12}-13u^{10}+9u^8-3u^4+u^2+1 \\ u^{22}-6u^{20}+17u^{18}-26u^{16}+20u^{14}-13u^{10}+10u^8-u^6-2u^4+u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^8+2u^6-2u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{27}+8u^{25}+\cdots+4u^5-u^3 \\ -u^{27}+7u^{25}+\cdots-u^3+u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{57}-16u^{55}+\cdots-u^5+u \\ u^{57}-15u^{55}+\cdots-u^5+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{50}-13u^{48}+\cdots+u^2+1 \\ -u^{52}+14u^{50}+\cdots-6u^8-u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{67}+72u^{65}+\cdots-8u^3+2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{69} + 37u^{68} + \cdots - u + 1$
c_2, c_6	$u^{69} - u^{68} + \cdots - u + 1$
c_3	$u^{69} - u^{68} + \cdots - 4205u + 841$
c_4, c_5, c_{10} c_{11}	$u^{69} - u^{68} + \cdots - u + 1$
c_7, c_{12}	$u^{69} - 3u^{68} + \cdots + u + 1$
c_8	$u^{69} - 9u^{68} + \cdots - 183u + 13$
c_9	$u^{69} - 19u^{68} + \cdots + 4845u - 283$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{69} - 9y^{68} + \cdots + 3y - 1$
c_2, c_6	$y^{69} - 37y^{68} + \cdots - y - 1$
c_3	$y^{69} - 29y^{68} + \cdots + 24176227y - 707281$
c_4, c_5, c_{10} c_{11}	$y^{69} + 79y^{68} + \cdots - y - 1$
c_7, c_{12}	$y^{69} + 55y^{68} + \cdots - 85y - 1$
c_8	$y^{69} - 5y^{68} + \cdots + 1535y - 169$
c_9	$y^{69} - 13y^{68} + \cdots + 1486623y - 80089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.007650 + 0.064350I$	$-3.60184 + 2.81733I$	$-9.32476 - 5.48757I$
$u = -1.007650 - 0.064350I$	$-3.60184 - 2.81733I$	$-9.32476 + 5.48757I$
$u = 0.863362 + 0.530746I$	$0.35930 - 6.77991I$	$-0.61658 + 10.23881I$
$u = 0.863362 - 0.530746I$	$0.35930 + 6.77991I$	$-0.61658 - 10.23881I$
$u = -0.835974 + 0.511530I$	$1.64738 + 3.32051I$	$3.54071 - 4.43827I$
$u = -0.835974 - 0.511530I$	$1.64738 - 3.32051I$	$3.54071 + 4.43827I$
$u = -0.879803 + 0.544272I$	$-7.29269 + 9.02370I$	$-3.47414 - 8.26985I$
$u = -0.879803 - 0.544272I$	$-7.29269 - 9.02370I$	$-3.47414 + 8.26985I$
$u = 0.859864 + 0.398364I$	$-1.45583 - 1.56617I$	$-5.75209 + 2.95981I$
$u = 0.859864 - 0.398364I$	$-1.45583 + 1.56617I$	$-5.75209 - 2.95981I$
$u = 1.050990 + 0.067740I$	$-11.48740 - 4.67055I$	$-10.85743 + 3.45107I$
$u = 1.050990 - 0.067740I$	$-11.48740 + 4.67055I$	$-10.85743 - 3.45107I$
$u = 0.763010 + 0.535883I$	$-3.25699 - 2.16890I$	$0.53836 + 3.82901I$
$u = 0.763010 - 0.535883I$	$-3.25699 + 2.16890I$	$0.53836 - 3.82901I$
$u = 0.931899$	-1.68818	-4.45100
$u = -0.983730 + 0.422361I$	$-9.02531 + 0.64002I$	$-6.52857 + 0.I$
$u = -0.983730 - 0.422361I$	$-9.02531 - 0.64002I$	$-6.52857 + 0.I$
$u = -0.689201 + 0.500960I$	$2.07105 + 0.85287I$	$5.34302 - 3.58736I$
$u = -0.689201 - 0.500960I$	$2.07105 - 0.85287I$	$5.34302 + 3.58736I$
$u = -0.614253 + 0.561310I$	$-6.54819 - 4.59342I$	$-1.49782 + 1.94707I$
$u = -0.614253 - 0.561310I$	$-6.54819 + 4.59342I$	$-1.49782 - 1.94707I$
$u = 0.637725 + 0.530123I$	$0.99322 + 2.46697I$	$1.50189 - 3.71848I$
$u = 0.637725 - 0.530123I$	$0.99322 - 2.46697I$	$1.50189 + 3.71848I$
$u = -1.107000 + 0.388573I$	$-9.04626 + 0.50923I$	0
$u = -1.107000 - 0.388573I$	$-9.04626 - 0.50923I$	0
$u = -0.137752 + 0.815117I$	$-10.8743 - 9.4349I$	$-5.12264 + 5.41104I$
$u = -0.137752 - 0.815117I$	$-10.8743 + 9.4349I$	$-5.12264 - 5.41104I$
$u = 0.135322 + 0.801855I$	$-2.99570 + 7.10512I$	$-2.78124 - 7.18886I$
$u = 0.135322 - 0.801855I$	$-2.99570 - 7.10512I$	$-2.78124 + 7.18886I$
$u = -0.073813 + 0.807863I$	$-12.67980 + 0.44790I$	$-7.20362 + 0.05375I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.073813-0.807863I$	$-12.67980-0.44790I$	$-7.20362-0.05375I$
$u=-0.127650+0.782006I$	$-1.37080-3.50950I$	$0.93203+2.31314I$
$u=-0.127650-0.782006I$	$-1.37080+3.50950I$	$0.93203-2.31314I$
$u=\ \ 0.087303+0.782586I$	$-4.38416+0.86576I$	$-5.85927+0.77218I$
$u=\ \ 0.087303-0.782586I$	$-4.38416-0.86576I$	$-5.85927-0.77218I$
$u=\ \ 1.127960+0.449076I$	$-2.38041-2.24656I$	0
$u=\ \ 1.127960-0.449076I$	$-2.38041+2.24656I$	0
$u=-1.142880+0.475125I$	$-2.14308+5.59560I$	0
$u=-1.142880-0.475125I$	$-2.14308-5.59560I$	0
$u=\ \ 1.153950+0.498640I$	$-8.24718-7.43164I$	0
$u=\ \ 1.153950-0.498640I$	$-8.24718+7.43164I$	0
$u=\ \ 1.199180+0.389997I$	$-5.28056-0.45902I$	0
$u=\ \ 1.199180-0.389997I$	$-5.28056+0.45902I$	0
$u=-1.209940+0.381438I$	$-7.02202-3.10940I$	0
$u=-1.209940-0.381438I$	$-7.02202+3.10940I$	0
$u=\ \ 0.183314+0.704841I$	$-5.44368+2.87522I$	$-1.31258-3.07627I$
$u=\ \ 0.183314-0.704841I$	$-5.44368-2.87522I$	$-1.31258+3.07627I$
$u=-1.205010+0.410064I$	$-8.18209+3.26828I$	0
$u=-1.205010-0.410064I$	$-8.18209-3.26828I$	0
$u=\ \ 1.218430+0.378071I$	$-14.9696+5.4032I$	0
$u=\ \ 1.218430-0.378071I$	$-14.9696-5.4032I$	0
$u=\ \ 1.218030+0.415989I$	$-16.5257-4.7100I$	0
$u=\ \ 1.218030-0.415989I$	$-16.5257+4.7100I$	0
$u=\ \ 1.194350+0.489511I$	$-7.61719-5.52009I$	0
$u=\ \ 1.194350-0.489511I$	$-7.61719+5.52009I$	0
$u=-1.188620+0.503633I$	$-4.47624+8.24964I$	0
$u=-1.188620-0.503633I$	$-4.47624-8.24964I$	0
$u=\ \ 1.193800+0.510098I$	$-6.11348-11.92620I$	0
$u=\ \ 1.193800-0.510098I$	$-6.11348+11.92620I$	0
$u=-1.206320+0.487082I$	$-16.0195+4.2556I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.206320 - 0.487082I$	$-16.0195 - 4.2556I$	0
$u = -1.198100 + 0.513816I$	$-14.0097 + 14.3072I$	0
$u = -1.198100 - 0.513816I$	$-14.0097 - 14.3072I$	0
$u = -0.386946 + 0.563275I$	$-7.28945 + 3.35761I$	$-1.95583 - 2.56316I$
$u = -0.386946 - 0.563275I$	$-7.28945 - 3.35761I$	$-1.95583 + 2.56316I$
$u = -0.163148 + 0.605619I$	$0.62850 - 1.34733I$	$3.35755 + 4.56273I$
$u = -0.163148 - 0.605619I$	$0.62850 + 1.34733I$	$3.35755 - 4.56273I$
$u = 0.305258 + 0.505306I$	$0.08963 - 1.59531I$	$1.18713 + 4.74981I$
$u = 0.305258 - 0.505306I$	$0.08963 + 1.59531I$	$1.18713 - 4.74981I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{69} + 37u^{68} + \cdots - u + 1$
c_2, c_6	$u^{69} - u^{68} + \cdots - u + 1$
c_3	$u^{69} - u^{68} + \cdots - 4205u + 841$
c_4, c_5, c_{10} c_{11}	$u^{69} - u^{68} + \cdots - u + 1$
c_7, c_{12}	$u^{69} - 3u^{68} + \cdots + u + 1$
c_8	$u^{69} - 9u^{68} + \cdots - 183u + 13$
c_9	$u^{69} - 19u^{68} + \cdots + 4845u - 283$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{69} - 9y^{68} + \cdots + 3y - 1$
c_2, c_6	$y^{69} - 37y^{68} + \cdots - y - 1$
c_3	$y^{69} - 29y^{68} + \cdots + 24176227y - 707281$
c_4, c_5, c_{10} c_{11}	$y^{69} + 79y^{68} + \cdots - y - 1$
c_7, c_{12}	$y^{69} + 55y^{68} + \cdots - 85y - 1$
c_8	$y^{69} - 5y^{68} + \cdots + 1535y - 169$
c_9	$y^{69} - 13y^{68} + \cdots + 1486623y - 80089$