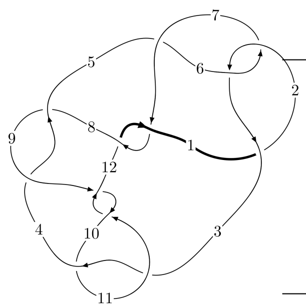
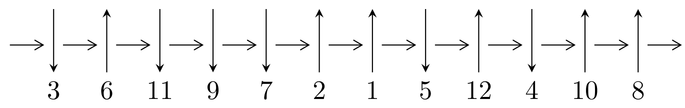
$12a_{0477}$ ($K12a_{0477}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{84} + u^{83} + \cdots + 2u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 84 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. $I_1^u = \langle u^{84} + u^{83} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^8 - u^6 - u^4 + 1 \\ -u^{10} - 2u^8 - 3u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{14} + 3u^{12} + 6u^{10} + 7u^8 + 6u^6 + 4u^4 + 2u^2 + 1 \\ u^{14} + 2u^{12} + 3u^{10} + 2u^8 - u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{26} + 5u^{24} + \cdots + 3u^2 + 1 \\ u^{26} + 4u^{24} + \cdots - 2u^4 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{13} + 2u^{11} + 3u^9 + 2u^7 - u \\ u^{15} + 3u^{13} + 6u^{11} + 7u^9 + 6u^7 + 4u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{42} - 7u^{40} + \cdots + 3u^2 + 1 \\ -u^{44} - 8u^{42} + \cdots - 5u^4 - 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{71} + 12u^{69} + \cdots - 6u^3 - 2u \\ u^{73} + 13u^{71} + \cdots + 4u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{83} + 56u^{81} + \cdots + 16u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{84}+29u^{83}+\cdots+6u+1$
c_2, c_6	$u^{84}-u^{83}+\cdots-2u+1$
c_3, c_{10}	$u^{84}+u^{83}+\cdots+2u+1$
c_4, c_8	$u^{84}-5u^{83}+\cdots-4u+1$
c_7, c_{12}	$u^{84}+5u^{83}+\cdots+4u+1$
c_9, c_{11}	$u^{84}-29u^{83}+\cdots-6u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_9 c_{11}	$y^{84} + 53y^{83} + \cdots + 66y + 1$
c_2, c_3, c_6 c_{10}	$y^{84} + 29y^{83} + \cdots + 6y + 1$
c_4, c_7, c_8 c_{12}	$y^{84} + 49y^{83} + \cdots - 62y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.763893 + 0.642507I$	$1.33433 - 2.60412I$	0
$u = 0.763893 - 0.642507I$	$1.33433 + 2.60412I$	0
$u = 0.792082 + 0.624713I$	$-\, 5.01747I$	0
$u = 0.792082 - 0.624713I$	$5.01747I$	0
$u = 0.710184 + 0.689350I$	$1.67480 - 2.05474I$	0
$u = 0.710184 - 0.689350I$	$1.67480 + 2.05474I$	0
$u = 0.476640 + 0.893687I$	$-0.79843 + 7.36772I$	0
$u = 0.476640 - 0.893687I$	$-0.79843 - 7.36772I$	0
$u = -0.798874 + 0.626987I$	$1.22047 + 10.61460I$	0
$u = -0.798874 - 0.626987I$	$1.22047 - 10.61460I$	0
$u = 0.072967 + 1.014750I$	$-2.95072 - 2.15409I$	0
$u = 0.072967 - 1.014750I$	$-2.95072 + 2.15409I$	0
$u = -0.789993 + 0.643641I$	$6.04939 + 4.33772I$	0
$u = -0.789993 - 0.643641I$	$6.04939 - 4.33772I$	0
$u = -0.773008 + 0.666465I$	$2.86621 - 2.05200I$	0
$u = -0.773008 - 0.666465I$	$2.86621 + 2.05200I$	0
$u = -0.454631 + 0.853158I$	$-1.67480 - 2.05474I$	0
$u = -0.454631 - 0.853158I$	$-1.67480 + 2.05474I$	0
$u = 0.643313 + 0.822859I$	$3.24509 + 2.47363I$	0
$u = 0.643313 - 0.822859I$	$3.24509 - 2.47363I$	0
$u = -0.047485 + 1.060200I$	$-4.39822 - 2.11638I$	0
$u = -0.047485 - 1.060200I$	$-4.39822 + 2.11638I$	0
$u = 0.079203 + 1.069310I$	$3.88417I$	0
$u = 0.079203 - 1.069310I$	$-\, 3.88417I$	0
$u = 0.731757 + 0.564908I$	$-4.05942 - 3.96631I$	$-2.91590 + 3.49131I$
$u = 0.731757 - 0.564908I$	$-4.05942 + 3.96631I$	$-2.91590 - 3.49131I$
$u = -0.067639 + 1.089980I$	$-6.04939 - 4.33772I$	0
$u = -0.067639 - 1.089980I$	$-6.04939 + 4.33772I$	0
$u = 0.074978 + 1.092560I$	$-4.90631 + 9.94933I$	0
$u = 0.074978 - 1.092560I$	$-4.90631 - 9.94933I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.716193+0.552263I$	$-4.16451-1.63916I$	$-3.30737+2.61534I$
$u=-0.716193-0.552263I$	$-4.16451+1.63916I$	$-3.30737-2.61534I$
$u=-0.005011+1.096860I$	$-9.54569-2.83875I$	0
$u=-0.005011-1.096860I$	$-9.54569+2.83875I$	0
$u=-0.587223+0.661375I$	$0.139076-1.080380I$	$-2.54390+3.63061I$
$u=-0.587223-0.661375I$	$0.139076+1.080380I$	$-2.54390-3.63061I$
$u=\quad 0.741950+0.844828I$	$4.16451+1.63916I$	0
$u=\quad 0.741950-0.844828I$	$4.16451-1.63916I$	0
$u=\quad 0.588860+0.964530I$	$2.95072+2.15409I$	0
$u=\quad 0.588860-0.964530I$	$2.95072-2.15409I$	0
$u=-0.754193+0.844225I$	$5.52875+3.59746I$	0
$u=-0.754193-0.844225I$	$5.52875-3.59746I$	0
$u=-0.082243+0.852291I$	$-3.24509-2.47363I$	$-6.54650+4.35842I$
$u=-0.082243-0.852291I$	$-3.24509+2.47363I$	$-6.54650-4.35842I$
$u=-0.751026+0.864969I$	$9.54569-2.83875I$	0
$u=-0.751026-0.864969I$	$9.54569+2.83875I$	0
$u=\quad 0.736347+0.879595I$	$4.05942+3.96631I$	0
$u=\quad 0.736347-0.879595I$	$4.05942-3.96631I$	0
$u=-0.745804+0.884079I$	$5.40777-9.26844I$	0
$u=-0.745804-0.884079I$	$5.40777+9.26844I$	0
$u=\quad 0.585015+1.007660I$	$-1.83509-3.51182I$	0
$u=\quad 0.585015-1.007660I$	$-1.83509+3.51182I$	0
$u=-0.595485+1.007220I$	$-2.86621-2.05200I$	0
$u=-0.595485-1.007220I$	$-2.86621+2.05200I$	0
$u=-0.632358+0.991826I$	$-0.88505-3.85213I$	0
$u=-0.632358-0.991826I$	$-0.88505+3.85213I$	0
$u=\quad 0.669522+0.981184I$	$0.79843+7.36772I$	0
$u=\quad 0.669522-0.981184I$	$0.79843-7.36772I$	0
$u=-0.647306+1.029130I$	$-5.52875-3.59746I$	0
$u=-0.647306-1.029130I$	$-5.52875+3.59746I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.654058 + 1.030900I$	$-5.40777 + 9.26844I$	0
$u = \quad 0.654058 - 1.030900I$	$-5.40777 - 9.26844I$	0
$u = -0.694389 + 1.008940I$	$1.83509 - 3.51182I$	0
$u = -0.694389 - 1.008940I$	$1.83509 + 3.51182I$	0
$u = \quad 0.685026 + 1.017620I$	$0.21279 + 8.11285I$	0
$u = \quad 0.685026 - 1.017620I$	$0.21279 - 8.11285I$	0
$u = -0.695652 + 1.024070I$	$4.90631 - 9.94933I$	0
$u = -0.695652 - 1.024070I$	$4.90631 + 9.94933I$	0
$u = \quad 0.690563 + 1.032180I$	$-1.22047 + 10.61460I$	0
$u = \quad 0.690563 - 1.032180I$	$-1.22047 - 10.61460I$	0
$u = -0.693816 + 1.033570I$	$-16.2411I$	0
$u = -0.693816 - 1.033570I$	$16.2411I$	0
$u = \quad 0.638274 + 0.365821I$	$-0.21279 + 8.11285I$	$1.45002 - 7.51274I$
$u = \quad 0.638274 - 0.365821I$	$-0.21279 - 8.11285I$	$1.45002 + 7.51274I$
$u = -0.623404 + 0.388000I$	$-1.33433 - 2.60412I$	$-0.71892 + 2.81283I$
$u = -0.623404 - 0.388000I$	$-1.33433 + 2.60412I$	$-0.71892 - 2.81283I$
$u = \quad 0.585335 + 0.317246I$	$4.39822 + 2.11638I$	$7.22959 - 3.54257I$
$u = \quad 0.585335 - 0.317246I$	$4.39822 - 2.11638I$	$7.22959 + 3.54257I$
$u = \quad 0.540814 + 0.224283I$	$0.88505 - 3.85213I$	$3.84909 + 2.49398I$
$u = \quad 0.540814 - 0.224283I$	$0.88505 + 3.85213I$	$3.84909 - 2.49398I$
$u = -0.353189 + 0.381764I$	$-0.971383I$	$0. + 6.39452I$
$u = -0.353189 - 0.381764I$	$0.971383I$	$0. - 6.39452I$
$u = -0.451862 + 0.205211I$	$-0.139076 - 1.080380I$	$2.54390 + 3.63061I$
$u = -0.451862 - 0.205211I$	$-0.139076 + 1.080380I$	$2.54390 - 3.63061I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{84} + 29u^{83} + \cdots + 6u + 1$
c_2, c_6	$u^{84} - u^{83} + \cdots - 2u + 1$
c_3, c_{10}	$u^{84} + u^{83} + \cdots + 2u + 1$
c_4, c_8	$u^{84} - 5u^{83} + \cdots - 4u + 1$
c_7, c_{12}	$u^{84} + 5u^{83} + \cdots + 4u + 1$
c_9, c_{11}	$u^{84} - 29u^{83} + \cdots - 6u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_9 c_{11}	$y^{84} + 53y^{83} + \cdots + 66y + 1$
c_2, c_3, c_6 c_{10}	$y^{84} + 29y^{83} + \cdots + 6y + 1$
c_4, c_7, c_8 c_{12}	$y^{84} + 49y^{83} + \cdots - 62y + 1$