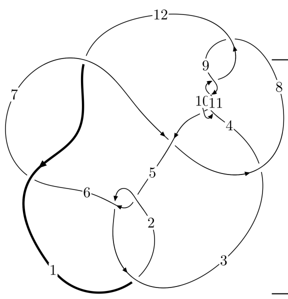
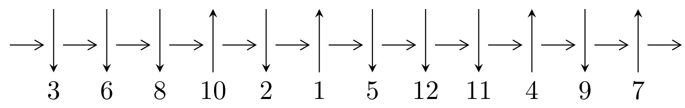
$12a_{0300}$ ($K12a_{0300}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{77} + u^{76} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 77 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. $I_1^u = \langle u^{77} + u^{76} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{13} + 2u^{11} + 5u^9 + 6u^7 + 6u^5 + 4u^3 + u \\ u^{13} + u^{11} + 3u^9 + 2u^7 + 2u^5 + u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{10} - u^8 - 2u^6 - u^4 + u^2 + 1 \\ -u^{12} - 2u^{10} - 4u^8 - 4u^6 - 3u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{26} - 3u^{24} + \cdots + u^2 + 1 \\ -u^{28} - 4u^{26} + \cdots - 12u^8 + u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{54} + 7u^{52} + \cdots + 2u^2 + 1 \\ u^{54} + 6u^{52} + \cdots + 4u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{42} - 5u^{40} + \cdots + u^2 + 1 \\ -u^{44} - 6u^{42} + \cdots - 4u^6 - 3u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{75} - 4u^{74} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{77} + 41u^{76} + \cdots - u + 1$
c_2, c_5	$u^{77} + u^{76} + \cdots + 3u + 1$
c_3	$u^{77} + u^{76} + \cdots - 3u + 1$
c_4, c_{10}	$u^{77} + u^{76} + \cdots + u + 1$
c_6, c_{12}	$u^{77} + 3u^{76} + \cdots + 15u + 3$
c_7	$u^{77} - 9u^{76} + \cdots - 303u + 29$
c_8, c_9, c_{11}	$u^{77} + 19u^{76} + \cdots - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{77} - 9y^{76} + \cdots - y - 1$
c_2, c_5	$y^{77} - 41y^{76} + \cdots - y - 1$
c_3	$y^{77} - y^{76} + \cdots - 193y - 1$
c_4, c_{10}	$y^{77} + 19y^{76} + \cdots - y - 1$
c_6, c_{12}	$y^{77} + 59y^{76} + \cdots - 1401y - 9$
c_7	$y^{77} + 11y^{76} + \cdots + 15191y - 841$
c_8, c_9, c_{11}	$y^{77} + 79y^{76} + \cdots + 7y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.384157 + 0.916651I$	$-0.08016 - 6.28454I$	$0. + 10.45893I$
$u = -0.384157 - 0.916651I$	$-0.08016 + 6.28454I$	$0. - 10.45893I$
$u = -0.359432 + 0.963246I$	$-3.28646 - 6.49921I$	0
$u = -0.359432 - 0.963246I$	$-3.28646 + 6.49921I$	0
$u = 0.181375 + 0.954789I$	$-8.18742 + 3.05866I$	$-13.52379 - 3.93661I$
$u = 0.181375 - 0.954789I$	$-8.18742 - 3.05866I$	$-13.52379 + 3.93661I$
$u = 0.344445 + 0.969057I$	$-7.25591 + 2.51870I$	0
$u = 0.344445 - 0.969057I$	$-7.25591 - 2.51870I$	0
$u = 0.151839 + 0.956150I$	$-7.61091 - 5.67836I$	$-12.50459 + 3.10607I$
$u = 0.151839 - 0.956150I$	$-7.61091 + 5.67836I$	$-12.50459 - 3.10607I$
$u = 0.364368 + 0.973455I$	$-6.39842 + 11.27770I$	0
$u = 0.364368 - 0.973455I$	$-6.39842 - 11.27770I$	0
$u = 0.387418 + 0.873983I$	$0.51259 + 2.09295I$	$-1.92214 - 3.70673I$
$u = 0.387418 - 0.873983I$	$0.51259 - 2.09295I$	$-1.92214 + 3.70673I$
$u = -0.162879 + 0.940953I$	$-4.40542 + 1.03814I$	$-9.57563 + 0.I$
$u = -0.162879 - 0.940953I$	$-4.40542 - 1.03814I$	$-9.57563 + 0.I$
$u = -0.279119 + 0.907947I$	$-3.80142 - 2.48917I$	$-13.3851 + 5.1983I$
$u = -0.279119 - 0.907947I$	$-3.80142 + 2.48917I$	$-13.3851 - 5.1983I$
$u = -0.735571 + 0.878240I$	$-2.84182 + 1.57464I$	0
$u = -0.735571 - 0.878240I$	$-2.84182 - 1.57464I$	0
$u = -0.529170 + 0.664612I$	$-3.03277 + 2.04853I$	$-4.86577 + 0.18647I$
$u = -0.529170 - 0.664612I$	$-3.03277 - 2.04853I$	$-4.86577 - 0.18647I$
$u = -0.099359 + 0.832534I$	$-1.57015 + 1.62706I$	$-8.90717 - 3.48380I$
$u = -0.099359 - 0.832534I$	$-1.57015 - 1.62706I$	$-8.90717 + 3.48380I$
$u = 0.328773 + 0.768032I$	$-0.30487 + 1.47590I$	$-2.27756 - 4.79967I$
$u = 0.328773 - 0.768032I$	$-0.30487 - 1.47590I$	$-2.27756 + 4.79967I$
$u = 0.752498 + 0.891905I$	$0.60818 + 2.85389I$	0
$u = 0.752498 - 0.891905I$	$0.60818 - 2.85389I$	0
$u = -0.743580 + 0.908600I$	$-2.94895 - 7.20020I$	0
$u = -0.743580 - 0.908600I$	$-2.94895 + 7.20020I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.829686 + 0.851767I$	$3.00542 + 0.05293I$	0
$u = 0.829686 - 0.851767I$	$3.00542 - 0.05293I$	0
$u = -0.866902 + 0.822657I$	$0.526126 + 0.450966I$	0
$u = -0.866902 - 0.822657I$	$0.526126 - 0.450966I$	0
$u = -0.571449 + 0.558788I$	$-2.66165 - 6.09408I$	$-3.39785 + 6.85504I$
$u = -0.571449 - 0.558788I$	$-2.66165 + 6.09408I$	$-3.39785 - 6.85504I$
$u = 0.872860 + 0.828358I$	$4.63295 - 4.30393I$	0
$u = 0.872860 - 0.828358I$	$4.63295 + 4.30393I$	0
$u = -0.877082 + 0.825271I$	$1.61683 + 9.16430I$	0
$u = -0.877082 - 0.825271I$	$1.61683 - 9.16430I$	0
$u = 0.871205 + 0.847546I$	$7.84743 - 3.55756I$	0
$u = 0.871205 - 0.847546I$	$7.84743 + 3.55756I$	0
$u = -0.866793 + 0.857025I$	$8.30654 - 0.96474I$	0
$u = -0.866793 - 0.857025I$	$8.30654 + 0.96474I$	0
$u = -0.853289 + 0.875111I$	$6.87444 - 2.22139I$	0
$u = -0.853289 - 0.875111I$	$6.87444 + 2.22139I$	0
$u = 0.856094 + 0.889460I$	$4.50479 + 6.65127I$	0
$u = 0.856094 - 0.889460I$	$4.50479 - 6.65127I$	0
$u = 0.803005 + 0.940435I$	$2.73012 + 6.05042I$	0
$u = 0.803005 - 0.940435I$	$2.73012 - 6.05042I$	0
$u = -0.829553 + 0.934385I$	$6.68687 - 4.03643I$	0
$u = -0.829553 - 0.934385I$	$6.68687 + 4.03643I$	0
$u = 0.840447 + 0.924665I$	$4.39202 - 0.35136I$	0
$u = 0.840447 - 0.924665I$	$4.39202 + 0.35136I$	0
$u = 0.501322 + 0.543345I$	$0.26130 + 1.71903I$	$0.35401 - 4.09536I$
$u = 0.501322 - 0.543345I$	$0.26130 - 1.71903I$	$0.35401 + 4.09536I$
$u = -0.828463 + 0.953823I$	$8.00145 - 5.32992I$	0
$u = -0.828463 - 0.953823I$	$8.00145 + 5.32992I$	0
$u = -0.810631 + 0.973613I$	$0.05425 - 6.68536I$	0
$u = -0.810631 - 0.973613I$	$0.05425 + 6.68536I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.825978 + 0.962044I$	$7.48701 + 9.85702I$	0
$u = 0.825978 - 0.962044I$	$7.48701 - 9.85702I$	0
$u = 0.816534 + 0.973747I$	$4.17669 + 10.57610I$	0
$u = 0.816534 - 0.973747I$	$4.17669 - 10.57610I$	0
$u = -0.817106 + 0.977544I$	$1.1384 - 15.4505I$	0
$u = -0.817106 - 0.977544I$	$1.1384 + 15.4505I$	0
$u = 0.623531 + 0.204993I$	$-4.00857 - 7.70709I$	$-3.80654 + 5.68511I$
$u = 0.623531 - 0.204993I$	$-4.00857 + 7.70709I$	$-3.80654 - 5.68511I$
$u = 0.530715 + 0.375956I$	$2.03844 + 1.38009I$	$3.17761 - 3.81848I$
$u = 0.530715 - 0.375956I$	$2.03844 - 1.38009I$	$3.17761 + 3.81848I$
$u = -0.555511 + 0.305962I$	$1.78912 + 2.77247I$	$2.09005 - 4.48939I$
$u = -0.555511 - 0.305962I$	$1.78912 - 2.77247I$	$2.09005 + 4.48939I$
$u = -0.597425 + 0.204656I$	$-0.95439 + 3.01743I$	$-0.62538 - 2.65931I$
$u = -0.597425 - 0.204656I$	$-0.95439 - 3.01743I$	$-0.62538 + 2.65931I$
$u = 0.599590 + 0.165461I$	$-4.79659 + 0.87508I$	$-5.38352 - 0.79253I$
$u = 0.599590 - 0.165461I$	$-4.79659 - 0.87508I$	$-5.38352 + 0.79253I$
$u = -0.428418$	-1.41624	-6.46210

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{77} + 41u^{76} + \cdots - u + 1$
c_2, c_5	$u^{77} + u^{76} + \cdots + 3u + 1$
c_3	$u^{77} + u^{76} + \cdots - 3u + 1$
c_4, c_{10}	$u^{77} + u^{76} + \cdots + u + 1$
c_6, c_{12}	$u^{77} + 3u^{76} + \cdots + 15u + 3$
c_7	$u^{77} - 9u^{76} + \cdots - 303u + 29$
c_8, c_9, c_{11}	$u^{77} + 19u^{76} + \cdots - u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{77} - 9y^{76} + \cdots - y - 1$
c_2, c_5	$y^{77} - 41y^{76} + \cdots - y - 1$
c_3	$y^{77} - y^{76} + \cdots - 193y - 1$
c_4, c_{10}	$y^{77} + 19y^{76} + \cdots - y - 1$
c_6, c_{12}	$y^{77} + 59y^{76} + \cdots - 1401y - 9$
c_7	$y^{77} + 11y^{76} + \cdots + 15191y - 841$
c_8, c_9, c_{11}	$y^{77} + 79y^{76} + \cdots + 7y - 1$