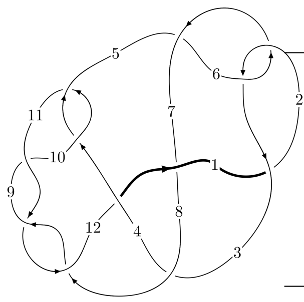
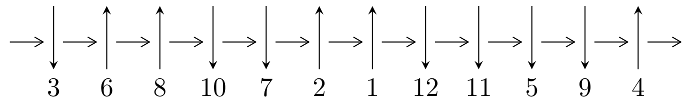
$12a_{0307}$ ($K12a_{0307}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{78} + u^{77} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 78 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. $I_1^u = \langle u^{78} + u^{77} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^{10} + 2u^8 - 3u^6 + 4u^4 - u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ -u^6 - u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{15} - 2u^{13} + 6u^{11} - 8u^9 + 10u^7 - 8u^5 + 4u^3 \\ u^{15} - u^{13} + 4u^{11} - 3u^9 + 4u^7 - 2u^5 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{24} - 3u^{22} + \cdots - 2u^2 + 1 \\ -u^{26} + 4u^{24} + \cdots - 5u^6 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{49} + 6u^{47} + \cdots + 4u^3 - u \\ u^{51} - 7u^{49} + \cdots + u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{40} - 5u^{38} + \cdots - 2u^2 + 1 \\ u^{40} - 4u^{38} + \cdots - 7u^8 + 2u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{76} + 4u^{75} + \cdots + 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{78} + 25u^{77} + \cdots - u + 1$
c_2, c_6	$u^{78} - u^{77} + \cdots + u + 1$
c_3	$u^{78} - u^{77} + \cdots + 12563u + 3361$
c_4, c_{10}	$u^{78} - u^{77} + \cdots + u + 1$
c_7	$u^{78} + 5u^{77} + \cdots + 13u + 3$
c_8, c_9, c_{11}	$u^{78} + 19u^{77} + \cdots + u + 1$
c_{12}	$u^{78} + 7u^{77} + \cdots + 101u + 391$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{78} + 57y^{77} + \cdots - y + 1$
c_2, c_6	$y^{78} + 25y^{77} + \cdots - y + 1$
c_3	$y^{78} - 31y^{77} + \cdots - 206603801y + 11296321$
c_4, c_{10}	$y^{78} - 19y^{77} + \cdots - y + 1$
c_7	$y^{78} - 3y^{77} + \cdots + 347y + 9$
c_8, c_9, c_{11}	$y^{78} + 81y^{77} + \cdots + 7y + 1$
c_{12}	$y^{78} - 11y^{77} + \cdots - 1417801y + 152881$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.949193 + 0.358040I$	$-4.26149 - 6.00568I$	0
$u = 0.949193 - 0.358040I$	$-4.26149 + 6.00568I$	0
$u = -0.909376 + 0.367190I$	$-0.50435 + 3.91121I$	$0. - 7.54599I$
$u = -0.909376 - 0.367190I$	$-0.50435 - 3.91121I$	$0. + 7.54599I$
$u = 0.922832 + 0.301327I$	$-2.15865 - 0.42474I$	$-6.89852 + 0.I$
$u = 0.922832 - 0.301327I$	$-2.15865 + 0.42474I$	$-6.89852 + 0.I$
$u = -0.953974 + 0.390613I$	$2.02865 + 5.81503I$	0
$u = -0.953974 - 0.390613I$	$2.02865 - 5.81503I$	0
$u = -0.853626 + 0.453737I$	$3.50897 + 3.53165I$	$0. - 6.38769I$
$u = -0.853626 - 0.453737I$	$3.50897 - 3.53165I$	$0. + 6.38769I$
$u = 0.963013 + 0.386433I$	$1.09694 - 11.54900I$	0
$u = 0.963013 - 0.386433I$	$1.09694 + 11.54900I$	0
$u = -0.925410 + 0.238058I$	$-2.50131 + 4.74725I$	$-7.86723 - 7.24830I$
$u = -0.925410 - 0.238058I$	$-2.50131 - 4.74725I$	$-7.86723 + 7.24830I$
$u = 0.826172 + 0.475093I$	$3.01816 + 2.08322I$	0
$u = 0.826172 - 0.475093I$	$3.01816 - 2.08322I$	0
$u = -0.936652 + 0.113686I$	$-0.43311 - 6.13558I$	$-5.92020 + 4.39204I$
$u = -0.936652 - 0.113686I$	$-0.43311 + 6.13558I$	$-5.92020 - 4.39204I$
$u = -0.921742 + 0.168035I$	$-5.33588 - 0.72951I$	$-12.03847 + 0.I$
$u = -0.921742 - 0.168035I$	$-5.33588 + 0.72951I$	$-12.03847 + 0.I$
$u = 0.918147 + 0.102714I$	$0.436101 + 0.552797I$	$-4.23323 + 0.60202I$
$u = 0.918147 - 0.102714I$	$0.436101 - 0.552797I$	$-4.23323 - 0.60202I$
$u = 0.837889 + 0.209909I$	$-1.48994 - 0.67769I$	$-4.74017 + 0.61730I$
$u = 0.837889 - 0.209909I$	$-1.48994 + 0.67769I$	$-4.74017 - 0.61730I$
$u = 0.846308 + 0.782773I$	$3.69266 + 2.68084I$	0
$u = 0.846308 - 0.782773I$	$3.69266 - 2.68084I$	0
$u = 0.891675 + 0.767032I$	$-0.21663 - 2.90039I$	0
$u = 0.891675 - 0.767032I$	$-0.21663 + 2.90039I$	0
$u = -0.864820 + 0.805829I$	$4.66036 + 2.29542I$	0
$u = -0.864820 - 0.805829I$	$4.66036 - 2.29542I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.852900 + 0.845500I$	$4.93566 + 2.14676I$	0
$u = -0.852900 - 0.845500I$	$4.93566 - 2.14676I$	0
$u = -0.834187 + 0.868906I$	$3.57453 - 3.66845I$	0
$u = -0.834187 - 0.868906I$	$3.57453 + 3.66845I$	0
$u = 0.927507 + 0.775603I$	$3.44668 - 8.56088I$	0
$u = 0.927507 - 0.775603I$	$3.44668 + 8.56088I$	0
$u = 0.848176 + 0.867614I$	$7.28261 + 1.17492I$	0
$u = 0.848176 - 0.867614I$	$7.28261 - 1.17492I$	0
$u = -0.834616 + 0.882587I$	$9.27923 - 9.22489I$	0
$u = -0.834616 - 0.882587I$	$9.27923 + 9.22489I$	0
$u = -0.918757 + 0.796116I$	$4.49717 + 3.71365I$	0
$u = -0.918757 - 0.796116I$	$4.49717 - 3.71365I$	0
$u = 0.838397 + 0.881767I$	$10.20570 + 3.38686I$	0
$u = 0.838397 - 0.881767I$	$10.20570 - 3.38686I$	0
$u = 0.870546 + 0.874779I$	$11.65370 + 0.03173I$	0
$u = 0.870546 - 0.874779I$	$11.65370 - 0.03173I$	0
$u = -0.875907 + 0.873132I$	$11.14380 + 5.82310I$	0
$u = -0.875907 - 0.873132I$	$11.14380 - 5.82310I$	0
$u = 0.466979 + 0.592674I$	$4.13801 - 6.03877I$	$4.19257 + 6.32156I$
$u = 0.466979 - 0.592674I$	$4.13801 + 6.03877I$	$4.19257 - 6.32156I$
$u = -0.947419 + 0.811987I$	$4.63904 + 4.03273I$	0
$u = -0.947419 - 0.811987I$	$4.63904 - 4.03273I$	0
$u = 0.959984 + 0.824037I$	$6.93085 - 7.45769I$	0
$u = 0.959984 - 0.824037I$	$6.93085 + 7.45769I$	0
$u = -0.438234 + 0.587846I$	$4.79894 + 0.34084I$	$5.80799 - 0.75958I$
$u = -0.438234 - 0.587846I$	$4.79894 - 0.34084I$	$5.80799 + 0.75958I$
$u = -0.945617 + 0.843775I$	$10.92280 + 0.54088I$	0
$u = -0.945617 - 0.843775I$	$10.92280 - 0.54088I$	0
$u = -0.968614 + 0.817587I$	$3.15301 + 9.93293I$	0
$u = -0.968614 - 0.817587I$	$3.15301 - 9.93293I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.950142 + 0.841515I$	$11.40160 - 6.39346I$	0
$u = \quad 0.950142 - 0.841515I$	$11.40160 + 6.39346I$	0
$u = \quad 0.973193 + 0.826698I$	$9.78039 - 9.71998I$	0
$u = \quad 0.973193 - 0.826698I$	$9.78039 + 9.71998I$	0
$u = -0.975680 + 0.825038I$	$8.8343 + 15.5547I$	0
$u = -0.975680 - 0.825038I$	$8.8343 - 15.5547I$	0
$u = \quad 0.531343 + 0.439487I$	$-1.00342 - 1.58009I$	$-2.01538 + 5.37554I$
$u = \quad 0.531343 - 0.439487I$	$-1.00342 + 1.58009I$	$-2.01538 - 5.37554I$
$u = \quad 0.255379 + 0.625872I$	$3.30859 + 7.85566I$	$3.20389 - 5.91316I$
$u = \quad 0.255379 - 0.625872I$	$3.30859 - 7.85566I$	$3.20389 + 5.91316I$
$u = -0.272215 + 0.616213I$	$4.15492 - 2.12464I$	$5.01075 + 0.81793I$
$u = -0.272215 - 0.616213I$	$4.15492 + 2.12464I$	$5.01075 - 0.81793I$
$u = \quad 0.213064 + 0.566446I$	$-2.03101 + 2.60499I$	$-2.70961 - 3.78306I$
$u = \quad 0.213064 - 0.566446I$	$-2.03101 - 2.60499I$	$-2.70961 + 3.78306I$
$u = -0.312826 + 0.509854I$	$1.31485 - 0.56782I$	$6.42425 + 1.08959I$
$u = -0.312826 - 0.509854I$	$1.31485 + 0.56782I$	$6.42425 - 1.08959I$
$u = \quad 0.052632 + 0.503171I$	$0.27202 - 2.35950I$	$0.15712 + 3.01966I$
$u = \quad 0.052632 - 0.503171I$	$0.27202 + 2.35950I$	$0.15712 - 3.01966I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{78} + 25u^{77} + \cdots - u + 1$
c_2, c_6	$u^{78} - u^{77} + \cdots + u + 1$
c_3	$u^{78} - u^{77} + \cdots + 12563u + 3361$
c_4, c_{10}	$u^{78} - u^{77} + \cdots + u + 1$
c_7	$u^{78} + 5u^{77} + \cdots + 13u + 3$
c_8, c_9, c_{11}	$u^{78} + 19u^{77} + \cdots + u + 1$
c_{12}	$u^{78} + 7u^{77} + \cdots + 101u + 391$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{78} + 57y^{77} + \cdots - y + 1$
c_2, c_6	$y^{78} + 25y^{77} + \cdots - y + 1$
c_3	$y^{78} - 31y^{77} + \cdots - 206603801y + 11296321$
c_4, c_{10}	$y^{78} - 19y^{77} + \cdots - y + 1$
c_7	$y^{78} - 3y^{77} + \cdots + 347y + 9$
c_8, c_9, c_{11}	$y^{78} + 81y^{77} + \cdots + 7y + 1$
c_{12}	$y^{78} - 11y^{77} + \cdots - 1417801y + 152881$