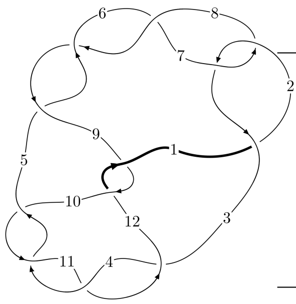
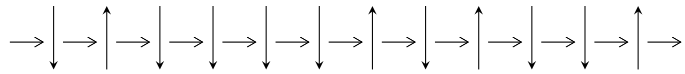
$12a_{0690}$ ($K12a_{0690}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{44} + u^{43} + \cdots + 3u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 44 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. $I^u_1 = \langle u^{44} + u^{43} + \cdots + 3u^2 + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{12} - u^{10} - 3u^8 - 2u^6 + u^2 + 1 \\ -u^{14} - 2u^{12} - 5u^{10} - 6u^8 - 6u^6 - 2u^4 - u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{26} + 3u^{24} + \cdots + 3u^2 + 1 \\ u^{26} + 2u^{24} + \cdots - u^6 - u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{41} + 4u^{39} + \cdots - 2u^3 + u \\ u^{43} + 5u^{41} + \cdots + 3u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{21} + 2u^{19} + 7u^{17} + 10u^{15} + 14u^{13} + 12u^{11} + 5u^9 - 2u^7 - 5u^5 - 2u^3 - u \\ u^{23} + 3u^{21} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{42} - 4u^{41} + \cdots - 12u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8	$u^{44} + 9u^{43} + \cdots + 6u + 1$
c_2, c_7	$u^{44} + u^{43} + \cdots + 3u^2 + 1$
c_3, c_4, c_{10} c_{11}	$u^{44} - u^{43} + \cdots + 2u + 1$
c_9, c_{12}	$u^{44} + 9u^{43} + \cdots - 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8	$y^{44} + 53y^{43} + \cdots + 38y + 1$
c_2, c_7	$y^{44} + 9y^{43} + \cdots + 6y + 1$
c_3, c_4, c_{10} c_{11}	$y^{44} + 49y^{43} + \cdots + 6y + 1$
c_9, c_{12}	$y^{44} + 17y^{43} + \cdots - 10y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.655099 + 0.751397I$	$10.47210 + 2.42057I$	$5.00512 - 3.50428I$
$u = 0.655099 - 0.751397I$	$10.47210 - 2.42057I$	$5.00512 + 3.50428I$
$u = 0.457290 + 0.880807I$	$-1.50378 + 2.68816I$	$-5.95162 - 3.22752I$
$u = 0.457290 - 0.880807I$	$-1.50378 - 2.68816I$	$-5.95162 + 3.22752I$
$u = -0.495314 + 0.905747I$	$-0.91674 - 6.42453I$	$-3.67057 + 9.87108I$
$u = -0.495314 - 0.905747I$	$-0.91674 + 6.42453I$	$-3.67057 - 9.87108I$
$u = -0.379628 + 0.881690I$	$4.48646 - 0.62493I$	$-2.71495 + 3.55329I$
$u = -0.379628 - 0.881690I$	$4.48646 + 0.62493I$	$-2.71495 - 3.55329I$
$u = 0.520660 + 0.926121I$	$6.20074 + 8.92581I$	$-0.06506 - 8.28337I$
$u = 0.520660 - 0.926121I$	$6.20074 - 8.92581I$	$-0.06506 + 8.28337I$
$u = -0.075736 + 0.916828I$	$2.88611 - 4.18901I$	$-5.84139 + 3.97616I$
$u = -0.075736 - 0.916828I$	$2.88611 + 4.18901I$	$-5.84139 - 3.97616I$
$u = -0.558233 + 0.724774I$	$2.78376 - 2.11026I$	$4.66535 + 4.95546I$
$u = -0.558233 - 0.724774I$	$2.78376 + 2.11026I$	$4.66535 - 4.95546I$
$u = 0.027533 + 0.895789I$	$-3.76094 + 1.84552I$	$-10.24133 - 4.26971I$
$u = 0.027533 - 0.895789I$	$-3.76094 - 1.84552I$	$-10.24133 + 4.26971I$
$u = 0.672800 + 0.488934I$	$7.59840 - 4.48618I$	$3.71469 + 2.30966I$
$u = 0.672800 - 0.488934I$	$7.59840 + 4.48618I$	$3.71469 - 2.30966I$
$u = -0.608827 + 0.473439I$	$0.43015 + 2.25708I$	$0.48990 - 3.95946I$
$u = -0.608827 - 0.473439I$	$0.43015 - 2.25708I$	$0.48990 + 3.95946I$
$u = 0.855723 + 0.916416I$	$11.73180 + 3.17974I$	$1.84300 - 2.50377I$
$u = 0.855723 - 0.916416I$	$11.73180 - 3.17974I$	$1.84300 + 2.50377I$
$u = -0.888935 + 0.892951I$	$6.98756 - 1.09197I$	$-1.86937 + 2.51379I$
$u = -0.888935 - 0.892951I$	$6.98756 + 1.09197I$	$-1.86937 - 2.51379I$
$u = 0.902652 + 0.887567I$	$8.07252 - 2.80136I$	$0. + 3.37397I$
$u = 0.902652 - 0.887567I$	$8.07252 + 2.80136I$	$0. - 3.37397I$
$u = -0.913567 + 0.886340I$	$15.5582 + 5.3967I$	$3.71419 - 2.08485I$
$u = -0.913567 - 0.886340I$	$15.5582 - 5.3967I$	$3.71419 + 2.08485I$
$u = 0.885790 + 0.925568I$	$11.28050 + 3.27174I$	$4.41927 - 2.54057I$
$u = 0.885790 - 0.925568I$	$11.28050 - 3.27174I$	$4.41927 + 2.54057I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.864280 + 0.949514I$	$6.80746 - 5.39327I$	$-2.17460 + 2.29017I$
$u = -0.864280 - 0.949514I$	$6.80746 + 5.39327I$	$-2.17460 - 2.29017I$
$u = \quad 0.868528 + 0.961101I$	$7.83679 + 9.34211I$	$0. - 8.07187I$
$u = \quad 0.868528 - 0.961101I$	$7.83679 - 9.34211I$	$0. + 8.07187I$
$u = -0.903374 + 0.934414I$	$-19.6382 - 3.3289I$	$5.91897 + 2.37042I$
$u = -0.903374 - 0.934414I$	$-19.6382 + 3.3289I$	$5.91897 - 2.37042I$
$u = -0.873373 + 0.968938I$	$15.2918 - 11.9872I$	$3.20276 + 6.75389I$
$u = -0.873373 - 0.968938I$	$15.2918 + 11.9872I$	$3.20276 - 6.75389I$
$u = \quad 0.326627 + 0.532554I$	$-0.166341 + 0.920466I$	$-3.92535 - 6.51014I$
$u = \quad 0.326627 - 0.532554I$	$-0.166341 - 0.920466I$	$-3.92535 + 6.51014I$
$u = -0.558336 + 0.208664I$	$6.42918 - 2.63981I$	$3.65305 + 2.69802I$
$u = -0.558336 - 0.208664I$	$6.42918 + 2.63981I$	$3.65305 - 2.69802I$
$u = \quad 0.446901 + 0.368826I$	$-0.171380 + 0.972064I$	$-1.26603 - 5.13929I$
$u = \quad 0.446901 - 0.368826I$	$-0.171380 - 0.972064I$	$-1.26603 + 5.13929I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8	$u^{44} + 9u^{43} + \cdots + 6u + 1$
c_2, c_7	$u^{44} + u^{43} + \cdots + 3u^2 + 1$
c_3, c_4, c_{10} c_{11}	$u^{44} - u^{43} + \cdots + 2u + 1$
c_9, c_{12}	$u^{44} + 9u^{43} + \cdots - 8u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8	$y^{44} + 53y^{43} + \cdots + 38y + 1$
c_2, c_7	$y^{44} + 9y^{43} + \cdots + 6y + 1$
c_3, c_4, c_{10} c_{11}	$y^{44} + 49y^{43} + \cdots + 6y + 1$
c_9, c_{12}	$y^{44} + 17y^{43} + \cdots - 10y + 1$