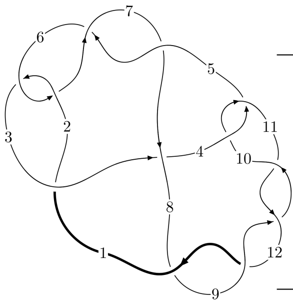
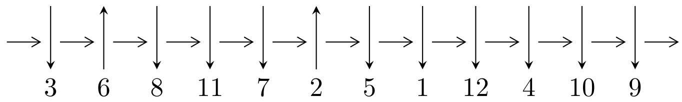
$12a_{0330}$ ($K12a_{0330}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{47} + u^{46} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 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. $I_1^u = \langle u^{47} + u^{46} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{11} - 2u^9 - 4u^7 - 4u^5 - 3u^3 \\ -u^{11} - u^9 - 2u^7 - u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{12} + u^{10} + 3u^8 + 2u^6 + 2u^4 + u^2 + 1 \\ u^{14} + 2u^{12} + 5u^{10} + 6u^8 + 6u^6 + 4u^4 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{21} + 2u^{19} + \cdots + 4u^3 + u \\ u^{23} + 3u^{21} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{30} + 3u^{28} + \cdots + 2u^2 + 1 \\ u^{32} + 4u^{30} + \cdots + 8u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{39} + 4u^{37} + \cdots + 8u^3 + 2u \\ u^{41} + 5u^{39} + \cdots + 4u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{46} - 20u^{44} + \cdots + 20u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7	$u^{47} + 11u^{46} + \cdots + 16u^2 - 1$
c_2, c_6	$u^{47} - u^{46} + \cdots + 2u + 1$
c_3	$u^{47} - u^{46} + \cdots - 6060u + 3361$
c_4, c_{10}	$u^{47} - u^{46} + \cdots + 2u + 1$
c_8, c_9, c_{11} c_{12}	$u^{47} + 9u^{46} + \cdots + 4u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$y^{47} + 51y^{46} + \cdots + 32y - 1$
c_2, c_6	$y^{47} + 11y^{46} + \cdots + 16y^2 - 1$
c_3	$y^{47} + 31y^{46} + \cdots + 5775512y - 11296321$
c_4, c_{10}	$y^{47} - 9y^{46} + \cdots - 4y^2 - 1$
c_8, c_9, c_{11} c_{12}	$y^{47} + 59y^{46} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.382879 + 0.913206I$	$-0.08570 + 6.28148I$	$-8.16298 - 10.47100I$
$u = \quad 0.382879 - 0.913206I$	$-0.08570 - 6.28148I$	$-8.16298 + 10.47100I$
$u = \quad 0.008475 + 0.965301I$	$6.38651 - 3.25280I$	$-8.46380 + 2.37401I$
$u = \quad 0.008475 - 0.965301I$	$6.38651 + 3.25280I$	$-8.46380 - 2.37401I$
$u = -0.413985 + 0.853429I$	$0.89586 - 2.03383I$	$-4.23793 + 3.81818I$
$u = -0.413985 - 0.853429I$	$0.89586 + 2.03383I$	$-4.23793 - 3.81818I$
$u = -0.456667 + 0.956333I$	$9.00501 - 2.08590I$	$-4.31423 + 3.31096I$
$u = -0.456667 - 0.956333I$	$9.00501 + 2.08590I$	$-4.31423 - 3.31096I$
$u = \quad 0.446885 + 0.962913I$	$8.85349 + 8.66849I$	$-4.72563 - 8.03831I$
$u = \quad 0.446885 - 0.962913I$	$8.85349 - 8.66849I$	$-4.72563 + 8.03831I$
$u = \quad 0.276872 + 0.873166I$	$-3.20238 + 2.30452I$	$-16.3116 - 5.9470I$
$u = \quad 0.276872 - 0.873166I$	$-3.20238 - 2.30452I$	$-16.3116 + 5.9470I$
$u = \quad 0.112869 + 0.850703I$	$-1.52782 - 1.56803I$	$-12.46880 + 3.57703I$
$u = \quad 0.112869 - 0.850703I$	$-1.52782 + 1.56803I$	$-12.46880 - 3.57703I$
$u = -0.820103 + 0.872946I$	$3.33252 - 0.63798I$	$-8.00000 - 1.61055I$
$u = -0.820103 - 0.872946I$	$3.33252 + 0.63798I$	$-8.00000 + 1.61055I$
$u = -0.866477 + 0.852451I$	$7.76984 + 3.47355I$	$-2.51866 - 3.95961I$
$u = -0.866477 - 0.852451I$	$7.76984 - 3.47355I$	$-2.51866 + 3.95961I$
$u = -0.808162 + 0.922528I$	$3.18030 - 5.45437I$	$-8.00000 + 6.66748I$
$u = -0.808162 - 0.922528I$	$3.18030 + 5.45437I$	$-8.00000 - 6.66748I$
$u = -0.680659 + 0.361501I$	$10.90210 - 2.07362I$	$0.04088 + 2.30391I$
$u = -0.680659 - 0.361501I$	$10.90210 + 2.07362I$	$0.04088 - 2.30391I$
$u = \quad 0.867742 + 0.871991I$	$8.77828 + 1.40174I$	$0. - 2.33106I$
$u = \quad 0.867742 - 0.871991I$	$8.77828 - 1.40174I$	$0. + 2.33106I$
$u = \quad 0.835618 + 0.904887I$	$6.11156 + 3.11267I$	$0. - 2.66928I$
$u = \quad 0.835618 - 0.904887I$	$6.11156 - 3.11267I$	$0. + 2.66928I$
$u = \quad 0.681301 + 0.344571I$	$10.82780 - 4.54766I$	$-0.10220 + 2.48977I$
$u = \quad 0.681301 - 0.344571I$	$10.82780 + 4.54766I$	$-0.10220 - 2.48977I$
$u = -0.284938 + 0.707717I$	$-0.343803 - 1.199580I$	$-4.23003 + 5.53729I$
$u = -0.284938 - 0.707717I$	$-0.343803 + 1.199580I$	$-4.23003 - 5.53729I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.900013 + 0.851367I$	$17.6045 + 6.0118I$	$0. - 2.53476I$
$u = -0.900013 - 0.851367I$	$17.6045 - 6.0118I$	$0. + 2.53476I$
$u = \quad 0.900037 + 0.855771I$	$17.8006 + 0.6918I$	$0. - 2.07521I$
$u = \quad 0.900037 - 0.855771I$	$17.8006 - 0.6918I$	$0. + 2.07521I$
$u = \quad 0.838574 + 0.946010I$	$8.54527 + 4.93007I$	0
$u = \quad 0.838574 - 0.946010I$	$8.54527 - 4.93007I$	0
$u = -0.826944 + 0.956994I$	$7.44238 - 9.76256I$	$0. + 8.96106I$
$u = -0.826944 - 0.956994I$	$7.44238 + 9.76256I$	$0. - 8.96106I$
$u = -0.844018 + 0.977145I$	$17.2039 - 12.4586I$	$-8.00000 + 7.31264I$
$u = -0.844018 - 0.977145I$	$17.2039 + 12.4586I$	$-8.00000 - 7.31264I$
$u = \quad 0.846803 + 0.974825I$	$17.4212 + 5.7646I$	0
$u = \quad 0.846803 - 0.974825I$	$17.4212 - 5.7646I$	0
$u = -0.522799 + 0.418058I$	$2.21181 - 1.52903I$	$-0.12044 + 3.94143I$
$u = -0.522799 - 0.418058I$	$2.21181 + 1.52903I$	$-0.12044 - 3.94143I$
$u = \quad 0.542166 + 0.291549I$	$1.78563 - 2.82233I$	$-1.69698 + 4.51706I$
$u = \quad 0.542166 - 0.291549I$	$1.78563 + 2.82233I$	$-1.69698 - 4.51706I$
$u = \quad 0.369088$	-1.03563	-9.31600

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7	$u^{47} + 11u^{46} + \cdots + 16u^2 - 1$
c_2, c_6	$u^{47} - u^{46} + \cdots + 2u + 1$
c_3	$u^{47} - u^{46} + \cdots - 6060u + 3361$
c_4, c_{10}	$u^{47} - u^{46} + \cdots + 2u + 1$
c_8, c_9, c_{11} c_{12}	$u^{47} + 9u^{46} + \cdots + 4u^2 + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$y^{47} + 51y^{46} + \cdots + 32y - 1$
c_2, c_6	$y^{47} + 11y^{46} + \cdots + 16y^2 - 1$
c_3	$y^{47} + 31y^{46} + \cdots + 5775512y - 11296321$
c_4, c_{10}	$y^{47} - 9y^{46} + \cdots - 4y^2 - 1$
c_8, c_9, c_{11} c_{12}	$y^{47} + 59y^{46} + \cdots - 8y - 1$