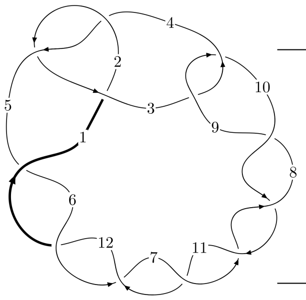
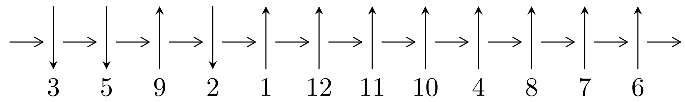
$12a_{0169}$ $(K12a_{0169})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{24} - u^{23} + \cdots - 2u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 24 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. $I_1^u = \langle u^{24} - u^{23} + \cdots - 2u^2 + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{10} + u^8 - 4u^6 + 3u^4 - 3u^2 + 1 \\ u^{10} + 3u^6 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{12} - u^{10} + 5u^8 - 4u^6 + 6u^4 - 3u^2 + 1 \\ -u^{12} - 4u^8 - 3u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{16} - u^{14} + 7u^{12} - 6u^{10} + 15u^8 - 10u^6 + 10u^4 - 4u^2 + 1 \\ u^{18} - 2u^{16} + 7u^{14} - 12u^{12} + 15u^{10} - 20u^8 + 10u^6 - 8u^4 + u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{14} + u^{12} - 6u^{10} + 5u^8 - 10u^6 + 6u^4 - 4u^2 + 1 \\ u^{14} + 5u^{10} + 6u^6 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{23} + 8u^{21} - 4u^{20} - 44u^{19} + 4u^{18} + 72u^{17} - 32u^{16} - 176u^{15} + 28u^{14} + 228u^{13} - 88u^{12} - 308u^{11} + 64u^{10} + 296u^9 - 96u^8 - 220u^7 + 52u^6 + 136u^5 - 28u^4 - 44u^3 + 4u^2 + 16u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} + 15u^{23} + \cdots + 4u + 1$
c_2, c_4	$u^{24} - u^{23} + \cdots - 4u + 1$
c_3, c_9	$u^{24} - u^{23} + \cdots - 2u^2 + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{11} c_{12}	$u^{24} - 3u^{23} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 11y^{23} + \cdots - 20y + 1$
c_2, c_4	$y^{24} - 15y^{23} + \cdots - 4y + 1$
c_3, c_9	$y^{24} - 3y^{23} + \cdots - 4y + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{11} c_{12}	$y^{24} + 37y^{23} + \cdots + 12y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.818053 + 0.585237I$	$-4.34966 + 5.76332I$	$-0.83619 - 8.32312I$
$u = \ \ 0.818053 - 0.585237I$	$-4.34966 - 5.76332I$	$-0.83619 + 8.32312I$
$u = \ \ 0.629900 + 0.676291I$	$-4.99244 - 1.16181I$	$-3.45696 + 0.66594I$
$u = \ \ 0.629900 - 0.676291I$	$-4.99244 + 1.16181I$	$-3.45696 - 0.66594I$
$u = -0.703557 + 0.542696I$	$-1.64192 - 2.01575I$	$2.27145 + 4.63931I$
$u = -0.703557 - 0.542696I$	$-1.64192 + 2.01575I$	$2.27145 - 4.63931I$
$u = \ \ 0.865592 + 0.818505I$	$-9.02499 + 3.00763I$	$0.51260 - 2.75465I$
$u = \ \ 0.865592 - 0.818505I$	$-9.02499 - 3.00763I$	$0.51260 + 2.75465I$
$u = -0.748084 + 0.274295I$	$-0.07774 - 3.02933I$	$5.70852 + 9.26987I$
$u = -0.748084 - 0.274295I$	$-0.07774 + 3.02933I$	$5.70852 - 9.26987I$
$u = -0.844876 + 0.858831I$	$-12.84350 + 1.46852I$	$-3.16556 - 0.66920I$
$u = -0.844876 - 0.858831I$	$-12.84350 - 1.46852I$	$-3.16556 + 0.66920I$
$u = -0.908318 + 0.819726I$	$-12.6233 - 7.6239I$	$-2.60069 + 6.03151I$
$u = -0.908318 - 0.819726I$	$-12.6233 + 7.6239I$	$-2.60069 - 6.03151I$
$u = \ \ 0.662055 + 0.056751I$	$0.927331 + 0.040320I$	$11.54599 - 0.37990I$
$u = \ \ 0.662055 - 0.056751I$	$0.927331 - 0.040320I$	$11.54599 + 0.37990I$
$u = -0.966596 + 0.956593I$	$18.1029 - 3.5079I$	$0.10153 + 2.15218I$
$u = -0.966596 - 0.956593I$	$18.1029 + 3.5079I$	$0.10153 - 2.15218I$
$u = \ \ 0.962124 + 0.965092I$	$14.0584 - 1.6220I$	$-3.03720 + 0.65264I$
$u = \ \ 0.962124 - 0.965092I$	$14.0584 + 1.6220I$	$-3.03720 - 0.65264I$
$u = \ \ 0.975953 + 0.955750I$	$14.1060 + 8.6639I$	$-2.94392 - 4.94788I$
$u = \ \ 0.975953 - 0.955750I$	$14.1060 - 8.6639I$	$-2.94392 + 4.94788I$
$u = -0.242249 + 0.453783I$	$-1.64107 + 0.52371I$	$-4.09957 - 0.43757I$
$u = -0.242249 - 0.453783I$	$-1.64107 - 0.52371I$	$-4.09957 + 0.43757I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{24}+15u^{23}+\cdots+4u+1$
c_2, c_4	$u^{24}-u^{23}+\cdots-4u+1$
c_3, c_9	$u^{24}-u^{23}+\cdots-2u^2+1$
c_5, c_6, c_7 c_8, c_{10}, c_{11} c_{12}	$u^{24}-3u^{23}+\cdots-4u+1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 11y^{23} + \cdots - 20y + 1$
c_2, c_4	$y^{24} - 15y^{23} + \cdots - 4y + 1$
c_3, c_9	$y^{24} - 3y^{23} + \cdots - 4y + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{11} c_{12}	$y^{24} + 37y^{23} + \cdots + 12y + 1$