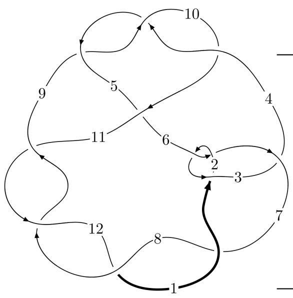
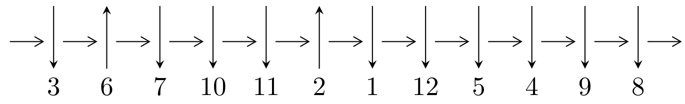
$12a_{0255}$ $(K12a_{0255})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{53} + u^{52} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I_1^u = \langle u^{53} + u^{52} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^8 + 3u^6 + u^4 - 2u^2 + 1 \\ -u^8 - 4u^6 - 4u^4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{12} - 5u^{10} - 7u^8 + 2u^4 - 3u^2 + 1 \\ u^{12} + 6u^{10} + 12u^8 + 8u^6 + u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{16} + 7u^{14} + 17u^{12} + 14u^{10} - u^8 + 2u^6 + 6u^4 - 4u^2 + 1 \\ -u^{16} - 8u^{14} - 24u^{12} - 32u^{10} - 18u^8 - 8u^6 - 8u^4 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{35} + 16u^{33} + \cdots - 7u^3 + 2u \\ -u^{35} - 17u^{33} + \cdots + u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{47} + 22u^{45} + \cdots - 10u^3 + 2u \\ u^{49} + 23u^{47} + \cdots + 4u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{51} - 4u^{50} + \cdots + 4u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{53} + 23u^{52} + \cdots + 3u - 1$
c_2, c_6	$u^{53} - u^{52} + \cdots - u + 1$
c_3	$u^{53} + u^{52} + \cdots + 25u + 5$
c_4, c_9, c_{10}	$u^{53} - u^{52} + \cdots + u + 1$
c_5	$u^{53} + u^{52} + \cdots + 3303u + 1237$
c_7, c_8, c_{11} c_{12}	$u^{53} - 5u^{52} + \cdots - 43u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} + 15y^{52} + \cdots + 43y - 1$
c_2, c_6	$y^{53} + 23y^{52} + \cdots + 3y - 1$
c_3	$y^{53} + 7y^{52} + \cdots - 65y - 25$
c_4, c_9, c_{10}	$y^{53} + 51y^{52} + \cdots + 3y - 1$
c_5	$y^{53} + 31y^{52} + \cdots - 35851265y - 1530169$
c_7, c_8, c_{11} c_{12}	$y^{53} + 67y^{52} + \cdots - 41y - 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.681869 + 0.507223I$	$11.40680 - 0.55910I$	$-1.54942 + 2.72992I$
$u = 0.681869 - 0.507223I$	$11.40680 + 0.55910I$	$-1.54942 - 2.72992I$
$u = -0.676067 + 0.514665I$	$9.65619 - 4.88920I$	$-3.91750 + 1.84392I$
$u = -0.676067 - 0.514665I$	$9.65619 + 4.88920I$	$-3.91750 - 1.84392I$
$u = 0.694473 + 0.488863I$	$11.34170 - 4.02382I$	$-1.72591 + 3.04100I$
$u = 0.694473 - 0.488863I$	$11.34170 + 4.02382I$	$-1.72591 - 3.04100I$
$u = -0.699005 + 0.481452I$	$9.53833 + 9.46936I$	$-4.26043 - 7.54800I$
$u = -0.699005 - 0.481452I$	$9.53833 - 9.46936I$	$-4.26043 + 7.54800I$
$u = -0.673401 + 0.486673I$	$5.56712 + 2.23678I$	$-7.47397 - 2.96653I$
$u = -0.673401 - 0.486673I$	$5.56712 - 2.23678I$	$-7.47397 + 2.96653I$
$u = -0.070592 + 1.229840I$	$0.281107 - 0.892679I$	0
$u = -0.070592 - 1.229840I$	$0.281107 + 0.892679I$	0
$u = -0.143523 + 1.274530I$	$1.01818 + 5.73685I$	0
$u = -0.143523 - 1.274530I$	$1.01818 - 5.73685I$	0
$u = 0.097467 + 1.303840I$	$3.26132 - 1.87247I$	0
$u = 0.097467 - 1.303840I$	$3.26132 + 1.87247I$	0
$u = 0.603468 + 0.311061I$	$0.37156 - 7.12755I$	$-7.47939 + 9.71650I$
$u = 0.603468 - 0.311061I$	$0.37156 + 7.12755I$	$-7.47939 - 9.71650I$
$u = -0.564862 + 0.337345I$	$2.18676 + 2.45806I$	$-3.45434 - 5.09899I$
$u = -0.564862 - 0.337345I$	$2.18676 - 2.45806I$	$-3.45434 + 5.09899I$
$u = 0.421531 + 0.474326I$	$1.11217 + 3.72638I$	$-4.30676 - 2.36666I$
$u = 0.421531 - 0.474326I$	$1.11217 - 3.72638I$	$-4.30676 + 2.36666I$
$u = -0.473604 + 0.418047I$	$2.56522 + 0.88236I$	$-1.57464 - 3.79176I$
$u = -0.473604 - 0.418047I$	$2.56522 - 0.88236I$	$-1.57464 + 3.79176I$
$u = 0.180145 + 1.378190I$	$3.35085 - 3.35943I$	0
$u = 0.180145 - 1.378190I$	$3.35085 + 3.35943I$	0
$u = 0.026399 + 1.391270I$	$4.96113 - 2.14784I$	0
$u = 0.026399 - 1.391270I$	$4.96113 + 2.14784I$	0
$u = 0.535008 + 0.220142I$	$-1.72716 - 0.77447I$	$-12.25842 + 4.43698I$
$u = 0.535008 - 0.220142I$	$-1.72716 + 0.77447I$	$-12.25842 - 4.43698I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.21720 + 1.40718I$	$5.84972 - 10.11280I$	0
$u = \quad 0.21720 - 1.40718I$	$5.84972 + 10.11280I$	0
$u = -0.20092 + 1.41590I$	$7.78346 + 5.25251I$	0
$u = -0.20092 - 1.41590I$	$7.78346 - 5.25251I$	0
$u = -0.555680 + 0.056230I$	$-3.01508 + 3.19278I$	$-15.3921 - 5.6502I$
$u = -0.555680 - 0.056230I$	$-3.01508 - 3.19278I$	$-15.3921 + 5.6502I$
$u = -0.16103 + 1.43665I$	$8.48816 + 3.19971I$	0
$u = -0.16103 - 1.43665I$	$8.48816 - 3.19971I$	0
$u = \quad 0.13893 + 1.44337I$	$7.20577 + 1.69986I$	0
$u = \quad 0.13893 - 1.44337I$	$7.20577 - 1.69986I$	0
$u = -0.23600 + 1.49454I$	$11.99430 + 5.55348I$	0
$u = -0.23600 - 1.49454I$	$11.99430 - 5.55348I$	0
$u = -0.24698 + 1.49787I$	$15.9616 + 12.9219I$	0
$u = -0.24698 - 1.49787I$	$15.9616 - 12.9219I$	0
$u = \quad 0.24357 + 1.49991I$	$17.8000 - 7.4463I$	0
$u = \quad 0.24357 - 1.49991I$	$17.8000 + 7.4463I$	0
$u = \quad 0.23418 + 1.50440I$	$17.9500 - 3.8966I$	0
$u = \quad 0.23418 - 1.50440I$	$17.9500 + 3.8966I$	0
$u = -0.22997 + 1.50583I$	$16.2324 - 1.5914I$	0
$u = -0.22997 - 1.50583I$	$16.2324 + 1.5914I$	0
$u = \quad 0.138924 + 0.415337I$	$-0.51035 - 1.61303I$	$-4.76097 + 3.99384I$
$u = \quad 0.138924 - 0.415337I$	$-0.51035 + 1.61303I$	$-4.76097 - 3.99384I$
$u = \quad 0.436950$	-0.761067	-12.9280

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{53} + 23u^{52} + \cdots + 3u - 1$
c_2, c_6	$u^{53} - u^{52} + \cdots - u + 1$
c_3	$u^{53} + u^{52} + \cdots + 25u + 5$
c_4, c_9, c_{10}	$u^{53} - u^{52} + \cdots + u + 1$
c_5	$u^{53} + u^{52} + \cdots + 3303u + 1237$
c_7, c_8, c_{11} c_{12}	$u^{53} - 5u^{52} + \cdots - 43u + 3$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} + 15y^{52} + \cdots + 43y - 1$
c_2, c_6	$y^{53} + 23y^{52} + \cdots + 3y - 1$
c_3	$y^{53} + 7y^{52} + \cdots - 65y - 25$
c_4, c_9, c_{10}	$y^{53} + 51y^{52} + \cdots + 3y - 1$
c_5	$y^{53} + 31y^{52} + \cdots - 35851265y - 1530169$
c_7, c_8, c_{11} c_{12}	$y^{53} + 67y^{52} + \cdots - 41y - 9$