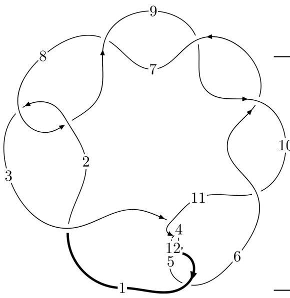
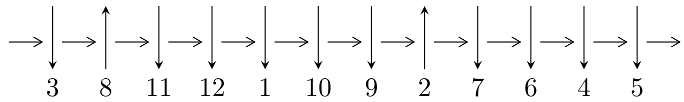
$12a_{0796}$ $(K12a_{0796})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{28} + u^{27} + \cdots - u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 28 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. $I_1^u = \langle u^{28} + u^{27} + \cdots - u^2 - 1 \rangle$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

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

$$a_{10} = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^8 + u^6 + 3u^4 + 2u^2 + 1 \\ u^8 + 2u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{19} - 2u^{17} - 8u^{15} - 12u^{13} - 21u^{11} - 22u^9 - 20u^7 - 12u^5 - 5u^3 \\ -u^{19} - u^{17} - 6u^{15} - 5u^{13} - 11u^{11} - 7u^9 - 6u^7 - 2u^5 + u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{14} - u^{12} - 4u^{10} - 3u^8 - 2u^6 + 2u^2 + 1 \\ -u^{16} - 2u^{14} - 6u^{12} - 8u^{10} - 10u^8 - 6u^6 - 4u^4 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{25} - 2u^{23} + \cdots + 6u^3 + u \\ -u^{27} - 3u^{25} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{27} - 8u^{25} + 4u^{24} - 44u^{23} + 8u^{22} - 72u^{21} + 40u^{20} - 184u^{19} + 60u^{18} - 240u^{17} + 140u^{16} - 364u^{15} + 148u^{14} - 360u^{13} + 200u^{12} - 336u^{11} + 128u^{10} - 228u^9 + 96u^8 - 108u^7 + 20u^6 - 32u^5 + 4u^3 - 12u^2 + 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_7 c_9, c_{10}	$u^{28} + 5u^{27} + \cdots + 2u + 1$
c_2, c_8	$u^{28} - u^{27} + \cdots - u^2 - 1$
c_3, c_4, c_5 c_{11}, c_{12}	$u^{28} + u^{27} + \cdots - 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_7 c_9, c_{10}	$y^{28} + 37y^{27} + \cdots - 34y + 1$
c_2, c_8	$y^{28} + 5y^{27} + \cdots + 2y + 1$
c_3, c_4, c_5 c_{11}, c_{12}	$y^{28} - 35y^{27} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.653471 + 0.778202I$	$3.53035 + 2.44157I$	$-1.95206 - 4.13656I$
$u = \quad 0.653471 - 0.778202I$	$3.53035 - 2.44157I$	$-1.95206 + 4.13656I$
$u = -0.675349 + 0.676658I$	$1.40633 + 0.49885I$	$-6.53440 - 1.41082I$
$u = -0.675349 - 0.676658I$	$1.40633 - 0.49885I$	$-6.53440 + 1.41082I$
$u = \quad 0.733930 + 0.599761I$	$-6.94317 - 1.86401I$	$-7.90882 + 0.19524I$
$u = \quad 0.733930 - 0.599761I$	$-6.94317 + 1.86401I$	$-7.90882 - 0.19524I$
$u = -0.619172 + 0.858733I$	$0.82022 - 5.33799I$	$-8.56972 + 7.97469I$
$u = -0.619172 - 0.858733I$	$0.82022 + 5.33799I$	$-8.56972 - 7.97469I$
$u = -0.204914 + 0.910458I$	$-12.53370 - 2.51044I$	$-16.1255 + 4.0009I$
$u = -0.204914 - 0.910458I$	$-12.53370 + 2.51044I$	$-16.1255 - 4.0009I$
$u = \quad 0.603718 + 0.919286I$	$-7.98654 + 6.81286I$	$-10.46299 - 6.27742I$
$u = \quad 0.603718 - 0.919286I$	$-7.98654 - 6.81286I$	$-10.46299 + 6.27742I$
$u = \quad 0.205807 + 0.816083I$	$-3.50231 + 2.01539I$	$-16.4015 - 5.8251I$
$u = \quad 0.205807 - 0.816083I$	$-3.50231 - 2.01539I$	$-16.4015 + 5.8251I$
$u = -0.930865 + 0.909652I$	$2.22097 + 2.66758I$	$-7.83362 - 0.34269I$
$u = -0.930865 - 0.909652I$	$2.22097 - 2.66758I$	$-7.83362 + 0.34269I$
$u = \quad 0.922794 + 0.925907I$	$10.83490 - 0.43343I$	$-6.08489 + 1.46658I$
$u = \quad 0.922794 - 0.925907I$	$10.83490 + 0.43343I$	$-6.08489 - 1.46658I$
$u = -0.916621 + 0.942227I$	$13.36070 - 3.37331I$	$-2.23945 + 2.35871I$
$u = -0.916621 - 0.942227I$	$13.36070 + 3.37331I$	$-2.23945 - 2.35871I$
$u = \quad 0.906845 + 0.956007I$	$10.73640 + 7.16764I$	$-6.31746 - 6.03607I$
$u = \quad 0.906845 - 0.956007I$	$10.73640 - 7.16764I$	$-6.31746 + 6.03607I$
$u = -0.898590 + 0.970044I$	$2.02326 - 9.39889I$	$-8.16467 + 4.89860I$
$u = -0.898590 - 0.970044I$	$2.02326 + 9.39889I$	$-8.16467 - 4.89860I$
$u = -0.605156$	-9.60647	-7.91280
$u = -0.191210 + 0.569318I$	$-0.320623 - 0.807047I$	$-7.76798 + 8.33007I$
$u = -0.191210 - 0.569318I$	$-0.320623 + 0.807047I$	$-7.76798 - 8.33007I$
$u = \quad 0.425468$	-1.23780	-7.36100

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_7 c_9, c_{10}	$u^{28} + 5u^{27} + \cdots + 2u + 1$
c_2, c_8	$u^{28} - u^{27} + \cdots - u^2 - 1$
c_3, c_4, c_5 c_{11}, c_{12}	$u^{28} + u^{27} + \cdots - 4u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_7 c_9, c_{10}	$y^{28} + 37y^{27} + \cdots - 34y + 1$
c_2, c_8	$y^{28} + 5y^{27} + \cdots + 2y + 1$
c_3, c_4, c_5 c_{11}, c_{12}	$y^{28} - 35y^{27} + \cdots + 2y + 1$