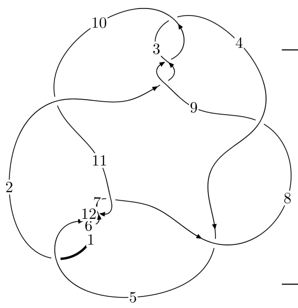
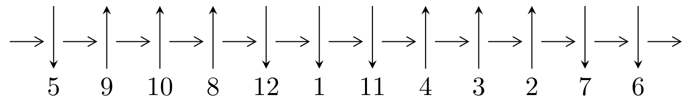
$12a_{1281}$ ($K12a_{1281}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{54} - u^{53} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 54 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. $I_1^u = \langle u^{54} - u^{53} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{16} + 7u^{14} - 19u^{12} + 22u^{10} - 3u^8 - 14u^6 + 6u^4 + 2u^2 + 1 \\ -u^{16} + 6u^{14} - 14u^{12} + 14u^{10} - 2u^8 - 6u^6 + 4u^4 - 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{26} - 11u^{24} + \cdots + 5u^2 + 1 \\ u^{26} - 10u^{24} + \cdots - 8u^4 + u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{15} - 6u^{13} + 14u^{11} - 14u^9 + 2u^7 + 6u^5 - 4u^3 + 2u \\ -u^{17} + 7u^{15} - 19u^{13} + 22u^{11} - 3u^9 - 14u^7 + 6u^5 + 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{48} - 19u^{46} + \cdots + 4u^2 + 1 \\ -u^{50} + 20u^{48} + \cdots + 14u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{52} - 84u^{50} + \cdots - 24u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{11}	$u^{54} + 3u^{53} + \cdots - 59u - 7$
c_2, c_3, c_9	$u^{54} + u^{53} + \cdots - u + 1$
c_4, c_8, c_{10}	$u^{54} - 3u^{53} + \cdots + 59u - 7$
c_5, c_6, c_{12}	$u^{54} - u^{53} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_8, c_{10}, c_{11}	$y^{54} + 49y^{53} + \cdots - 2697y + 49$
c_2, c_3, c_5 c_6, c_9, c_{12}	$y^{54} - 43y^{53} + \cdots + 7y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.06226$	2.26974	4.63230
$u = \quad 0.026118 + 0.857447I$	$11.02220 - 3.51881I$	$8.72061 + 3.38193I$
$u = \quad 0.026118 - 0.857447I$	$11.02220 + 3.51881I$	$8.72061 - 3.38193I$
$u = -0.079237 + 0.849805I$	$4.40170 + 9.15059I$	$4.25840 - 5.96411I$
$u = -0.079237 - 0.849805I$	$4.40170 - 9.15059I$	$4.25840 + 5.96411I$
$u = \quad 0.080238 + 0.838574I$	$- 4.78712I$	$0. + 3.63135I$
$u = \quad 0.080238 - 0.838574I$	$4.78712I$	$0. - 3.63135I$
$u = -0.017509 + 0.829867I$	$5.48344 + 1.61903I$	$3.91823 - 4.11880I$
$u = -0.017509 - 0.829867I$	$5.48344 - 1.61903I$	$3.91823 + 4.11880I$
$u = -0.078125 + 0.821920I$	$3.39561 + 0.38598I$	$3.28464 - 0.04745I$
$u = -0.078125 - 0.821920I$	$3.39561 - 0.38598I$	$3.28464 + 0.04745I$
$u = -1.20916$	-2.67101	0
$u = -1.186580 + 0.356648I$	$3.87636I$	0
$u = -1.186580 - 0.356648I$	$- 3.87636I$	0
$u = \quad 1.186780 + 0.383587I$	$-3.39561 + 0.38598I$	0
$u = \quad 1.186780 - 0.383587I$	$-3.39561 - 0.38598I$	0
$u = -1.190670 + 0.398520I$	$0.98772 - 4.66544I$	0
$u = -1.190670 - 0.398520I$	$0.98772 + 4.66544I$	0
$u = -1.252520 + 0.179739I$	$4.63632I$	0
$u = -1.252520 - 0.179739I$	$- 4.63632I$	0
$u = \quad 1.264540 + 0.102492I$	$-4.27435 - 2.22202I$	0
$u = \quad 1.264540 - 0.102492I$	$-4.27435 + 2.22202I$	0
$u = -1.29006$	-2.26974	0
$u = -1.255400 + 0.373321I$	$1.65049 + 2.70506I$	0
$u = -1.255400 - 0.373321I$	$1.65049 - 2.70506I$	0
$u = \quad 1.248390 + 0.399602I$	$7.24078 - 0.98827I$	0
$u = \quad 1.248390 - 0.399602I$	$7.24078 + 0.98827I$	0
$u = \quad 1.283410 + 0.374451I$	$1.43499 - 5.94795I$	0
$u = \quad 1.283410 - 0.374451I$	$1.43499 + 5.94795I$	0
$u = -1.291550 + 0.393568I$	$6.91859 + 8.00646I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.291550 - 0.393568I$	$6.91859 - 8.00646I$	0
$u = 1.361680 + 0.113152I$	$-7.24078 + 0.98827I$	0
$u = 1.361680 - 0.113152I$	$-7.24078 - 0.98827I$	0
$u = -1.362200 + 0.126423I$	$-11.02220 + 3.51881I$	0
$u = -1.362200 - 0.126423I$	$-11.02220 - 3.51881I$	0
$u = 1.361270 + 0.138446I$	$-6.91859 - 8.00646I$	0
$u = 1.361270 - 0.138446I$	$-6.91859 + 8.00646I$	0
$u = 1.321680 + 0.366102I$	$-0.98772 - 4.66544I$	0
$u = 1.321680 - 0.366102I$	$-0.98772 + 4.66544I$	0
$u = -1.325050 + 0.374620I$	$-4.40170 + 9.15059I$	0
$u = -1.325050 - 0.374620I$	$-4.40170 - 9.15059I$	0
$u = 1.326150 + 0.381162I$	$-13.5739I$	0
$u = 1.326150 - 0.381162I$	$13.5739I$	0
$u = -0.395420 + 0.476529I$	$-1.43499 + 5.94795I$	$0.53055 - 7.26154I$
$u = -0.395420 - 0.476529I$	$-1.43499 - 5.94795I$	$0.53055 + 7.26154I$
$u = 0.418335 + 0.448420I$	$-5.48344 - 1.61903I$	$-3.91823 + 4.11880I$
$u = 0.418335 - 0.448420I$	$-5.48344 + 1.61903I$	$-3.91823 - 4.11880I$
$u = -0.445658 + 0.416687I$	$-1.65049 - 2.70506I$	$-0.364859 - 0.561618I$
$u = -0.445658 - 0.416687I$	$-1.65049 + 2.70506I$	$-0.364859 + 0.561618I$
$u = 0.166620 + 0.497450I$	$4.27435 - 2.22202I$	$7.20111 + 5.96436I$
$u = 0.166620 - 0.497450I$	$4.27435 + 2.22202I$	$7.20111 - 5.96436I$
$u = 0.443937$	2.67101	0.178060
$u = -0.168778 + 0.309763I$	$0.727664I$	$0. - 9.58379I$
$u = -0.168778 - 0.309763I$	$-0.727664I$	$0. + 9.58379I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{11}	$u^{54} + 3u^{53} + \cdots - 59u - 7$
c_2, c_3, c_9	$u^{54} + u^{53} + \cdots - u + 1$
c_4, c_8, c_{10}	$u^{54} - 3u^{53} + \cdots + 59u - 7$
c_5, c_6, c_{12}	$u^{54} - u^{53} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_8, c_{10}, c_{11}	$y^{54} + 49y^{53} + \cdots - 2697y + 49$
c_2, c_3, c_5 c_6, c_9, c_{12}	$y^{54} - 43y^{53} + \cdots + 7y + 1$