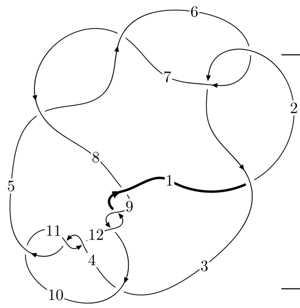
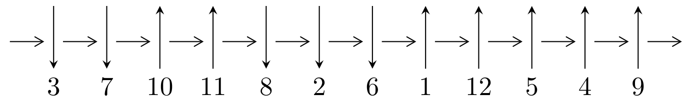
$12a_{0644}$ $(K12a_{0644})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{56} - u^{55} + \cdots - 2u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 56 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. $I^u_1 = \langle u^{56} - u^{55} + \cdots - 2u^2 + 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^{20} + 9u^{18} + \cdots - 3u^2 + 1 \\ u^{22} + 10u^{20} + \cdots - 10u^4 + u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{12} - 5u^{10} - 7u^8 + 2u^4 - 3u^2 + 1 \\ u^{12} + 6u^{10} + 12u^8 + 8u^6 + u^4 + 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{27} - 12u^{25} + \cdots - 12u^5 + 7u^3 \\ u^{27} + 13u^{25} + \cdots - u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{42} - 19u^{40} + \cdots - 3u^2 + 1 \\ u^{42} + 20u^{40} + \cdots + 6u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{55} + 4u^{54} + \cdots + 16u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7	$u^{56} + 15u^{55} + \cdots + 4u + 1$
c_2, c_6	$u^{56} - u^{55} + \cdots - 2u^2 + 1$
c_3	$u^{56} + u^{55} + \cdots + 202u + 65$
c_4, c_{10}, c_{11}	$u^{56} - u^{55} + \cdots - 2u^2 + 1$
c_8, c_9, c_{12}	$u^{56} + 7u^{55} + \cdots + 16u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$y^{56} + 53y^{55} + \cdots + 28y + 1$
c_2, c_6	$y^{56} - 15y^{55} + \cdots - 4y + 1$
c_3	$y^{56} + 25y^{55} + \cdots + 239476y + 4225$
c_4, c_{10}, c_{11}	$y^{56} + 53y^{55} + \cdots - 4y + 1$
c_8, c_9, c_{12}	$y^{56} + 57y^{55} + \cdots + 220y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.020209 + 1.098890I$	$3.96215 + 3.06271I$	0
$u = 0.020209 - 1.098890I$	$3.96215 - 3.06271I$	0
$u = 0.686155 + 0.430676I$	$-0.39671 + 10.08050I$	$1.51974 - 8.22030I$
$u = 0.686155 - 0.430676I$	$-0.39671 - 10.08050I$	$1.51974 + 8.22030I$
$u = 0.665754 + 0.458645I$	$-7.13653 + 5.26062I$	$-3.80676 - 6.87867I$
$u = 0.665754 - 0.458645I$	$-7.13653 - 5.26062I$	$-3.80676 + 6.87867I$
$u = 0.641196 + 0.486930I$	$-7.24731 - 0.92940I$	$-4.28257 + 0.58840I$
$u = 0.641196 - 0.486930I$	$-7.24731 + 0.92940I$	$-4.28257 - 0.58840I$
$u = 0.611386 + 0.518123I$	$-0.73492 - 5.76075I$	$0.62706 + 2.25622I$
$u = 0.611386 - 0.518123I$	$-0.73492 + 5.76075I$	$0.62706 - 2.25622I$
$u = -0.678468 + 0.424262I$	$0.23798 - 3.99471I$	$2.63926 + 3.39930I$
$u = -0.678468 - 0.424262I$	$0.23798 + 3.99471I$	$2.63926 - 3.39930I$
$u = -0.599558 + 0.509189I$	$-0.103709 - 0.253528I$	$1.72073 + 2.79096I$
$u = -0.599558 - 0.509189I$	$-0.103709 + 0.253528I$	$1.72073 - 2.79096I$
$u = -0.637539 + 0.456579I$	$-4.01617 - 2.09773I$	$2.12497 + 3.25564I$
$u = -0.637539 - 0.456579I$	$-4.01617 + 2.09773I$	$2.12497 - 3.25564I$
$u = 0.060580 + 1.263240I$	$-2.45362 + 1.67355I$	0
$u = 0.060580 - 1.263240I$	$-2.45362 - 1.67355I$	0
$u = 0.219710 + 1.317140I$	$1.91877 + 2.82951I$	0
$u = 0.219710 - 1.317140I$	$1.91877 - 2.82951I$	0
$u = 0.141123 + 1.328370I$	$-3.43887 + 2.43530I$	0
$u = 0.141123 - 1.328370I$	$-3.43887 - 2.43530I$	0
$u = -0.225186 + 1.328010I$	$1.60628 - 8.97008I$	0
$u = -0.225186 - 1.328010I$	$1.60628 + 8.97008I$	0
$u = -0.632474 + 0.159551I$	$6.26180 - 5.86038I$	$7.46913 + 7.08001I$
$u = -0.632474 - 0.159551I$	$6.26180 + 5.86038I$	$7.46913 - 7.08001I$
$u = 0.629195 + 0.140167I$	$6.46439 - 0.24804I$	$8.24330 - 1.61547I$
$u = 0.629195 - 0.140167I$	$6.46439 + 0.24804I$	$8.24330 + 1.61547I$
$u = -0.178389 + 1.364910I$	$-5.35134 - 5.59825I$	0
$u = -0.178389 - 1.364910I$	$-5.35134 + 5.59825I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.038003+0.620037I$	$4.15248+2.99392I$	$1.86170-2.59085I$
$u=-0.038003-0.620037I$	$4.15248-2.99392I$	$1.86170+2.59085I$
$u=-0.103732+1.385290I$	$-6.60466-0.87132I$	0
$u=-0.103732-1.385290I$	$-6.60466+0.87132I$	0
$u=-0.014943+1.409750I$	$-1.92248+2.81822I$	0
$u=-0.014943-1.409750I$	$-1.92248-2.81822I$	0
$u=-0.528451+0.222220I$	$-0.34320-3.02564I$	$1.79724+9.78051I$
$u=-0.528451-0.222220I$	$-0.34320+3.02564I$	$1.79724-9.78051I$
$u=-0.24877+1.47151I$	$-5.88112-7.38178I$	0
$u=-0.24877-1.47151I$	$-5.88112+7.38178I$	0
$u=-0.22908+1.47605I$	$-10.25770-5.26519I$	0
$u=-0.22908-1.47605I$	$-10.25770+5.26519I$	0
$u=\quad 0.25090+1.47509I$	$-6.5513+13.5024I$	0
$u=\quad 0.25090-1.47509I$	$-6.5513-13.5024I$	0
$u=-0.20488+1.48243I$	$-6.53709-3.16674I$	0
$u=-0.20488-1.48243I$	$-6.53709+3.16674I$	0
$u=\quad 0.23824+1.48207I$	$-13.4144+8.5605I$	0
$u=\quad 0.23824-1.48207I$	$-13.4144-8.5605I$	0
$u=\quad 0.20573+1.48896I$	$-7.23525-2.80491I$	0
$u=\quad 0.20573-1.48896I$	$-7.23525+2.80491I$	0
$u=\quad 0.22358+1.48669I$	$-13.63780+2.21952I$	0
$u=\quad 0.22358-1.48669I$	$-13.63780-2.21952I$	0
$u=\quad 0.480726+0.076119I$	$0.967130+0.223343I$	$10.08613-1.09515I$
$u=\quad 0.480726-0.076119I$	$0.967130-0.223343I$	$10.08613+1.09515I$
$u=-0.255017+0.348068I$	$-1.263520+0.558795I$	$-4.83816-0.54247I$
$u=-0.255017-0.348068I$	$-1.263520-0.558795I$	$-4.83816+0.54247I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7	$u^{56} + 15u^{55} + \cdots + 4u + 1$
c_2, c_6	$u^{56} - u^{55} + \cdots - 2u^2 + 1$
c_3	$u^{56} + u^{55} + \cdots + 202u + 65$
c_4, c_{10}, c_{11}	$u^{56} - u^{55} + \cdots - 2u^2 + 1$
c_8, c_9, c_{12}	$u^{56} + 7u^{55} + \cdots + 16u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$y^{56} + 53y^{55} + \cdots + 28y + 1$
c_2, c_6	$y^{56} - 15y^{55} + \cdots - 4y + 1$
c_3	$y^{56} + 25y^{55} + \cdots + 239476y + 4225$
c_4, c_{10}, c_{11}	$y^{56} + 53y^{55} + \cdots - 4y + 1$
c_8, c_9, c_{12}	$y^{56} + 57y^{55} + \cdots + 220y + 1$