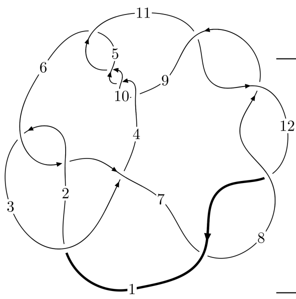
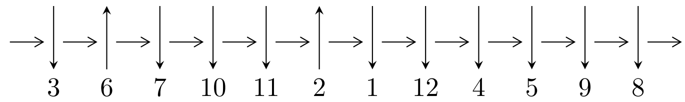
$12a_{0254}$ $(K12a_{0254})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{48} - u^{47} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 48 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. $I_1^u = \langle u^{48} - u^{47} + \cdots + 2u - 1\rangle$

(i) Arc colorings

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

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

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

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

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

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

$$a_{12} = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} u^{12} - 7u^{10} + 17u^8 - 16u^6 + 6u^4 - 5u^2 + 1 \\ -u^{12} + 6u^{10} - 12u^8 + 8u^6 - u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{16} - 9u^{14} + 31u^{12} - 50u^{10} + 39u^8 - 22u^6 + 18u^4 - 4u^2 + 1 \\ -u^{16} + 8u^{14} - 24u^{12} + 32u^{10} - 18u^8 + 8u^6 - 8u^4 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{33} - 18u^{31} + \cdots - 8u^3 + u \\ -u^{33} + 17u^{31} + \cdots - 8u^5 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{41} - 22u^{39} + \cdots - 14u^3 + u \\ u^{43} - 23u^{41} + \cdots + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{45} - 96u^{43} + \cdots + 8u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{48} + 21u^{47} + \cdots - 4u + 1$
c_2, c_6	$u^{48} - u^{47} + \cdots + 2u^2 - 1$
c_3	$u^{48} + u^{47} + \cdots - 18u - 5$
c_4, c_5, c_9 c_{10}	$u^{48} + u^{47} + \cdots - 2u - 1$
c_7, c_8, c_{11} c_{12}	$u^{48} - 5u^{47} + \cdots + 40u - 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{48} + 13y^{47} + \cdots - 64y + 1$
c_2, c_6	$y^{48} + 21y^{47} + \cdots - 4y + 1$
c_3	$y^{48} + 5y^{47} + \cdots + 436y + 25$
c_4, c_5, c_9 c_{10}	$y^{48} - 51y^{47} + \cdots - 4y + 1$
c_7, c_8, c_{11} c_{12}	$y^{48} + 57y^{47} + \cdots + 360y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.531007 + 0.671464I$	$9.01669 + 9.40336I$	$-5.02805 - 7.67988I$
$u = -0.531007 - 0.671464I$	$9.01669 - 9.40336I$	$-5.02805 + 7.67988I$
$u = 0.521293 + 0.674135I$	$10.82160 - 3.97968I$	$-2.45267 + 3.13488I$
$u = 0.521293 - 0.674135I$	$10.82160 + 3.97968I$	$-2.45267 - 3.13488I$
$u = 0.496510 + 0.679990I$	$10.89560 - 0.56946I$	$-2.23785 + 2.73831I$
$u = 0.496510 - 0.679990I$	$10.89560 + 0.56946I$	$-2.23785 - 2.73831I$
$u = -0.485958 + 0.681983I$	$9.15118 - 4.85655I$	$-4.61319 + 1.88995I$
$u = -0.485958 - 0.681983I$	$9.15118 + 4.85655I$	$-4.61319 - 1.88995I$
$u = -0.504951 + 0.655491I$	$5.09552 + 2.21064I$	$-8.17139 - 3.04652I$
$u = -0.504951 - 0.655491I$	$5.09552 - 2.21064I$	$-8.17139 + 3.04652I$
$u = 0.565305 + 0.449893I$	$0.20947 - 6.94753I$	$-8.17814 + 10.14161I$
$u = 0.565305 - 0.449893I$	$0.20947 + 6.94753I$	$-8.17814 - 10.14161I$
$u = -0.507179 + 0.452333I$	$2.02075 + 2.34431I$	$-3.97357 - 5.45884I$
$u = -0.507179 - 0.452333I$	$2.02075 - 2.34431I$	$-3.97357 + 5.45884I$
$u = -0.639814 + 0.094545I$	$-2.90001 + 3.13118I$	$-15.9591 - 5.8893I$
$u = -0.639814 - 0.094545I$	$-2.90001 - 3.13118I$	$-15.9591 + 5.8893I$
$u = 0.547494 + 0.306761I$	$-1.75783 - 0.64590I$	$-12.93673 + 4.70290I$
$u = 0.547494 - 0.306761I$	$-1.75783 + 0.64590I$	$-12.93673 - 4.70290I$
$u = -0.376501 + 0.479727I$	$2.41689 + 0.90085I$	$-1.85528 - 3.88194I$
$u = -0.376501 - 0.479727I$	$2.41689 - 0.90085I$	$-1.85528 + 3.88194I$
$u = 0.303476 + 0.502707I$	$0.99759 + 3.64557I$	$-4.52853 - 2.54638I$
$u = 0.303476 - 0.502707I$	$0.99759 - 3.64557I$	$-4.52853 + 2.54638I$
$u = -1.43629 + 0.07552I$	$-4.47416 - 1.80540I$	0
$u = -1.43629 - 0.07552I$	$-4.47416 + 1.80540I$	0
$u = 1.46538 + 0.10192I$	$-3.55328 - 2.83353I$	0
$u = 1.46538 - 0.10192I$	$-3.55328 + 2.83353I$	0
$u = 1.49909 + 0.21897I$	$2.68595 + 1.60072I$	0
$u = 1.49909 - 0.21897I$	$2.68595 - 1.60072I$	0
$u = -1.50624 + 0.21870I$	$4.35978 + 3.82234I$	0
$u = -1.50624 - 0.21870I$	$4.35978 - 3.82234I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.51915 + 0.11525I$	$-4.70339 - 4.31197I$	0
$u = \quad 1.51915 - 0.11525I$	$-4.70339 + 4.31197I$	0
$u = -1.52354$	-7.47236	0
$u = \quad 1.51456 + 0.20489I$	$-1.52188 - 5.31834I$	0
$u = \quad 1.51456 - 0.20489I$	$-1.52188 + 5.31834I$	0
$u = \quad 0.466355$	-0.719382	-13.6590
$u = -1.53316 + 0.08163I$	$-8.71798 + 2.01778I$	0
$u = -1.53316 - 0.08163I$	$-8.71798 - 2.01778I$	0
$u = -1.52160 + 0.21684I$	$4.12565 + 7.21700I$	0
$u = -1.52160 - 0.21684I$	$4.12565 - 7.21700I$	0
$u = \quad 1.52715 + 0.21588I$	$2.25992 - 12.63260I$	0
$u = \quad 1.52715 - 0.21588I$	$2.25992 + 12.63260I$	0
$u = -1.53825 + 0.11928I$	$-6.80498 + 8.95605I$	0
$u = -1.53825 - 0.11928I$	$-6.80498 - 8.95605I$	0
$u = \quad 1.54951 + 0.01876I$	$-10.22470 - 3.49526I$	0
$u = \quad 1.54951 - 0.01876I$	$-10.22470 + 3.49526I$	0
$u = \quad 0.100637 + 0.382710I$	$-0.49816 - 1.64037I$	$-4.69035 + 3.89080I$
$u = \quad 0.100637 - 0.382710I$	$-0.49816 + 1.64037I$	$-4.69035 - 3.89080I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{48} + 21u^{47} + \cdots - 4u + 1$
c_2, c_6	$u^{48} - u^{47} + \cdots + 2u^2 - 1$
c_3	$u^{48} + u^{47} + \cdots - 18u - 5$
c_4, c_5, c_9 c_{10}	$u^{48} + u^{47} + \cdots - 2u - 1$
c_7, c_8, c_{11} c_{12}	$u^{48} - 5u^{47} + \cdots + 40u - 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{48} + 13y^{47} + \cdots - 64y + 1$
c_2, c_6	$y^{48} + 21y^{47} + \cdots - 4y + 1$
c_3	$y^{48} + 5y^{47} + \cdots + 436y + 25$
c_4, c_5, c_9 c_{10}	$y^{48} - 51y^{47} + \cdots - 4y + 1$
c_7, c_8, c_{11} c_{12}	$y^{48} + 57y^{47} + \cdots + 360y + 49$