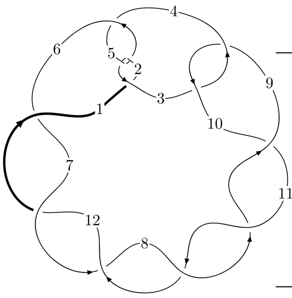
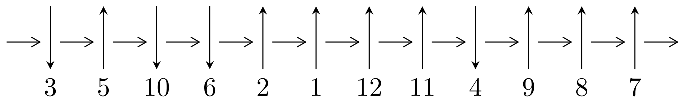
$12a_{0197}$ ($K12a_{0197}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{34} + u^{33} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 34 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. $I_1^u = \langle u^{34} + u^{33} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4+u^2+1 \\ u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^6+u^4+2u^2+1 \\ u^6+u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^8+u^6+3u^4+2u^2+1 \\ u^8+2u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{10}+u^8+4u^6+3u^4+3u^2+1 \\ u^{10}+3u^6+u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{12}+u^{10}+5u^8+4u^6+6u^4+3u^2+1 \\ u^{12}+4u^8+3u^4 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{25}-2u^{23}+\cdots-6u^3-u \\ -u^{25}-u^{23}+\cdots-3u^5+u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{14}+u^{12}+6u^{10}+5u^8+10u^6+6u^4+4u^2+1 \\ u^{16}+2u^{14}+6u^{12}+10u^{10}+10u^8+12u^6+4u^4+2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{32}+4u^{31}+12u^{30}+8u^{29}+64u^{28}+52u^{27}+144u^{26}+88u^{25}+396u^{24}+268u^{23}+676u^{22}+376u^{21}+1216u^{20}+696u^{19}+1564u^{18}+784u^{17}+1956u^{16}+948u^{15}+1836u^{14}+812u^{13}+1576u^{12}+620u^{11}+992u^{10}+360u^9+528u^8+132u^7+176u^6+40u^5+40u^4-8u^3+12u^2+8u+2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{34} + 13u^{33} + \cdots + 5u + 1$
c_2, c_5	$u^{34} + u^{33} + \cdots - 3u + 1$
c_3, c_9	$u^{34} - u^{33} + \cdots + u + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{34} - 5u^{33} + \cdots - 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{34} + 17y^{33} + \cdots + 97y + 1$
c_2, c_5	$y^{34} + 13y^{33} + \cdots + 5y + 1$
c_3, c_9	$y^{34} + 5y^{33} + \cdots + 5y + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{34} + 49y^{33} + \cdots + 25y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.407066 + 0.834658I$	$1.03103 + 6.41382I$	$3.82648 - 9.99401I$
$u = -0.407066 - 0.834658I$	$1.03103 - 6.41382I$	$3.82648 + 9.99401I$
$u = -0.760333 + 0.772672I$	$-4.35750 + 1.50466I$	$0.22640 - 2.73870I$
$u = -0.760333 - 0.772672I$	$-4.35750 - 1.50466I$	$0.22640 + 2.73870I$
$u = 0.802505 + 0.764339I$	$-5.87304 + 3.61528I$	$-2.19692 - 2.52505I$
$u = 0.802505 - 0.764339I$	$-5.87304 - 3.61528I$	$-2.19692 + 2.52505I$
$u = 0.348058 + 0.805715I$	$1.73732 - 1.33000I$	$6.22240 + 4.49160I$
$u = 0.348058 - 0.805715I$	$1.73732 + 1.33000I$	$6.22240 - 4.49160I$
$u = -0.718616 + 0.868268I$	$-4.04046 + 3.96737I$	$1.07736 - 3.54418I$
$u = -0.718616 - 0.868268I$	$-4.04046 - 3.96737I$	$1.07736 + 3.54418I$
$u = -0.532857 + 0.661540I$	$-2.87697 + 1.94550I$	$-4.75114 - 5.05594I$
$u = -0.532857 - 0.661540I$	$-2.87697 - 1.94550I$	$-4.75114 + 5.05594I$
$u = 0.786286 + 0.843735I$	$-9.58813 - 2.89200I$	$-5.67849 + 3.04986I$
$u = 0.786286 - 0.843735I$	$-9.58813 + 2.89200I$	$-5.67849 - 3.04986I$
$u = 0.733686 + 0.898055I$	$-5.42158 - 9.27208I$	$-0.93638 + 8.29994I$
$u = 0.733686 - 0.898055I$	$-5.42158 + 9.27208I$	$-0.93638 - 8.29994I$
$u = 0.034944 + 0.814547I$	$3.24779 - 2.53240I$	$10.48060 + 3.91593I$
$u = 0.034944 - 0.814547I$	$3.24779 + 2.53240I$	$10.48060 - 3.91593I$
$u = -0.560898 + 0.384252I$	$-0.40745 - 2.89261I$	$-2.01184 + 2.94776I$
$u = -0.560898 - 0.384252I$	$-0.40745 + 2.89261I$	$-2.01184 - 2.94776I$
$u = 0.943944 + 0.946247I$	$-15.2642 - 1.6043I$	$0.05765 + 2.13250I$
$u = 0.943944 - 0.946247I$	$-15.2642 + 1.6043I$	$0.05765 - 2.13250I$
$u = -0.951432 + 0.943931I$	$-17.0241 - 3.9437I$	$-2.23878 + 2.32500I$
$u = -0.951432 - 0.943931I$	$-17.0241 + 3.9437I$	$-2.23878 - 2.32500I$
$u = 0.933375 + 0.963881I$	$-15.2051 - 5.2894I$	$0.15464 + 2.30279I$
$u = 0.933375 - 0.963881I$	$-15.2051 + 5.2894I$	$0.15464 - 2.30279I$
$u = -0.934696 + 0.971112I$	$-16.9325 + 10.8664I$	$-2.05453 - 6.71778I$
$u = -0.934696 - 0.971112I$	$-16.9325 - 10.8664I$	$-2.05453 + 6.71778I$
$u = -0.946814 + 0.960125I$	$18.2073 + 3.4743I$	$-5.57472 - 2.21410I$
$u = -0.946814 - 0.960125I$	$18.2073 - 3.4743I$	$-5.57472 + 2.21410I$

	Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.258906 + 0.569344I$	$0.245296 - 0.924586I$	$4.90419 + 7.15131I$
$u =$	$0.258906 - 0.569344I$	$0.245296 + 0.924586I$	$4.90419 - 7.15131I$
$u =$	$0.471008 + 0.235567I$	$0.14514 - 1.57341I$	$-1.50693 + 3.59818I$
$u =$	$0.471008 - 0.235567I$	$0.14514 + 1.57341I$	$-1.50693 - 3.59818I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{34} + 13u^{33} + \cdots + 5u + 1$
c_2, c_5	$u^{34} + u^{33} + \cdots - 3u + 1$
c_3, c_9	$u^{34} - u^{33} + \cdots + u + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$u^{34} - 5u^{33} + \cdots - 5u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{34} + 17y^{33} + \cdots + 97y + 1$
c_2, c_5	$y^{34} + 13y^{33} + \cdots + 5y + 1$
c_3, c_9	$y^{34} + 5y^{33} + \cdots + 5y + 1$
c_6, c_7, c_8 c_{10}, c_{11}, c_{12}	$y^{34} + 49y^{33} + \cdots + 25y + 1$