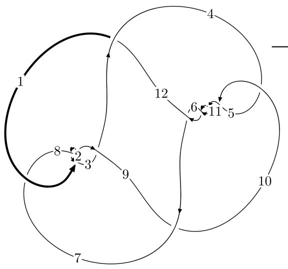
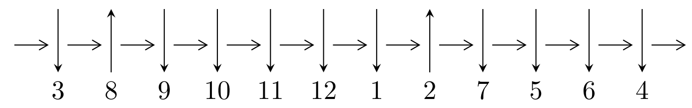
$12a_{0726}$ ($K12a_{0726}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{51} - u^{50} + \cdots - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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. $I_1^u = \langle u^{51} - u^{50} + \cdots - 2u - 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 - 2u \\ u^7 - 3u^5 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{18} - 11u^{16} + 48u^{14} - 107u^{12} + 133u^{10} - 95u^8 + 34u^6 - 2u^4 - 3u^2 + 1 \\ u^{18} - 10u^{16} + 37u^{14} - 60u^{12} + 35u^{10} + 8u^8 - 16u^6 + 2u^4 + 3u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^7 + 4u^5 - 4u^3 + 2u \\ -u^9 + 5u^7 - 7u^5 + 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{18} - 11u^{16} + 48u^{14} - 107u^{12} + 133u^{10} - 95u^8 + 34u^6 - 2u^4 - 3u^2 + 1 \\ u^{20} - 12u^{18} + \cdots - 5u^4 - 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{45} - 28u^{43} + \cdots + 14u^3 - 3u \\ u^{47} - 29u^{45} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{47} - 120u^{45} + \cdots - 16u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{51} + 27u^{50} + \cdots + 2u - 1$
c_2, c_8	$u^{51} - u^{50} + \cdots + u^2 - 1$
c_3, c_7	$u^{51} + u^{50} + \cdots - 40u - 13$
c_4, c_5, c_6 c_{10}, c_{11}	$u^{51} - u^{50} + \cdots - 2u - 1$
c_9, c_{12}	$u^{51} - 5u^{50} + \cdots + 42u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} - 5y^{50} + \cdots + 34y - 1$
c_2, c_8	$y^{51} + 27y^{50} + \cdots + 2y - 1$
c_3, c_7	$y^{51} - 37y^{50} + \cdots + 4018y - 169$
c_4, c_5, c_6 c_{10}, c_{11}	$y^{51} - 65y^{50} + \cdots + 2y - 1$
c_9, c_{12}	$y^{51} + 23y^{50} + \cdots + 974y - 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.934654 + 0.359124I$	$-4.89993 + 10.88520I$	$-13.9898 - 9.1011I$
$u = -0.934654 - 0.359124I$	$-4.89993 - 10.88520I$	$-13.9898 + 9.1011I$
$u = -0.942251 + 0.324875I$	$-5.98706 + 2.32675I$	$-15.9409 - 2.8840I$
$u = -0.942251 - 0.324875I$	$-5.98706 - 2.32675I$	$-15.9409 + 2.8840I$
$u = 0.922701 + 0.345886I$	$-1.94667 - 6.07625I$	$-10.83807 + 6.02977I$
$u = 0.922701 - 0.345886I$	$-1.94667 + 6.07625I$	$-10.83807 - 6.02977I$
$u = 1.03108$	-5.66531	-15.3850
$u = -1.061590 + 0.031424I$	$-9.08913 + 4.30907I$	$-18.5429 - 3.7969I$
$u = -1.061590 - 0.031424I$	$-9.08913 - 4.30907I$	$-18.5429 + 3.7969I$
$u = 0.855219 + 0.348235I$	$0.95095 - 5.30967I$	$-8.63248 + 7.99988I$
$u = 0.855219 - 0.348235I$	$0.95095 + 5.30967I$	$-8.63248 - 7.99988I$
$u = 0.892740 + 0.163983I$	$-3.77255 - 2.37268I$	$-17.3684 + 5.1349I$
$u = 0.892740 - 0.163983I$	$-3.77255 + 2.37268I$	$-17.3684 - 5.1349I$
$u = -0.812894 + 0.338645I$	$1.22174 + 0.86320I$	$-7.59219 - 0.99621I$
$u = -0.812894 - 0.338645I$	$1.22174 - 0.86320I$	$-7.59219 + 0.99621I$
$u = -0.691855 + 0.295789I$	$-0.586592 - 0.013554I$	$-8.91489 - 1.65499I$
$u = -0.691855 - 0.295789I$	$-0.586592 + 0.013554I$	$-8.91489 + 1.65499I$
$u = 0.657710 + 0.357951I$	$-3.33920 + 4.49491I$	$-12.31496 - 1.64994I$
$u = 0.657710 - 0.357951I$	$-3.33920 - 4.49491I$	$-12.31496 + 1.64994I$
$u = 0.540749 + 0.318050I$	$-3.97102 - 3.50003I$	$-13.5801 + 5.9294I$
$u = 0.540749 - 0.318050I$	$-3.97102 + 3.50003I$	$-13.5801 - 5.9294I$
$u = 0.115498 + 0.577206I$	$-1.68827 - 7.70971I$	$-8.54080 + 7.04880I$
$u = 0.115498 - 0.577206I$	$-1.68827 + 7.70971I$	$-8.54080 - 7.04880I$
$u = -0.100340 + 0.556105I$	$1.17823 + 3.01006I$	$-4.93958 - 3.82395I$
$u = -0.100340 - 0.556105I$	$1.17823 - 3.01006I$	$-4.93958 + 3.82395I$
$u = -0.020722 + 0.563068I$	$3.60258 + 2.21222I$	$-2.70323 - 3.95953I$
$u = -0.020722 - 0.563068I$	$3.60258 - 2.21222I$	$-2.70323 + 3.95953I$
$u = 0.139590 + 0.529892I$	$-2.67990 + 0.58466I$	$-10.09274 + 1.02853I$
$u = 0.139590 - 0.529892I$	$-2.67990 - 0.58466I$	$-10.09274 - 1.02853I$
$u = -0.520487$	-0.898575	-10.9920

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.63571 + 0.03530I$	$-11.22280 - 3.45035I$	0
$u = -1.63571 - 0.03530I$	$-11.22280 + 3.45035I$	0
$u = \quad 1.65326 + 0.04846I$	$-8.88936 - 1.01253I$	0
$u = \quad 1.65326 - 0.04846I$	$-8.88936 + 1.01253I$	0
$u = -0.204173 + 0.278298I$	$-0.541427 + 0.901076I$	$-9.58787 - 7.23419I$
$u = -0.204173 - 0.278298I$	$-0.541427 - 0.901076I$	$-9.58787 + 7.23419I$
$u = \quad 1.66447 + 0.07584I$	$-7.44083 - 2.35904I$	0
$u = \quad 1.66447 - 0.07584I$	$-7.44083 + 2.35904I$	0
$u = -1.67378 + 0.08451I$	$-7.89647 + 6.93113I$	0
$u = -1.67378 - 0.08451I$	$-7.89647 - 6.93113I$	0
$u = -1.68671 + 0.04546I$	$-12.89560 + 3.20312I$	0
$u = -1.68671 - 0.04546I$	$-12.89560 - 3.20312I$	0
$u = -1.69407 + 0.08990I$	$-11.14410 + 7.77795I$	0
$u = -1.69407 - 0.08990I$	$-11.14410 - 7.77795I$	0
$u = \quad 1.69703 + 0.09424I$	$-14.1457 - 12.6661I$	0
$u = \quad 1.69703 - 0.09424I$	$-14.1457 + 12.6661I$	0
$u = \quad 1.69987 + 0.08445I$	$-15.2980 - 3.9376I$	0
$u = \quad 1.69987 - 0.08445I$	$-15.2980 + 3.9376I$	0
$u = -1.71763$	-15.4613	0
$u = \quad 1.72344 + 0.00640I$	$-19.0178 - 4.4514I$	0
$u = \quad 1.72344 - 0.00640I$	$-19.0178 + 4.4514I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{51} + 27u^{50} + \cdots + 2u - 1$
c_2, c_8	$u^{51} - u^{50} + \cdots + u^2 - 1$
c_3, c_7	$u^{51} + u^{50} + \cdots - 40u - 13$
c_4, c_5, c_6 c_{10}, c_{11}	$u^{51} - u^{50} + \cdots - 2u - 1$
c_9, c_{12}	$u^{51} - 5u^{50} + \cdots + 42u + 5$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} - 5y^{50} + \cdots + 34y - 1$
c_2, c_8	$y^{51} + 27y^{50} + \cdots + 2y - 1$
c_3, c_7	$y^{51} - 37y^{50} + \cdots + 4018y - 169$
c_4, c_5, c_6 c_{10}, c_{11}	$y^{51} - 65y^{50} + \cdots + 2y - 1$
c_9, c_{12}	$y^{51} + 23y^{50} + \cdots + 974y - 25$