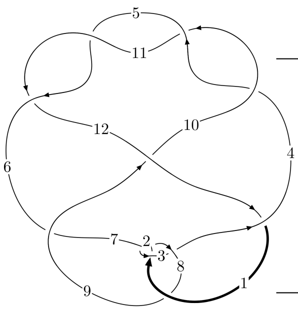
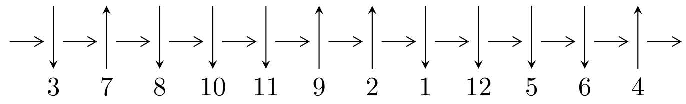
$12a_{0536}$ $(K12a_{0536})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{68} + u^{67} + \cdots - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 68 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. $I_1^u = \langle u^{68} + u^{67} + \cdots - 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^8 + u^6 + u^4 + 1 \\ u^{10} + 2u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{16} + 3u^{14} + 5u^{12} + 4u^{10} + 3u^8 + 2u^6 + 2u^4 + 1 \\ u^{18} + 4u^{16} + 9u^{14} + 12u^{12} + 11u^{10} + 6u^8 + 2u^6 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{11} - 2u^9 - 2u^7 + u^3 \\ u^{11} + 3u^9 + 4u^7 + 3u^5 + u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{32} - 7u^{30} + \cdots + 2u^4 + 1 \\ u^{32} + 8u^{30} + \cdots + 4u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{45} + 10u^{43} + \cdots + 2u^3 + u \\ u^{47} + 11u^{45} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{61} + 14u^{59} + \cdots - 2u^3 - u \\ -u^{61} - 15u^{59} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{66} + 4u^{65} + \cdots - 4u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{68} + 33u^{67} + \cdots - 2u + 1$
c_2, c_7	$u^{68} + u^{67} + \cdots - 2u - 1$
c_3	$u^{68} - u^{67} + \cdots - 356u - 185$
c_4, c_5, c_{10} c_{11}	$u^{68} - u^{67} + \cdots - 2u - 1$
c_6, c_{12}	$u^{68} + 5u^{67} + \cdots + 102u + 5$
c_8	$u^{68} + 5u^{67} + \cdots - 4u - 3$
c_9	$u^{68} - 21u^{67} + \cdots + 133900u - 11327$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{68} + 5y^{67} + \cdots - 22y + 1$
c_2, c_7	$y^{68} + 33y^{67} + \cdots - 2y + 1$
c_3	$y^{68} - 23y^{67} + \cdots - 913726y + 34225$
c_4, c_5, c_{10} c_{11}	$y^{68} - 79y^{67} + \cdots - 2y + 1$
c_6, c_{12}	$y^{68} + 57y^{67} + \cdots - 4634y + 25$
c_8	$y^{68} - 3y^{67} + \cdots - 22y + 9$
c_9	$y^{68} - 31y^{67} + \cdots - 1781733302y + 128300929$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \;\; 0.569465 + 0.821421I$	$-9.88852 - 2.65108I$	$-8.60098 + 0.I$
$u = \;\; 0.569465 - 0.821421I$	$-9.88852 + 2.65108I$	$-8.60098 + 0.I$
$u = \;\; 0.196680 + 1.006370I$	$-8.93532 - 2.08822I$	$-11.98824 + 2.12583I$
$u = \;\; 0.196680 - 1.006370I$	$-8.93532 + 2.08822I$	$-11.98824 - 2.12583I$
$u = -0.516300 + 0.806700I$	$-1.89157 + 0.76594I$	$-7.09900 - 1.49960I$
$u = -0.516300 - 0.806700I$	$-1.89157 - 0.76594I$	$-7.09900 + 1.49960I$
$u = \;\; 0.621616 + 0.711188I$	$-9.54510 + 7.33161I$	$-7.70041 - 6.15232I$
$u = \;\; 0.621616 - 0.711188I$	$-9.54510 - 7.33161I$	$-7.70041 + 6.15232I$
$u = -0.271595 + 0.903915I$	$-1.66897 + 0.69901I$	$-9.13293 - 3.92889I$
$u = -0.271595 - 0.903915I$	$-1.66897 - 0.69901I$	$-9.13293 + 3.92889I$
$u = \;\; 0.448518 + 0.958561I$	$-0.42510 + 2.03856I$	0
$u = \;\; 0.448518 - 0.958561I$	$-0.42510 - 2.03856I$	0
$u = -0.597092 + 0.698260I$	$-1.52058 - 5.23538I$	$-5.66765 + 8.09699I$
$u = -0.597092 - 0.698260I$	$-1.52058 + 5.23538I$	$-5.66765 - 8.09699I$
$u = \;\; 0.543552 + 0.674693I$	$0.33852 + 1.96494I$	$-1.18152 - 3.58402I$
$u = \;\; 0.543552 - 0.674693I$	$0.33852 - 1.96494I$	$-1.18152 + 3.58402I$
$u = -0.542516 + 1.005270I$	$-5.43066 - 2.42556I$	0
$u = -0.542516 - 1.005270I$	$-5.43066 + 2.42556I$	0
$u = -0.444504 + 1.066540I$	$-3.39119 - 3.46853I$	0
$u = -0.444504 - 1.066540I$	$-3.39119 + 3.46853I$	0
$u = -0.779022 + 0.286596I$	$-11.6248 + 9.1994I$	$-8.83810 - 4.94920I$
$u = -0.779022 - 0.286596I$	$-11.6248 - 9.1994I$	$-8.83810 + 4.94920I$
$u = \;\; 0.533000 + 1.047100I$	$0.59068 + 3.80897I$	0
$u = \;\; 0.533000 - 1.047100I$	$0.59068 - 3.80897I$	0
$u = -0.628186 + 0.533564I$	$-4.04887 - 2.18452I$	$-3.17290 + 3.27346I$
$u = -0.628186 - 0.533564I$	$-4.04887 + 2.18452I$	$-3.17290 - 3.27346I$
$u = -0.285766 + 1.144430I$	$-5.69626 + 0.32025I$	0
$u = -0.285766 - 1.144430I$	$-5.69626 - 0.32025I$	0
$u = \;\; 0.764887 + 0.286070I$	$-3.46891 - 6.94592I$	$-6.88820 + 6.61216I$
$u = \;\; 0.764887 - 0.286070I$	$-3.46891 + 6.94592I$	$-6.88820 - 6.61216I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.272050 + 1.154900I$	$-7.87704 - 3.87380I$	0
$u = 0.272050 - 1.154900I$	$-7.87704 + 3.87380I$	0
$u = 0.434060 + 1.110570I$	$-11.36200 + 3.77797I$	0
$u = 0.434060 - 1.110570I$	$-11.36200 - 3.77797I$	0
$u = 0.303760 + 1.153260I$	$-8.24956 + 3.01264I$	0
$u = 0.303760 - 1.153260I$	$-8.24956 - 3.01264I$	0
$u = -0.266265 + 1.165210I$	$-16.1206 + 6.0842I$	0
$u = -0.266265 - 1.165210I$	$-16.1206 - 6.0842I$	0
$u = -0.544409 + 1.070510I$	$0.14008 - 7.02765I$	0
$u = -0.544409 - 1.070510I$	$0.14008 + 7.02765I$	0
$u = 0.694347 + 0.389402I$	$-4.69547 - 4.07584I$	$-4.42256 + 3.79856I$
$u = 0.694347 - 0.389402I$	$-4.69547 + 4.07584I$	$-4.42256 - 3.79856I$
$u = -0.743742 + 0.279293I$	$-1.43487 + 3.37716I$	$-3.04234 - 2.33518I$
$u = -0.743742 - 0.279293I$	$-1.43487 - 3.37716I$	$-3.04234 + 2.33518I$
$u = -0.310586 + 1.165680I$	$-16.6556 - 4.9601I$	0
$u = -0.310586 - 1.165680I$	$-16.6556 + 4.9601I$	0
$u = -0.755158 + 0.228194I$	$-12.47070 - 1.60811I$	$-10.06141 + 0.47911I$
$u = -0.755158 - 0.228194I$	$-12.47070 + 1.60811I$	$-10.06141 - 0.47911I$
$u = 0.739760 + 0.247030I$	$-4.08581 - 0.20619I$	$-8.44067 - 1.58802I$
$u = 0.739760 - 0.247030I$	$-4.08581 + 0.20619I$	$-8.44067 + 1.58802I$
$u = 0.557735 + 1.086370I$	$-6.72622 + 8.89575I$	0
$u = 0.557735 - 1.086370I$	$-6.72622 - 8.89575I$	0
$u = 0.611409 + 0.464153I$	$2.29790 + 0.72696I$	$1.42198 - 4.03788I$
$u = 0.611409 - 0.464153I$	$2.29790 - 0.72696I$	$1.42198 + 4.03788I$
$u = -0.647080 + 0.410370I$	$2.05724 + 2.36478I$	$-0.10664 - 5.60599I$
$u = -0.647080 - 0.410370I$	$2.05724 - 2.36478I$	$-0.10664 + 5.60599I$
$u = 0.536182 + 1.140680I$	$-6.67249 + 5.01105I$	0
$u = 0.536182 - 1.140680I$	$-6.67249 - 5.01105I$	0
$u = -0.547074 + 1.135730I$	$-3.92615 - 8.25146I$	0
$u = -0.547074 - 1.135730I$	$-3.92615 + 8.25146I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.532240 + 1.149520I$	$-15.1491 - 3.2090I$	0
$u = -0.532240 - 1.149520I$	$-15.1491 + 3.2090I$	0
$u = \quad 0.554156 + 1.140460I$	$-5.97071 + 11.90170I$	0
$u = \quad 0.554156 - 1.140460I$	$-5.97071 - 11.90170I$	0
$u = -0.558002 + 1.144930I$	$-14.1477 - 14.2056I$	0
$u = -0.558002 - 1.144930I$	$-14.1477 + 14.2056I$	0
$u = \quad 0.596102$	-8.41516	-10.1960
$u = -0.419381$	-0.927902	-10.4430

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{68} + 33u^{67} + \cdots - 2u + 1$
c_2, c_7	$u^{68} + u^{67} + \cdots - 2u - 1$
c_3	$u^{68} - u^{67} + \cdots - 356u - 185$
c_4, c_5, c_{10} c_{11}	$u^{68} - u^{67} + \cdots - 2u - 1$
c_6, c_{12}	$u^{68} + 5u^{67} + \cdots + 102u + 5$
c_8	$u^{68} + 5u^{67} + \cdots - 4u - 3$
c_9	$u^{68} - 21u^{67} + \cdots + 133900u - 11327$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{68} + 5y^{67} + \cdots - 22y + 1$
c_2, c_7	$y^{68} + 33y^{67} + \cdots - 2y + 1$
c_3	$y^{68} - 23y^{67} + \cdots - 913726y + 34225$
c_4, c_5, c_{10} c_{11}	$y^{68} - 79y^{67} + \cdots - 2y + 1$
c_6, c_{12}	$y^{68} + 57y^{67} + \cdots - 4634y + 25$
c_8	$y^{68} - 3y^{67} + \cdots - 22y + 9$
c_9	$y^{68} - 31y^{67} + \cdots - 1781733302y + 128300929$