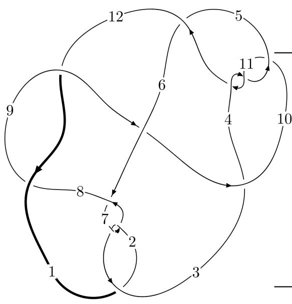
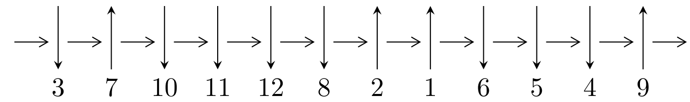
$12a_{0652}$ ($K12a_{0652}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{77} - u^{76} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 77 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. $I_1^u = \langle u^{77} - u^{76} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^8 - u^6 - u^4 + 1 \\ -u^{10} - 2u^8 - 3u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{14} + 3u^{12} + 6u^{10} + 7u^8 + 6u^6 + 4u^4 + 2u^2 + 1 \\ u^{14} + 2u^{12} + 3u^{10} + 2u^8 - u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{31} - 6u^{29} + \cdots - 18u^5 - 6u^3 \\ -u^{31} - 5u^{29} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{13} + 2u^{11} + 3u^9 + 2u^7 - u \\ u^{15} + 3u^{13} + 6u^{11} + 7u^9 + 6u^7 + 4u^5 + 2u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{30} - 5u^{28} + \cdots + 2u^2 + 1 \\ -u^{32} - 6u^{30} + \cdots - 18u^6 - 6u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{76} + 13u^{74} + \cdots + 3u^2 + 1 \\ u^{76} - u^{75} + \cdots + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{75} - 4u^{74} + \cdots + 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{77} + 27u^{76} + \cdots - 5u - 1$
c_2, c_7	$u^{77} + u^{76} + \cdots - u + 1$
c_3, c_5	$u^{77} - u^{76} + \cdots + 125u + 37$
c_4, c_{10}, c_{11}	$u^{77} + u^{76} + \cdots + 3u + 1$
c_8, c_{12}	$u^{77} - 5u^{76} + \cdots - 1000u + 112$
c_9	$u^{77} - 7u^{76} + \cdots + 707u - 55$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{77} + 47y^{76} + \cdots - y - 1$
c_2, c_7	$y^{77} + 27y^{76} + \cdots - 5y - 1$
c_3, c_5	$y^{77} - 53y^{76} + \cdots - 24557y - 1369$
c_4, c_{10}, c_{11}	$y^{77} + 63y^{76} + \cdots - 5y - 1$
c_8, c_{12}	$y^{77} + 55y^{76} + \cdots - 254176y - 12544$
c_9	$y^{77} - 13y^{76} + \cdots + 127499y - 3025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.767529 + 0.640028I$	$6.28167 + 3.64431I$	0
$u = -0.767529 - 0.640028I$	$6.28167 - 3.64431I$	0
$u = 0.796599 + 0.602734I$	$0.58640 - 9.94909I$	0
$u = 0.796599 - 0.602734I$	$0.58640 + 9.94909I$	0
$u = -0.790354 + 0.596356I$	$-3.97378 + 5.75046I$	0
$u = -0.790354 - 0.596356I$	$-3.97378 - 5.75046I$	0
$u = 0.714241 + 0.723377I$	$4.65576 + 2.80831I$	0
$u = 0.714241 - 0.723377I$	$4.65576 - 2.80831I$	0
$u = 0.779593 + 0.587691I$	$-0.83188 - 1.51444I$	$-4.00000 + 0.I$
$u = 0.779593 - 0.587691I$	$-0.83188 + 1.51444I$	$-4.00000 + 0.I$
$u = 0.739590 + 0.614293I$	$0.54882 - 2.32085I$	$-4.00000 + 4.35719I$
$u = 0.739590 - 0.614293I$	$0.54882 + 2.32085I$	$-4.00000 - 4.35719I$
$u = -0.355189 + 0.885687I$	$-0.13092 - 6.42409I$	$-6.49563 + 7.55459I$
$u = -0.355189 - 0.885687I$	$-0.13092 + 6.42409I$	$-6.49563 - 7.55459I$
$u = 0.053490 + 1.054100I$	$0.50982 + 3.18183I$	0
$u = 0.053490 - 1.054100I$	$0.50982 - 3.18183I$	0
$u = -0.018030 + 1.072430I$	$-4.95935 - 1.55132I$	0
$u = -0.018030 - 1.072430I$	$-4.95935 + 1.55132I$	0
$u = 0.309910 + 0.869885I$	$-4.29728 + 2.46833I$	$-11.58640 - 4.77585I$
$u = 0.309910 - 0.869885I$	$-4.29728 - 2.46833I$	$-11.58640 + 4.77585I$
$u = -0.722298 + 0.799569I$	$1.242630 + 0.172666I$	0
$u = -0.722298 - 0.799569I$	$1.242630 - 0.172666I$	0
$u = -0.667595 + 0.617931I$	$0.079449 - 0.606625I$	$-4.37867 + 4.13336I$
$u = -0.667595 - 0.617931I$	$0.079449 + 0.606625I$	$-4.37867 - 4.13336I$
$u = -0.244459 + 0.872287I$	$-0.63700 + 1.40817I$	$-7.77578 + 0.80099I$
$u = -0.244459 - 0.872287I$	$-0.63700 - 1.40817I$	$-7.77578 - 0.80099I$
$u = 0.742292 + 0.808838I$	$5.79449 - 3.80795I$	0
$u = 0.742292 - 0.808838I$	$5.79449 + 3.80795I$	0
$u = 0.695161 + 0.854828I$	$3.60047 + 2.66787I$	0
$u = 0.695161 - 0.854828I$	$3.60047 - 2.66787I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.635891 + 0.903812I$	$3.88187 + 2.39954I$	0
$u = 0.635891 - 0.903812I$	$3.88187 - 2.39954I$	0
$u = -0.036950 + 1.108930I$	$-6.70754 - 0.49420I$	0
$u = -0.036950 - 1.108930I$	$-6.70754 + 0.49420I$	0
$u = 0.047933 + 1.109520I$	$-9.95665 + 4.78977I$	0
$u = 0.047933 - 1.109520I$	$-9.95665 - 4.78977I$	0
$u = -0.056065 + 1.109190I$	$-5.46749 - 9.03732I$	0
$u = -0.056065 - 1.109190I$	$-5.46749 + 9.03732I$	0
$u = -0.733136 + 0.860855I$	$9.52540 - 2.78409I$	0
$u = -0.733136 - 0.860855I$	$9.52540 + 2.78409I$	0
$u = -0.708955 + 0.907491I$	$0.91799 - 5.63546I$	0
$u = -0.708955 - 0.907491I$	$0.91799 + 5.63546I$	0
$u = -0.696328 + 0.480021I$	$-1.53055 + 1.07598I$	$-4.35115 - 0.38666I$
$u = -0.696328 - 0.480021I$	$-1.53055 - 1.07598I$	$-4.35115 + 0.38666I$
$u = 0.724452 + 0.906811I$	$5.49817 + 9.37701I$	0
$u = 0.724452 - 0.906811I$	$5.49817 - 9.37701I$	0
$u = 0.659555 + 0.964128I$	$3.92779 + 2.48033I$	0
$u = 0.659555 - 0.964128I$	$3.92779 - 2.48033I$	0
$u = 0.686146 + 0.450824I$	$-4.87661 + 3.11233I$	$-7.53324 - 3.62541I$
$u = 0.686146 - 0.450824I$	$-4.87661 - 3.11233I$	$-7.53324 + 3.62541I$
$u = -0.604287 + 1.031010I$	$-2.08704 + 2.38689I$	0
$u = -0.604287 - 1.031010I$	$-2.08704 - 2.38689I$	0
$u = -0.681244 + 0.427432I$	$-0.45981 - 7.28130I$	$-2.78236 + 6.05298I$
$u = -0.681244 - 0.427432I$	$-0.45981 + 7.28130I$	$-2.78236 - 6.05298I$
$u = -0.650396 + 1.008820I$	$-1.06542 - 4.56285I$	0
$u = -0.650396 - 1.008820I$	$-1.06542 + 4.56285I$	0
$u = 0.612519 + 1.032810I$	$-6.46139 + 1.85421I$	0
$u = 0.612519 - 1.032810I$	$-6.46139 - 1.85421I$	0
$u = -0.622370 + 1.034490I$	$-3.06619 - 6.13166I$	0
$u = -0.622370 - 1.034490I$	$-3.06619 + 6.13166I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.668586 + 1.021010I$	$-0.65211 + 7.70825I$	0
$u = \quad 0.668586 - 1.021010I$	$-0.65211 - 7.70825I$	0
$u = -0.684993 + 1.018520I$	$5.14995 - 9.16004I$	0
$u = -0.684993 - 1.018520I$	$5.14995 + 9.16004I$	0
$u = \quad 0.674345 + 1.040570I$	$-2.17378 + 7.01516I$	0
$u = \quad 0.674345 - 1.040570I$	$-2.17378 - 7.01516I$	0
$u = -0.680506 + 1.041540I$	$-5.29992 - 11.30270I$	0
$u = -0.680506 - 1.041540I$	$-5.29992 + 11.30270I$	0
$u = \quad 0.684731 + 1.041550I$	$-0.7247 + 15.5336I$	0
$u = \quad 0.684731 - 1.041550I$	$-0.7247 - 15.5336I$	0
$u = \quad 0.513241 + 0.334360I$	$4.82076 + 1.75633I$	$2.56531 - 3.98388I$
$u = \quad 0.513241 - 0.334360I$	$4.82076 - 1.75633I$	$2.56531 + 3.98388I$
$u = -0.255361 + 0.463798I$	$-0.166525 - 0.855075I$	$-3.98465 + 7.89301I$
$u = -0.255361 - 0.463798I$	$-0.166525 + 0.855075I$	$-3.98465 - 7.89301I$
$u = -0.495154 + 0.073528I$	$2.07428 + 3.61210I$	$0.95126 - 2.73924I$
$u = -0.495154 - 0.073528I$	$2.07428 - 3.61210I$	$0.95126 + 2.73924I$
$u = \quad 0.465846$	-1.94396	-3.97790

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{77} + 27u^{76} + \cdots - 5u - 1$
c_2, c_7	$u^{77} + u^{76} + \cdots - u + 1$
c_3, c_5	$u^{77} - u^{76} + \cdots + 125u + 37$
c_4, c_{10}, c_{11}	$u^{77} + u^{76} + \cdots + 3u + 1$
c_8, c_{12}	$u^{77} - 5u^{76} + \cdots - 1000u + 112$
c_9	$u^{77} - 7u^{76} + \cdots + 707u - 55$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{77} + 47y^{76} + \cdots - y - 1$
c_2, c_7	$y^{77} + 27y^{76} + \cdots - 5y - 1$
c_3, c_5	$y^{77} - 53y^{76} + \cdots - 24557y - 1369$
c_4, c_{10}, c_{11}	$y^{77} + 63y^{76} + \cdots - 5y - 1$
c_8, c_{12}	$y^{77} + 55y^{76} + \cdots - 254176y - 12544$
c_9	$y^{77} - 13y^{76} + \cdots + 127499y - 3025$