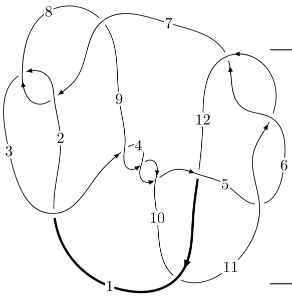
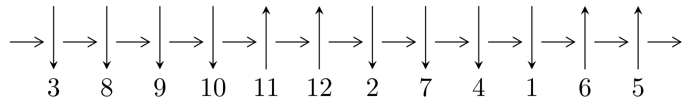
$12a_{0713}$ ($K12a_{0713}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{69} + u^{68} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $I_1^u = \langle u^{69} + u^{68} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^7 - 2u^5 + 2u^3 - 2u \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{12} - 3u^{10} + 5u^8 - 6u^6 + 4u^4 - 3u^2 + 1 \\ -u^{12} + 2u^{10} - 4u^8 + 4u^6 - 3u^4 + 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{17} + 4u^{15} - 9u^{13} + 14u^{11} - 15u^9 + 14u^7 - 10u^5 + 6u^3 - 3u \\ u^{17} - 3u^{15} + 7u^{13} - 10u^{11} + 11u^9 - 10u^7 + 6u^5 - 4u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{20} - 3u^{18} + \cdots - 3u^2 + 1 \\ u^{22} - 4u^{20} + \cdots - 8u^4 + 3u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{39} + 8u^{37} + \cdots + 42u^5 - 8u^3 \\ u^{39} - 7u^{37} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{59} - 10u^{57} + \cdots + 5u^3 - 2u \\ u^{61} - 11u^{59} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{68} + 52u^{66} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{69} + 25u^{68} + \cdots - u + 1$
c_2, c_7	$u^{69} + u^{68} + \cdots + u + 1$
c_3, c_4, c_9	$u^{69} - u^{68} + \cdots - 15u + 1$
c_5, c_6, c_{11}	$u^{69} + u^{68} + \cdots + u + 1$
c_{10}	$u^{69} - 17u^{68} + \cdots + 49u - 1$
c_{12}	$u^{69} - 3u^{68} + \cdots - 15u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{69} + 39y^{68} + \cdots + 3y - 1$
c_2, c_7	$y^{69} - 25y^{68} + \cdots - y - 1$
c_3, c_4, c_9	$y^{69} - 69y^{68} + \cdots + 31y - 1$
c_5, c_6, c_{11}	$y^{69} - 61y^{68} + \cdots - y - 1$
c_{10}	$y^{69} + 3y^{68} + \cdots + 959y - 1$
c_{12}	$y^{69} + 7y^{68} + \cdots + 535y - 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.561535 + 0.801719I$	$0.59754 - 9.28056I$	$-1.67855 + 4.92481I$
$u = -0.561535 - 0.801719I$	$0.59754 + 9.28056I$	$-1.67855 - 4.92481I$
$u = -0.741260 + 0.705629I$	$2.07770 - 1.55952I$	$0. + 4.24575I$
$u = -0.741260 - 0.705629I$	$2.07770 + 1.55952I$	$0. - 4.24575I$
$u = 0.858174 + 0.460652I$	$3.02036 + 0.76922I$	$-4.00000 + 0.63988I$
$u = 0.858174 - 0.460652I$	$3.02036 - 0.76922I$	$-4.00000 - 0.63988I$
$u = 0.552904 + 0.795056I$	$-4.60768 + 5.51677I$	$-6.32456 - 4.07554I$
$u = 0.552904 - 0.795056I$	$-4.60768 - 5.51677I$	$-6.32456 + 4.07554I$
$u = 0.787073 + 0.683095I$	$2.73226 - 1.63418I$	0
$u = 0.787073 - 0.683095I$	$2.73226 + 1.63418I$	0
$u = 0.744206 + 0.732824I$	$7.48690 + 4.59797I$	0
$u = 0.744206 - 0.732824I$	$7.48690 - 4.59797I$	0
$u = -0.891875 + 0.548288I$	$-1.16815 + 2.14250I$	0
$u = -0.891875 - 0.548288I$	$-1.16815 - 2.14250I$	0
$u = -0.540612 + 0.778681I$	$-2.67823 - 1.59684I$	$-3.63668 - 0.69772I$
$u = -0.540612 - 0.778681I$	$-2.67823 + 1.59684I$	$-3.63668 + 0.69772I$
$u = -0.923734 + 0.200980I$	$1.85137 + 5.82041I$	$-6.32686 - 6.94483I$
$u = -0.923734 - 0.200980I$	$1.85137 - 5.82041I$	$-6.32686 + 6.94483I$
$u = 0.582842 + 0.744201I$	$3.93389 + 1.07116I$	$0.776477 - 0.457625I$
$u = 0.582842 - 0.744201I$	$3.93389 - 1.07116I$	$0.776477 + 0.457625I$
$u = -0.930462$	-0.771769	-9.37220
$u = -0.519198 + 0.768041I$	$-2.80848 - 1.33304I$	$-4.00000 + 1.12385I$
$u = -0.519198 - 0.768041I$	$-2.80848 + 1.33304I$	$-4.00000 - 1.12385I$
$u = -0.805040 + 0.718870I$	$8.37556 + 3.79820I$	0
$u = -0.805040 - 0.718870I$	$8.37556 - 3.79820I$	0
$u = 0.900653 + 0.146018I$	$-3.07880 - 2.61927I$	$-12.21002 + 6.26526I$
$u = 0.900653 - 0.146018I$	$-3.07880 + 2.61927I$	$-12.21002 - 6.26526I$
$u = 0.493368 + 0.760092I$	$-4.98673 - 2.50951I$	$-7.03178 + 3.70440I$
$u = 0.493368 - 0.760092I$	$-4.98673 + 2.50951I$	$-7.03178 - 3.70440I$
$u = -1.09692$	-1.56890	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.476518 + 0.754332I$	$0.06794 + 6.25168I$	$-2.30141 - 4.86494I$
$u = -0.476518 - 0.754332I$	$0.06794 - 6.25168I$	$-2.30141 + 4.86494I$
$u = 0.945924 + 0.588557I$	$2.32478 - 5.03042I$	0
$u = 0.945924 - 0.588557I$	$2.32478 + 5.03042I$	0
$u = 0.911304 + 0.669367I$	$2.35185 - 3.58854I$	0
$u = 0.911304 - 0.669367I$	$2.35185 + 3.58854I$	0
$u = 1.132630 + 0.007821I$	$-8.44892 - 0.18975I$	0
$u = 1.132630 - 0.007821I$	$-8.44892 + 0.18975I$	0
$u = -1.135870 + 0.021393I$	$-10.52510 + 4.16744I$	0
$u = -1.135870 - 0.021393I$	$-10.52510 - 4.16744I$	0
$u = 1.136010 + 0.030089I$	$-5.39627 - 7.98412I$	0
$u = 1.136010 - 0.030089I$	$-5.39627 + 7.98412I$	0
$u = -0.900087 + 0.702148I$	$8.08679 + 1.63035I$	0
$u = -0.900087 - 0.702148I$	$8.08679 - 1.63035I$	0
$u = -0.943327 + 0.681204I$	$1.46972 + 6.88966I$	0
$u = -0.943327 - 0.681204I$	$1.46972 - 6.88966I$	0
$u = 0.947298 + 0.697651I$	$6.87547 - 10.05570I$	0
$u = 0.947298 - 0.697651I$	$6.87547 + 10.05570I$	0
$u = 1.033920 + 0.660350I$	$2.60685 - 6.43711I$	0
$u = 1.033920 - 0.660350I$	$2.60685 + 6.43711I$	0
$u = -1.057090 + 0.628994I$	$-1.60252 - 1.02909I$	0
$u = -1.057090 - 0.628994I$	$-1.60252 + 1.02909I$	0
$u = -0.769541$	-1.25215	-7.16180
$u = 1.057010 + 0.636565I$	$-6.61719 - 2.76776I$	0
$u = 1.057010 - 0.636565I$	$-6.61719 + 2.76776I$	0
$u = -1.055470 + 0.647367I$	$-4.37317 + 6.68516I$	0
$u = -1.055470 - 0.647367I$	$-4.37317 - 6.68516I$	0
$u = -1.054270 + 0.658260I$	$-4.18744 + 7.02467I$	0
$u = -1.054270 - 0.658260I$	$-4.18744 - 7.02467I$	0
$u = 1.056900 + 0.666631I$	$-6.10164 - 11.02080I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.056900 - 0.666631I$	$-6.10164 + 11.02080I$	0
$u = -1.056820 + 0.671674I$	$-0.8759 + 14.8224I$	0
$u = -1.056820 - 0.671674I$	$-0.8759 - 14.8224I$	0
$u = 0.461695 + 0.473110I$	$3.31546 + 0.65994I$	$-1.10722 + 1.03109I$
$u = 0.461695 - 0.473110I$	$3.31546 - 0.65994I$	$-1.10722 - 1.03109I$
$u = 0.101930 + 0.482846I$	$4.82799 - 3.72475I$	$2.55800 + 4.45689I$
$u = 0.101930 - 0.482846I$	$4.82799 + 3.72475I$	$2.55800 - 4.45689I$
$u = -0.142678 + 0.371599I$	$-0.151965 + 1.056310I$	$-2.64659 - 6.18313I$
$u = -0.142678 - 0.371599I$	$-0.151965 - 1.056310I$	$-2.64659 + 6.18313I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{69} + 25u^{68} + \cdots - u + 1$
c_2, c_7	$u^{69} + u^{68} + \cdots + u + 1$
c_3, c_4, c_9	$u^{69} - u^{68} + \cdots - 15u + 1$
c_5, c_6, c_{11}	$u^{69} + u^{68} + \cdots + u + 1$
c_{10}	$u^{69} - 17u^{68} + \cdots + 49u - 1$
c_{12}	$u^{69} - 3u^{68} + \cdots - 15u + 5$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{69} + 39y^{68} + \cdots + 3y - 1$
c_2, c_7	$y^{69} - 25y^{68} + \cdots - y - 1$
c_3, c_4, c_9	$y^{69} - 69y^{68} + \cdots + 31y - 1$
c_5, c_6, c_{11}	$y^{69} - 61y^{68} + \cdots - y - 1$
c_{10}	$y^{69} + 3y^{68} + \cdots + 959y - 1$
c_{12}	$y^{69} + 7y^{68} + \cdots + 535y - 25$