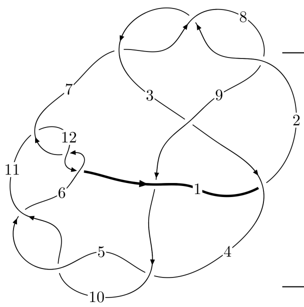
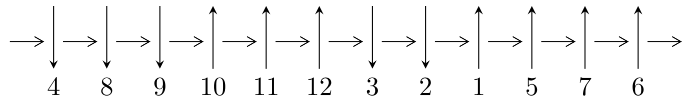
$12a_{1132}$ ($K12a_{1132}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{65} + u^{64} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 65 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. $I_1^u = \langle u^{65} + u^{64} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^6 - 3u^4 - 2u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^9 + 4u^7 + 5u^5 - 3u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{22} + 9u^{20} + \cdots - 2u^2 + 1 \\ -u^{22} - 8u^{20} + \cdots - 6u^4 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{12} + 5u^{10} + 9u^8 + 4u^6 - 6u^4 - 5u^2 + 1 \\ -u^{14} - 6u^{12} - 13u^{10} - 10u^8 + 4u^6 + 8u^4 + u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{35} + 14u^{33} + \cdots - 7u^3 - 2u \\ -u^{37} - 15u^{35} + \cdots + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{58} - 23u^{56} + \cdots - 3u^2 + 1 \\ u^{58} + 22u^{56} + \cdots + 6u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{63} + 4u^{62} + \cdots - 4u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} - 13u^{64} + \cdots - 8727u + 723$
c_2, c_7, c_8	$u^{65} - u^{64} + \cdots + u - 1$
c_3	$u^{65} + u^{64} + \cdots - 13u - 5$
c_4, c_5, c_{10}	$u^{65} - u^{64} + \cdots + u - 1$
c_6, c_{11}, c_{12}	$u^{65} + u^{64} + \cdots + u - 1$
c_9	$u^{65} - 7u^{64} + \cdots - 871u + 209$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} + 27y^{64} + \cdots - 8852703y - 522729$
c_2, c_7, c_8	$y^{65} + 59y^{64} + \cdots + y - 1$
c_3	$y^{65} + 7y^{64} + \cdots - 51y - 25$
c_4, c_5, c_{10}	$y^{65} - 65y^{64} + \cdots + 33y - 1$
c_6, c_{11}, c_{12}	$y^{65} + 51y^{64} + \cdots + y - 1$
c_9	$y^{65} - 9y^{64} + \cdots + 359869y - 43681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.132840+0.983228I$	$4.29616-4.30197I$	$6.95722+4.03422I$
$u=-0.132840-0.983228I$	$4.29616+4.30197I$	$6.95722-4.03422I$
$u=\ \ 0.066608+1.057960I$	$-1.26726+1.59606I$	0
$u=\ \ 0.066608-1.057960I$	$-1.26726-1.59606I$	0
$u=\ \ 0.879004+0.030229I$	$14.07260+0.14142I$	$12.00585+0.01234I$
$u=\ \ 0.879004-0.030229I$	$14.07260-0.14142I$	$12.00585-0.01234I$
$u=-0.874818+0.056154I$	$12.2815-9.6813I$	$10.05803+5.84767I$
$u=-0.874818-0.056154I$	$12.2815+9.6813I$	$10.05803-5.84767I$
$u=\ \ 0.867744+0.051686I$	$6.62538+6.16117I$	$6.00476-5.84448I$
$u=\ \ 0.867744-0.051686I$	$6.62538-6.16117I$	$6.00476+5.84448I$
$u=-0.864273+0.038009I$	$7.62346-2.20976I$	$8.35069-0.07898I$
$u=-0.864273-0.038009I$	$7.62346+2.20976I$	$8.35069+0.07898I$
$u=-0.823379+0.033650I$	$6.61850-3.24358I$	$7.07171+3.68238I$
$u=-0.823379-0.033650I$	$6.61850+3.24358I$	$7.07171-3.68238I$
$u=\ \ 0.814145$	3.01477	2.04740
$u=-0.204085+1.260030I$	$2.21606-1.37582I$	0
$u=-0.204085-1.260030I$	$2.21606+1.37582I$	0
$u=-0.421787+1.223320I$	$8.68254+5.04083I$	0
$u=-0.421787-1.223320I$	$8.68254-5.04083I$	0
$u=\ \ 0.413210+1.226500I$	$3.00151-1.57258I$	0
$u=\ \ 0.413210-1.226500I$	$3.00151+1.57258I$	0
$u=-0.360298+1.244800I$	$2.88088-1.01529I$	0
$u=-0.360298-1.244800I$	$2.88088+1.01529I$	0
$u=\ \ 0.144292+1.296020I$	$-3.54772+2.65467I$	0
$u=\ \ 0.144292-1.296020I$	$-3.54772-2.65467I$	0
$u=-0.407779+1.240170I$	$3.90894-2.34852I$	0
$u=-0.407779-1.240170I$	$3.90894+2.34852I$	0
$u=-0.076935+1.315820I$	$-6.10693+0.13062I$	0
$u=-0.076935-1.315820I$	$-6.10693-0.13062I$	0
$u=\ \ 0.420299+1.249580I$	$10.30050+4.50754I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.420299 - 1.249580I$	$10.30050 - 4.50754I$	0
$u = 0.117189 + 1.318600I$	$-3.61647 + 2.96338I$	0
$u = 0.117189 - 1.318600I$	$-3.61647 - 2.96338I$	0
$u = 0.363105 + 1.275950I$	$-0.95272 + 4.23421I$	0
$u = 0.363105 - 1.275950I$	$-0.95272 - 4.23421I$	0
$u = 0.052090 + 1.327030I$	$-1.24029 - 3.35891I$	0
$u = 0.052090 - 1.327030I$	$-1.24029 + 3.35891I$	0
$u = -0.165280 + 1.324460I$	$-5.02180 - 6.10726I$	0
$u = -0.165280 - 1.324460I$	$-5.02180 + 6.10726I$	0
$u = 0.178379 + 1.332110I$	$0.29566 + 9.54694I$	0
$u = 0.178379 - 1.332110I$	$0.29566 - 9.54694I$	0
$u = -0.371939 + 1.295910I$	$2.47136 - 7.54612I$	0
$u = -0.371939 - 1.295910I$	$2.47136 + 7.54612I$	0
$u = -0.396138 + 1.302350I$	$3.44229 - 6.73024I$	0
$u = -0.396138 - 1.302350I$	$3.44229 + 6.73024I$	0
$u = 0.408112 + 1.298850I$	$9.93098 + 4.75176I$	0
$u = 0.408112 - 1.298850I$	$9.93098 - 4.75176I$	0
$u = 0.396720 + 1.312030I$	$2.36559 + 10.69650I$	0
$u = 0.396720 - 1.312030I$	$2.36559 - 10.69650I$	0
$u = -0.400544 + 1.316110I$	$7.9932 - 14.2537I$	0
$u = -0.400544 - 1.316110I$	$7.9932 + 14.2537I$	0
$u = 0.537814 + 0.283525I$	$5.32003 + 7.05774I$	$7.82899 - 8.24841I$
$u = 0.537814 - 0.283525I$	$5.32003 - 7.05774I$	$7.82899 + 8.24841I$
$u = -0.570320 + 0.157975I$	$6.52518 + 1.38179I$	$10.75156 + 1.24725I$
$u = -0.570320 - 0.157975I$	$6.52518 - 1.38179I$	$10.75156 - 1.24725I$
$u = 0.196201 + 0.551150I$	$4.20028 - 4.05680I$	$4.64942 + 1.87750I$
$u = 0.196201 - 0.551150I$	$4.20028 + 4.05680I$	$4.64942 - 1.87750I$
$u = -0.499727 + 0.273958I$	$-0.07493 - 3.79273I$	$3.07739 + 8.81677I$
$u = -0.499727 - 0.273958I$	$-0.07493 + 3.79273I$	$3.07739 - 8.81677I$
$u = 0.368028 + 0.336891I$	$1.40304 + 1.30266I$	$2.88088 - 5.27854I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.368028 - 0.336891I$	$1.40304 - 1.30266I$	$2.88088 + 5.27854I$
$u = \quad 0.451706 + 0.174867I$	$0.967178 + 0.588537I$	$7.75794 - 2.26949I$
$u = \quad 0.451706 - 0.174867I$	$0.967178 - 0.588537I$	$7.75794 + 2.26949I$
$u = -0.197430 + 0.427516I$	$-1.00380 + 1.10655I$	$-1.56812 - 1.52674I$
$u = -0.197430 - 0.427516I$	$-1.00380 - 1.10655I$	$-1.56812 + 1.52674I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{65} - 13u^{64} + \cdots - 8727u + 723$
c_2, c_7, c_8	$u^{65} - u^{64} + \cdots + u - 1$
c_3	$u^{65} + u^{64} + \cdots - 13u - 5$
c_4, c_5, c_{10}	$u^{65} - u^{64} + \cdots + u - 1$
c_6, c_{11}, c_{12}	$u^{65} + u^{64} + \cdots + u - 1$
c_9	$u^{65} - 7u^{64} + \cdots - 871u + 209$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} + 27y^{64} + \cdots - 8852703y - 522729$
c_2, c_7, c_8	$y^{65} + 59y^{64} + \cdots + y - 1$
c_3	$y^{65} + 7y^{64} + \cdots - 51y - 25$
c_4, c_5, c_{10}	$y^{65} - 65y^{64} + \cdots + 33y - 1$
c_6, c_{11}, c_{12}	$y^{65} + 51y^{64} + \cdots + y - 1$
c_9	$y^{65} - 9y^{64} + \cdots + 359869y - 43681$