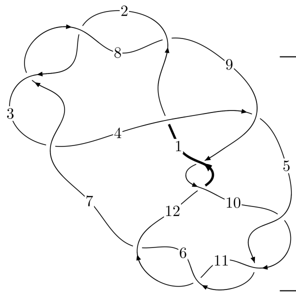
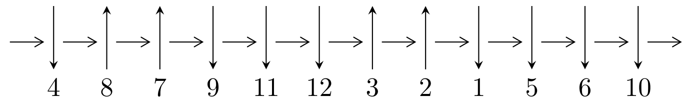
$12a_{1125}$ ($K12a_{1125}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{50} + u^{49} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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. $I_1^u = \langle u^{50} + u^{49} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^3 - 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^8 - 5u^6 + 7u^4 - 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{17} - 10u^{15} + 39u^{13} - 74u^{11} + 71u^9 - 38u^7 + 18u^5 - 4u^3 + u \\ -u^{17} + 9u^{15} - 31u^{13} + 50u^{11} - 37u^9 + 12u^7 - 4u^5 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{30} - 17u^{28} + \cdots - 2u^2 + 1 \\ -u^{30} + 16u^{28} + \cdots - 6u^4 + 3u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{25} - 14u^{23} + \cdots - 10u^3 + u \\ u^{27} - 15u^{25} + \cdots + 3u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{47} - 26u^{45} + \cdots + 4u^3 - 2u \\ u^{49} - 27u^{47} + \cdots + 2u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{47} + 104u^{45} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{50} - 13u^{49} + \cdots - 53u + 3$
c_2, c_3, c_7 c_8	$u^{50} - u^{49} + \cdots + u - 1$
c_4	$u^{50} - u^{49} + \cdots + 35u - 29$
c_5, c_6, c_{10} c_{11}	$u^{50} + u^{49} + \cdots - u - 1$
c_9, c_{12}	$u^{50} - 9u^{49} + \cdots + 279u - 41$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{50} - 3y^{49} + \cdots - 187y + 9$
c_2, c_3, c_7 c_8	$y^{50} + 57y^{49} + \cdots + y + 1$
c_4	$y^{50} - 11y^{49} + \cdots - 11375y + 841$
c_5, c_6, c_{10} c_{11}	$y^{50} - 55y^{49} + \cdots + y + 1$
c_9, c_{12}	$y^{50} + 29y^{49} + \cdots + 16869y + 1681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.598747 + 0.574890I$	$-6.17596 - 9.61051I$	$-8.07514 + 7.89257I$
$u = 0.598747 - 0.574890I$	$-6.17596 + 9.61051I$	$-8.07514 - 7.89257I$
$u = -0.579767 + 0.568232I$	$1.46262 + 7.21330I$	$-5.14859 - 9.60886I$
$u = -0.579767 - 0.568232I$	$1.46262 - 7.21330I$	$-5.14859 + 9.60886I$
$u = -0.799600 + 0.134077I$	$-10.62720 + 4.36353I$	$-13.8919 - 4.2573I$
$u = -0.799600 - 0.134077I$	$-10.62720 - 4.36353I$	$-13.8919 + 4.2573I$
$u = 0.552380 + 0.559106I$	$2.72755 - 3.55040I$	$-1.47416 + 3.94014I$
$u = 0.552380 - 0.559106I$	$2.72755 + 3.55040I$	$-1.47416 - 3.94014I$
$u = -0.486892 + 0.584883I$	$-1.98087 + 1.99888I$	$-4.50156 - 3.58150I$
$u = -0.486892 - 0.584883I$	$-1.98087 - 1.99888I$	$-4.50156 + 3.58150I$
$u = 0.619098 + 0.438297I$	$-8.73729 - 0.86802I$	$-11.01246 + 3.92491I$
$u = 0.619098 - 0.438297I$	$-8.73729 + 0.86802I$	$-11.01246 - 3.92491I$
$u = 0.726133 + 0.110853I$	$-2.87515 - 2.61799I$	$-12.7473 + 6.4736I$
$u = 0.726133 - 0.110853I$	$-2.87515 + 2.61799I$	$-12.7473 - 6.4736I$
$u = 0.418082 + 0.569716I$	$3.12275 - 0.32958I$	$0.04870 + 3.38032I$
$u = 0.418082 - 0.569716I$	$3.12275 + 0.32958I$	$0.04870 - 3.38032I$
$u = 0.359261 + 0.608239I$	$-5.47474 + 5.57708I$	$-6.11056 - 1.82524I$
$u = 0.359261 - 0.608239I$	$-5.47474 - 5.57708I$	$-6.11056 + 1.82524I$
$u = -0.528151 + 0.466800I$	$-0.81474 + 1.58943I$	$-9.19847 - 3.59943I$
$u = -0.528151 - 0.466800I$	$-0.81474 - 1.58943I$	$-9.19847 + 3.59943I$
$u = -0.381969 + 0.589199I$	$2.04130 - 3.25118I$	$-3.15587 + 3.30820I$
$u = -0.381969 - 0.589199I$	$2.04130 + 3.25118I$	$-3.15587 - 3.30820I$
$u = -0.607541$	-1.09411	-8.24150
$u = -1.43710 + 0.11460I$	$-11.13960 - 3.09747I$	0
$u = -1.43710 - 0.11460I$	$-11.13960 + 3.09747I$	0
$u = 1.46424 + 0.12360I$	$-3.87403 + 0.83702I$	0
$u = 1.46424 - 0.12360I$	$-3.87403 - 0.83702I$	0
$u = 0.167534 + 0.493668I$	$-7.46565 - 2.28896I$	$-6.43563 + 2.79578I$
$u = 0.167534 - 0.493668I$	$-7.46565 + 2.28896I$	$-6.43563 - 2.79578I$
$u = -1.48768 + 0.13710I$	$-3.08950 + 2.74865I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.48768 - 0.13710I$	$-3.08950 - 2.74865I$	0
$u = 1.50999 + 0.16213I$	$-8.54473 - 4.64532I$	0
$u = 1.50999 - 0.16213I$	$-8.54473 + 4.64532I$	0
$u = 1.54653 + 0.13709I$	$-7.79253 - 3.77307I$	0
$u = 1.54653 - 0.13709I$	$-7.79253 + 3.77307I$	0
$u = -1.54628 + 0.16369I$	$-4.26325 + 6.15786I$	0
$u = -1.54628 - 0.16369I$	$-4.26325 - 6.15786I$	0
$u = 1.55577 + 0.16994I$	$-5.65936 - 9.90051I$	0
$u = 1.55577 - 0.16994I$	$-5.65936 + 9.90051I$	0
$u = 1.56928$	-8.54940	0
$u = -1.56295 + 0.17361I$	$-13.3924 + 12.3497I$	0
$u = -1.56295 - 0.17361I$	$-13.3924 - 12.3497I$	0
$u = -1.56817 + 0.12859I$	$-16.0981 + 2.9477I$	0
$u = -1.56817 - 0.12859I$	$-16.0981 - 2.9477I$	0
$u = -1.58508 + 0.02052I$	$-10.70660 + 3.03825I$	0
$u = -1.58508 - 0.02052I$	$-10.70660 - 3.03825I$	0
$u = 1.60009 + 0.02595I$	$-18.7534 - 4.8844I$	0
$u = 1.60009 - 0.02595I$	$-18.7534 + 4.8844I$	0
$u = -0.135075 + 0.358512I$	$-0.176711 + 1.051470I$	$-3.23682 - 6.19668I$
$u = -0.135075 - 0.358512I$	$-0.176711 - 1.051470I$	$-3.23682 + 6.19668I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{50} - 13u^{49} + \cdots - 53u + 3$
c_2, c_3, c_7 c_8	$u^{50} - u^{49} + \cdots + u - 1$
c_4	$u^{50} - u^{49} + \cdots + 35u - 29$
c_5, c_6, c_{10} c_{11}	$u^{50} + u^{49} + \cdots - u - 1$
c_9, c_{12}	$u^{50} - 9u^{49} + \cdots + 279u - 41$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{50} - 3y^{49} + \cdots - 187y + 9$
c_2, c_3, c_7 c_8	$y^{50} + 57y^{49} + \cdots + y + 1$
c_4	$y^{50} - 11y^{49} + \cdots - 11375y + 841$
c_5, c_6, c_{10} c_{11}	$y^{50} - 55y^{49} + \cdots + y + 1$
c_9, c_{12}	$y^{50} + 29y^{49} + \cdots + 16869y + 1681$