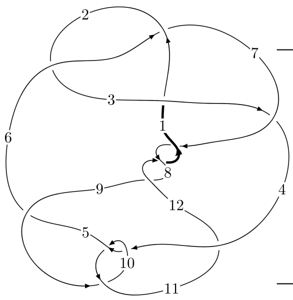
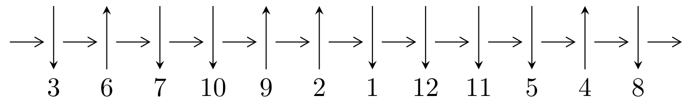
$12a_{0251}$ $(K12a_{0251})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{79} - u^{78} + \cdots + 4u^3 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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. $I_1^u = \langle u^{79} - u^{78} + \cdots + 4u^3 + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ u^9 + u^7 + u^5 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{12} + 3u^{10} + 5u^8 + 4u^6 + 2u^4 + u^2 + 1 \\ -u^{14} - 2u^{12} - 3u^{10} - 2u^8 - 2u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{17} - 4u^{15} - 9u^{13} - 12u^{11} - 11u^9 - 8u^7 - 6u^5 - 4u^3 - u \\ u^{19} + 3u^{17} + 6u^{15} + 7u^{13} + 7u^{11} + 7u^9 + 6u^7 + 4u^5 + u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{35} - 8u^{33} + \cdots - 8u^5 - u^3 \\ u^{37} + 7u^{35} + \cdots + u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{22} + 5u^{20} + \cdots + 2u^2 + 1 \\ u^{22} + 4u^{20} + 9u^{18} + 12u^{16} + 10u^{14} + 6u^{12} + 3u^{10} + 2u^8 - u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{63} - 14u^{61} + \cdots - 8u^3 - 2u \\ -u^{63} - 13u^{61} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{78} + 4u^{77} + \cdots - 8u^2 - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{79} + 35u^{78} + \cdots + 8u^2 - 1$
c_2, c_6	$u^{79} - u^{78} + \cdots + 4u^3 + 1$
c_3	$u^{79} + u^{78} + \cdots + 9u + 2$
c_4, c_{10}	$u^{79} - u^{78} + \cdots - 2u^4 + 1$
c_5, c_{11}	$u^{79} - 3u^{78} + \cdots - 445u + 88$
c_7, c_8, c_{12}	$u^{79} - 5u^{78} + \cdots - 24u + 1$
c_9	$u^{79} + 41u^{78} + \cdots - 4u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} + 19y^{78} + \cdots + 16y - 1$
c_2, c_6	$y^{79} + 35y^{78} + \cdots + 8y^2 - 1$
c_3	$y^{79} + 3y^{78} + \cdots - 139y - 4$
c_4, c_{10}	$y^{79} - 41y^{78} + \cdots + 4y^2 - 1$
c_5, c_{11}	$y^{79} + 51y^{78} + \cdots + 140825y - 7744$
c_7, c_8, c_{12}	$y^{79} + 79y^{78} + \cdots + 72y - 1$
c_9	$y^{79} - 5y^{78} + \cdots + 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.518439 + 0.839977I$	$-2.47695 + 1.61220I$	0
$u = -0.518439 - 0.839977I$	$-2.47695 - 1.61220I$	0
$u = -0.250874 + 0.935800I$	$-2.18929 + 0.78848I$	$-9.38930 - 3.30417I$
$u = -0.250874 - 0.935800I$	$-2.18929 - 0.78848I$	$-9.38930 + 3.30417I$
$u = \quad 0.472540 + 0.928709I$	$-0.19704 + 2.19503I$	0
$u = \quad 0.472540 - 0.928709I$	$-0.19704 - 2.19503I$	0
$u = -0.777679 + 0.521809I$	$3.79637 - 7.20850I$	$-1.29301 + 5.78914I$
$u = -0.777679 - 0.521809I$	$3.79637 + 7.20850I$	$-1.29301 - 5.78914I$
$u = \quad 0.790583 + 0.491775I$	$8.97318 + 0.79076I$	$3.03187 - 3.00040I$
$u = \quad 0.790583 - 0.491775I$	$8.97318 - 0.79076I$	$3.03187 + 3.00040I$
$u = \quad 0.776695 + 0.512527I$	$6.49253 + 2.31855I$	$1.93099 - 2.22263I$
$u = \quad 0.776695 - 0.512527I$	$6.49253 - 2.31855I$	$1.93099 + 2.22263I$
$u = -0.794225 + 0.480848I$	$8.91071 + 3.99166I$	$2.81554 - 3.57592I$
$u = -0.794225 - 0.480848I$	$8.91071 - 3.99166I$	$2.81554 + 3.57592I$
$u = \quad 0.799974 + 0.452152I$	$3.40222 - 10.36420I$	$-1.86089 + 6.02560I$
$u = \quad 0.799974 - 0.452152I$	$3.40222 + 10.36420I$	$-1.86089 - 6.02560I$
$u = -0.795010 + 0.457768I$	$6.18261 + 5.44195I$	$1.37667 - 2.61754I$
$u = -0.795010 - 0.457768I$	$6.18261 - 5.44195I$	$1.37667 + 2.61754I$
$u = -0.539580 + 0.740555I$	$-2.19284 - 5.95136I$	$-3.06972 + 7.35183I$
$u = -0.539580 - 0.740555I$	$-2.19284 + 5.95136I$	$-3.06972 - 7.35183I$
$u = \quad 0.078728 + 1.082670I$	$-3.31194 - 0.08407I$	0
$u = \quad 0.078728 - 1.082670I$	$-3.31194 + 0.08407I$	0
$u = -0.758214 + 0.509308I$	$2.23994 + 0.99895I$	$-3.29257 - 0.53289I$
$u = -0.758214 - 0.509308I$	$2.23994 - 0.99895I$	$-3.29257 + 0.53289I$
$u = \quad 0.782931 + 0.451118I$	$1.90919 - 1.95514I$	$-3.75115 + 0.I$
$u = \quad 0.782931 - 0.451118I$	$1.90919 + 1.95514I$	$-3.75115 + 0.I$
$u = -0.057574 + 1.102150I$	$0.80009 + 3.56647I$	0
$u = -0.057574 - 1.102150I$	$0.80009 - 3.56647I$	0
$u = -0.011598 + 1.103820I$	$3.36202 + 2.32895I$	0
$u = -0.011598 - 1.103820I$	$3.36202 - 2.32895I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.330330+1.053940I$	$-4.29872-0.60827I$	0
$u=-0.330330-1.053940I$	$-4.29872+0.60827I$	0
$u=\ \ 0.315571+1.069460I$	$-7.52343-3.77517I$	0
$u=\ \ 0.315571-1.069460I$	$-7.52343+3.77517I$	0
$u=\ \ 0.066591+1.113330I$	$-1.99034-8.40432I$	0
$u=\ \ 0.066591-1.113330I$	$-1.99034+8.40432I$	0
$u=\ \ 0.518854+0.988102I$	$0.41468+2.88353I$	0
$u=\ \ 0.518854-0.988102I$	$0.41468-2.88353I$	0
$u=-0.430212+1.031220I$	$-3.49022-3.24568I$	0
$u=-0.430212-1.031220I$	$-3.49022+3.24568I$	0
$u=\ \ 0.345422+1.071560I$	$-7.79780+4.70521I$	0
$u=\ \ 0.345422-1.071560I$	$-7.79780-4.70521I$	0
$u=\ \ 0.472065+0.706972I$	$0.43948+1.74919I$	$0.70667-4.05874I$
$u=\ \ 0.472065-0.706972I$	$0.43948-1.74919I$	$0.70667+4.05874I$
$u=-0.530932+1.032320I$	$-0.41303-6.78330I$	0
$u=-0.530932-1.032320I$	$-0.41303+6.78330I$	0
$u=-0.498801+1.079610I$	$-3.17706-6.37439I$	0
$u=-0.498801-1.079610I$	$-3.17706+6.37439I$	0
$u=\ \ 0.484264+1.086440I$	$-6.87950+2.43282I$	0
$u=\ \ 0.484264-1.086440I$	$-6.87950-2.43282I$	0
$u=\ \ 0.503668+1.090740I$	$-6.28401+10.93530I$	0
$u=\ \ 0.503668-1.090740I$	$-6.28401-10.93530I$	0
$u=-0.615780+1.056650I$	$0.60926-6.20761I$	0
$u=-0.615780-1.056650I$	$0.60926+6.20761I$	0
$u=-0.631557+1.055390I$	$2.20395+1.89316I$	0
$u=-0.631557-1.055390I$	$2.20395-1.89316I$	0
$u=\ \ 0.627875+1.060360I$	$4.85794+2.98135I$	0
$u=\ \ 0.627875-1.060360I$	$4.85794-2.98135I$	0
$u=\ \ 0.628251+1.075530I$	$7.22967+4.54653I$	0
$u=\ \ 0.628251-1.075530I$	$7.22967-4.54653I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.626429 + 1.081980I$	$7.11532 - 9.33149I$	0
$u = -0.626429 - 1.081980I$	$7.11532 + 9.33149I$	0
$u = 0.612337 + 1.091520I$	$0.00350 + 7.21255I$	0
$u = 0.612337 - 1.091520I$	$0.00350 - 7.21255I$	0
$u = 0.516957 + 0.538342I$	$1.69269 + 1.37789I$	$2.70355 - 4.03268I$
$u = 0.516957 - 0.538342I$	$1.69269 - 1.37789I$	$2.70355 + 4.03268I$
$u = -0.619167 + 1.092530I$	$4.28876 - 10.75590I$	0
$u = -0.619167 - 1.092530I$	$4.28876 + 10.75590I$	0
$u = 0.619393 + 1.096430I$	$1.4791 + 15.6911I$	0
$u = 0.619393 - 1.096430I$	$1.4791 - 15.6911I$	0
$u = -0.560028 + 0.413582I$	$1.30119 + 2.38830I$	$0.66864 - 5.36145I$
$u = -0.560028 - 0.413582I$	$1.30119 - 2.38830I$	$0.66864 + 5.36145I$
$u = 0.624420 + 0.239874I$	$-3.92703 - 6.58068I$	$-5.74395 + 6.54636I$
$u = 0.624420 - 0.239874I$	$-3.92703 + 6.58068I$	$-5.74395 - 6.54636I$
$u = -0.582840 + 0.243162I$	$-0.90156 + 2.12687I$	$-2.58208 - 3.56451I$
$u = -0.582840 - 0.243162I$	$-0.90156 - 2.12687I$	$-2.58208 + 3.56451I$
$u = 0.590316 + 0.185482I$	$-4.44704 + 1.71932I$	$-7.28622 - 0.52322I$
$u = 0.590316 - 0.185482I$	$-4.44704 - 1.71932I$	$-7.28622 + 0.52322I$
$u = -0.396331$	-1.15940	-8.74740

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{79} + 35u^{78} + \cdots + 8u^2 - 1$
c_2, c_6	$u^{79} - u^{78} + \cdots + 4u^3 + 1$
c_3	$u^{79} + u^{78} + \cdots + 9u + 2$
c_4, c_{10}	$u^{79} - u^{78} + \cdots - 2u^4 + 1$
c_5, c_{11}	$u^{79} - 3u^{78} + \cdots - 445u + 88$
c_7, c_8, c_{12}	$u^{79} - 5u^{78} + \cdots - 24u + 1$
c_9	$u^{79} + 41u^{78} + \cdots - 4u^2 + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} + 19y^{78} + \cdots + 16y - 1$
c_2, c_6	$y^{79} + 35y^{78} + \cdots + 8y^2 - 1$
c_3	$y^{79} + 3y^{78} + \cdots - 139y - 4$
c_4, c_{10}	$y^{79} - 41y^{78} + \cdots + 4y^2 - 1$
c_5, c_{11}	$y^{79} + 51y^{78} + \cdots + 140825y - 7744$
c_7, c_8, c_{12}	$y^{79} + 79y^{78} + \cdots + 72y - 1$
c_9	$y^{79} - 5y^{78} + \cdots + 8y - 1$