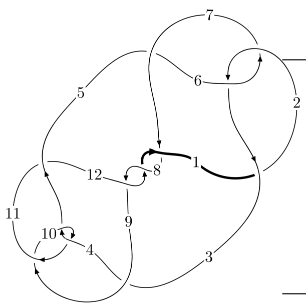
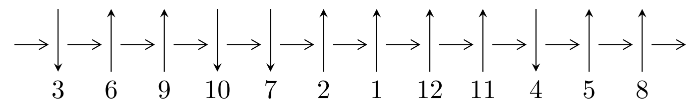
$12a_{0384}$ ($K12a_{0384}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{75} - u^{74} + \cdots - u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 75 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. $I^u_1 = \langle u^{75} - u^{74} + \cdots - u^2 - 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^6 - u^4 + 1 \\ u^8 + 2u^6 + 2u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{11} - 2u^9 - 2u^7 - u^3 \\ -u^{11} - 3u^9 - 4u^7 - u^5 + u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{19} + 4u^{17} + 8u^{15} + 8u^{13} + 5u^{11} + 2u^9 + 2u^7 + u^3 \\ u^{19} + 5u^{17} + 12u^{15} + 15u^{13} + 9u^{11} - u^9 - 4u^7 - 2u^5 + u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{27} - 6u^{25} + \cdots - 4u^7 - u^3 \\ -u^{27} - 7u^{25} + \cdots + u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{54} + 13u^{52} + \cdots - u^4 + 1 \\ u^{54} + 14u^{52} + \cdots + 2u^4 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{33} - 8u^{31} + \cdots + 4u^5 - u \\ u^{35} + 9u^{33} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{73} + 4u^{72} + \cdots + 8u^2 + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{75} + 27u^{74} + \cdots - 2u - 1$
c_2, c_6	$u^{75} - u^{74} + \cdots + 2u - 1$
c_3, c_{11}	$u^{75} + u^{74} + \cdots + 224u - 37$
c_4, c_{10}	$u^{75} - u^{74} + \cdots - u^2 - 1$
c_7, c_8, c_{12}	$u^{75} + 5u^{74} + \cdots - 122u - 13$
c_9	$u^{75} - 39u^{74} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{75} + 43y^{74} + \cdots - 42y - 1$
c_2, c_6	$y^{75} + 27y^{74} + \cdots - 2y - 1$
c_3, c_{11}	$y^{75} - 49y^{74} + \cdots - 139634y - 1369$
c_4, c_{10}	$y^{75} + 39y^{74} + \cdots - 2y - 1$
c_7, c_8, c_{12}	$y^{75} + 71y^{74} + \cdots + 818y - 169$
c_9	$y^{75} - 5y^{74} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.605676 + 0.796769I$	$-6.04317 + 9.23163I$	$0. - 8.30449I$
$u = -0.605676 - 0.796769I$	$-6.04317 - 9.23163I$	$0. + 8.30449I$
$u = 0.434200 + 0.904835I$	$1.00534 - 6.47824I$	$4.00000 + 9.67055I$
$u = 0.434200 - 0.904835I$	$1.00534 + 6.47824I$	$4.00000 - 9.67055I$
$u = -0.357332 + 0.925036I$	$1.74821 + 1.50345I$	$6.59382 - 3.63022I$
$u = -0.357332 - 0.925036I$	$1.74821 - 1.50345I$	$6.59382 + 3.63022I$
$u = 0.596114 + 0.790314I$	$-4.52032 - 3.81412I$	$1.55948 + 3.68783I$
$u = 0.596114 - 0.790314I$	$-4.52032 + 3.81412I$	$1.55948 - 3.68783I$
$u = -0.611709 + 0.774118I$	$-10.27490 + 2.38694I$	$-4.63689 - 3.32182I$
$u = -0.611709 - 0.774118I$	$-10.27490 - 2.38694I$	$-4.63689 + 3.32182I$
$u = -0.611730 + 0.749244I$	$-6.17981 - 4.47538I$	$-0.99002 + 1.78684I$
$u = -0.611730 - 0.749244I$	$-6.17981 + 4.47538I$	$-0.99002 - 1.78684I$
$u = 0.599256 + 0.754022I$	$-4.62446 - 0.87914I$	$1.19980 + 3.06129I$
$u = 0.599256 - 0.754022I$	$-4.62446 + 0.87914I$	$1.19980 - 3.06129I$
$u = -0.026354 + 0.944514I$	$3.78137 + 2.60614I$	$11.97414 - 3.59156I$
$u = -0.026354 - 0.944514I$	$3.78137 - 2.60614I$	$11.97414 + 3.59156I$
$u = 0.445777 + 0.744877I$	$-2.71406 - 1.90275I$	$-3.96566 + 4.94031I$
$u = 0.445777 - 0.744877I$	$-2.71406 + 1.90275I$	$-3.96566 - 4.94031I$
$u = 0.297220 + 1.135960I$	$0.31557 - 6.14170I$	0
$u = 0.297220 - 1.135960I$	$0.31557 + 6.14170I$	0
$u = 0.792174 + 0.211922I$	$-3.19444 + 10.59060I$	$1.16244 - 7.05944I$
$u = 0.792174 - 0.211922I$	$-3.19444 - 10.59060I$	$1.16244 + 7.05944I$
$u = -0.326975 + 1.136760I$	$1.78383 + 1.05705I$	0
$u = -0.326975 - 1.136760I$	$1.78383 - 1.05705I$	0
$u = 0.778680 + 0.229580I$	$-7.67564 + 3.86014I$	$-3.36188 - 2.54547I$
$u = 0.778680 - 0.229580I$	$-7.67564 - 3.86014I$	$-3.36188 + 2.54547I$
$u = -0.783246 + 0.208394I$	$-1.76009 - 5.07972I$	$3.22251 + 2.55358I$
$u = -0.783246 - 0.208394I$	$-1.76009 + 5.07972I$	$3.22251 - 2.55358I$
$u = -0.416318 + 1.118240I$	$2.27451 + 1.40801I$	0
$u = -0.416318 - 1.118240I$	$2.27451 - 1.40801I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.756757 + 0.247164I$	$-3.87573 - 2.95735I$	$-0.06195 + 2.67044I$
$u = 0.756757 - 0.247164I$	$-3.87573 + 2.95735I$	$-0.06195 - 2.67044I$
$u = 0.312742 + 1.169010I$	$-3.42309 + 0.45321I$	0
$u = 0.312742 - 1.169010I$	$-3.42309 - 0.45321I$	0
$u = -0.752182 + 0.229843I$	$-2.28210 - 2.23283I$	$2.43604 + 2.41048I$
$u = -0.752182 - 0.229843I$	$-2.28210 + 2.23283I$	$2.43604 - 2.41048I$
$u = -0.331893 + 1.180670I$	$2.43376 - 1.52363I$	0
$u = -0.331893 - 1.180670I$	$2.43376 + 1.52363I$	0
$u = 0.325952 + 1.187250I$	$1.06510 + 7.02113I$	0
$u = 0.325952 - 1.187250I$	$1.06510 - 7.02113I$	0
$u = -0.214391 + 0.731240I$	$0.447274 + 1.029570I$	$6.61766 - 6.37411I$
$u = -0.214391 - 0.731240I$	$0.447274 - 1.029570I$	$6.61766 + 6.37411I$
$u = 0.449541 + 1.154810I$	$4.51193 - 4.07458I$	0
$u = 0.449541 - 1.154810I$	$4.51193 + 4.07458I$	0
$u = -0.482271 + 1.142580I$	$1.76946 + 6.42913I$	0
$u = -0.482271 - 1.142580I$	$1.76946 - 6.42913I$	0
$u = -0.751767 + 0.088561I$	$3.83758 - 5.79700I$	$6.35953 + 6.44372I$
$u = -0.751767 - 0.088561I$	$3.83758 + 5.79700I$	$6.35953 - 6.44372I$
$u = 0.744452 + 0.066574I$	$4.31968 + 0.36674I$	$7.87220 - 0.50275I$
$u = 0.744452 - 0.066574I$	$4.31968 - 0.36674I$	$7.87220 + 0.50275I$
$u = -0.409035 + 1.184990I$	$7.51694 - 1.78430I$	0
$u = -0.409035 - 1.184990I$	$7.51694 + 1.78430I$	0
$u = 0.419688 + 1.183890I$	$7.91319 - 3.70818I$	0
$u = 0.419688 - 1.183890I$	$7.91319 + 3.70818I$	0
$u = 0.533487 + 1.149800I$	$-1.23150 - 1.88454I$	0
$u = 0.533487 - 1.149800I$	$-1.23150 + 1.88454I$	0
$u = -0.527390 + 1.154690I$	$0.42284 + 7.03628I$	0
$u = -0.527390 - 1.154690I$	$0.42284 - 7.03628I$	0
$u = 0.474033 + 1.180990I$	$7.52996 - 4.83567I$	0
$u = 0.474033 - 1.180990I$	$7.52996 + 4.83567I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.482557+1.181340I$	$6.99960+10.33920I$	0
$u=-0.482557-1.181340I$	$6.99960-10.33920I$	0
$u=\quad 0.535680+1.162020I$	$-4.93464-8.76118I$	0
$u=\quad 0.535680-1.162020I$	$-4.93464+8.76118I$	0
$u=-0.530550+1.169690I$	$1.06556+9.96571I$	0
$u=-0.530550-1.169690I$	$1.06556-9.96571I$	0
$u=\quad 0.534111+1.171560I$	$-0.3673-15.5144I$	0
$u=\quad 0.534111-1.171560I$	$-0.3673+15.5144I$	0
$u=\quad 0.458828+0.536244I$	$-0.03059+2.65332I$	$-0.13467-2.90348I$
$u=\quad 0.458828-0.536244I$	$-0.03059-2.65332I$	$-0.13467+2.90348I$
$u=-0.646867+0.153322I$	$-1.02159-2.08911I$	$-1.37094+4.75504I$
$u=-0.646867-0.153322I$	$-1.02159+2.08911I$	$-1.37094-4.75504I$
$u=\quad 0.651127$	1.36435	8.10100
$u=-0.446014+0.404386I$	$0.26212+1.94827I$	$0.25758-3.35365I$
$u=-0.446014-0.404386I$	$0.26212-1.94827I$	$0.25758+3.35365I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{75} + 27u^{74} + \cdots - 2u - 1$
c_2, c_6	$u^{75} - u^{74} + \cdots + 2u - 1$
c_3, c_{11}	$u^{75} + u^{74} + \cdots + 224u - 37$
c_4, c_{10}	$u^{75} - u^{74} + \cdots - u^2 - 1$
c_7, c_8, c_{12}	$u^{75} + 5u^{74} + \cdots - 122u - 13$
c_9	$u^{75} - 39u^{74} + \cdots - 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{75} + 43y^{74} + \cdots - 42y - 1$
c_2, c_6	$y^{75} + 27y^{74} + \cdots - 2y - 1$
c_3, c_{11}	$y^{75} - 49y^{74} + \cdots - 139634y - 1369$
c_4, c_{10}	$y^{75} + 39y^{74} + \cdots - 2y - 1$
c_7, c_8, c_{12}	$y^{75} + 71y^{74} + \cdots + 818y - 169$
c_9	$y^{75} - 5y^{74} + \cdots + 6y - 1$