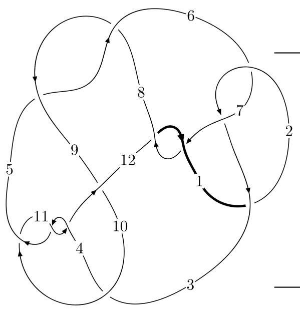
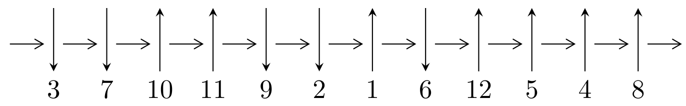
$12a_{0650}$ $(K12a_{0650})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{82} - u^{81} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 82 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. $I_1^u = \langle u^{82} - u^{81} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9 + 2u^7 - u^5 - 2u^3 + u \\ u^{11} - 3u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{17} - 4u^{15} + 7u^{13} - 4u^{11} - 3u^9 + 6u^7 - 2u^5 + u \\ -u^{19} + 5u^{17} - 12u^{15} + 15u^{13} - 9u^{11} - u^9 + 4u^7 - 2u^5 - u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{27} - 8u^{25} + \cdots - 3u^3 + 2u \\ u^{27} - 7u^{25} + \cdots - u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{54} + 15u^{52} + \cdots - 2u^2 + 1 \\ -u^{54} + 14u^{52} + \cdots + 2u^4 - u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{63} - 16u^{61} + \cdots - 4u^3 + 2u \\ -u^{65} + 17u^{63} + \cdots - 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{80} - 84u^{78} + \cdots + 8u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{82} + 43u^{81} + \cdots + 3u + 1$
c_2, c_6	$u^{82} - u^{81} + \cdots - u + 1$
c_3	$u^{82} + u^{81} + \cdots - 5u + 2$
c_4, c_{10}, c_{11}	$u^{82} - u^{81} + \cdots - u + 1$
c_5, c_8	$u^{82} - 7u^{81} + \cdots - 383u + 37$
c_7, c_{12}	$u^{82} - 3u^{81} + \cdots - 55u + 56$
c_9	$u^{82} + 19u^{81} + \cdots + 5211u + 283$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{82} - 7y^{81} + \cdots + 9y + 1$
c_2, c_6	$y^{82} - 43y^{81} + \cdots - 3y + 1$
c_3	$y^{82} - 3y^{81} + \cdots - 25y + 4$
c_4, c_{10}, c_{11}	$y^{82} + 73y^{81} + \cdots - 3y + 1$
c_5, c_8	$y^{82} + 53y^{81} + \cdots + 11449y + 1369$
c_7, c_{12}	$y^{82} + 57y^{81} + \cdots + 137423y + 3136$
c_9	$y^{82} + 13y^{81} + \cdots + 2040325y + 80089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.955352 + 0.293882I$	$-0.49000 - 3.37255I$	$0. + 7.86263I$
$u = 0.955352 - 0.293882I$	$-0.49000 + 3.37255I$	$0. - 7.86263I$
$u = 0.816926 + 0.582560I$	$-0.09685 - 9.75450I$	$0. + 8.56550I$
$u = 0.816926 - 0.582560I$	$-0.09685 + 9.75450I$	$0. - 8.56550I$
$u = -0.804317 + 0.580383I$	$5.07118 + 6.08583I$	$7.27321 - 7.72699I$
$u = -0.804317 - 0.580383I$	$5.07118 - 6.08583I$	$7.27321 + 7.72699I$
$u = 0.976357 + 0.106548I$	$-6.89382 + 1.35042I$	$-8.09485 + 0.I$
$u = 0.976357 - 0.106548I$	$-6.89382 - 1.35042I$	$-8.09485 + 0.I$
$u = 0.780556 + 0.572028I$	$3.12382 - 2.34167I$	$4.61313 + 2.84945I$
$u = 0.780556 - 0.572028I$	$3.12382 + 2.34167I$	$4.61313 - 2.84945I$
$u = -0.813516 + 0.498678I$	$-3.07012 + 1.93466I$	$0. - 4.43003I$
$u = -0.813516 - 0.498678I$	$-3.07012 - 1.93466I$	$0. + 4.43003I$
$u = 0.760520 + 0.575296I$	$3.18119 - 2.21323I$	$4.97236 + 4.23790I$
$u = 0.760520 - 0.575296I$	$3.18119 + 2.21323I$	$4.97236 - 4.23790I$
$u = -0.733948 + 0.585447I$	$5.27270 - 1.47770I$	$8.11976 + 0.84952I$
$u = -0.733948 - 0.585447I$	$5.27270 + 1.47770I$	$8.11976 - 0.84952I$
$u = -1.038490 + 0.247739I$	$-5.58353 + 6.55182I$	0
$u = -1.038490 - 0.247739I$	$-5.58353 - 6.55182I$	0
$u = 0.718789 + 0.591071I$	$0.18371 + 5.12454I$	$3.29871 - 1.93532I$
$u = 0.718789 - 0.591071I$	$0.18371 - 5.12454I$	$3.29871 + 1.93532I$
$u = -0.870197 + 0.149170I$	$-1.47910 + 0.55712I$	$-4.57771 - 0.31676I$
$u = -0.870197 - 0.149170I$	$-1.47910 - 0.55712I$	$-4.57771 + 0.31676I$
$u = -1.062130 + 0.425517I$	$-5.33957 + 6.56153I$	0
$u = -1.062130 - 0.425517I$	$-5.33957 - 6.56153I$	0
$u = 1.093670 + 0.357724I$	$-0.62091 - 3.37016I$	0
$u = 1.093670 - 0.357724I$	$-0.62091 + 3.37016I$	0
$u = 0.186761 + 0.793781I$	$-3.11263 + 10.80720I$	$0.45907 - 6.86198I$
$u = 0.186761 - 0.793781I$	$-3.11263 - 10.80720I$	$0.45907 + 6.86198I$
$u = -0.190528 + 0.784354I$	$2.19850 - 7.14289I$	$5.14145 + 6.39279I$
$u = -0.190528 - 0.784354I$	$2.19850 + 7.14289I$	$5.14145 - 6.39279I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.147130 + 0.343021I$	$-3.17720 + 0.08534I$	0
$u = -1.147130 - 0.343021I$	$-3.17720 - 0.08534I$	0
$u = 0.189777 + 0.763023I$	$0.52237 + 3.32831I$	$2.43416 - 1.63604I$
$u = 0.189777 - 0.763023I$	$0.52237 - 3.32831I$	$2.43416 + 1.63604I$
$u = -0.149056 + 0.768257I$	$-5.84541 - 2.27661I$	$-2.42027 + 2.24579I$
$u = -0.149056 - 0.768257I$	$-5.84541 + 2.27661I$	$-2.42027 - 2.24579I$
$u = -0.634881 + 0.451288I$	$-2.63372 + 2.03081I$	$2.46981 - 3.49424I$
$u = -0.634881 - 0.451288I$	$-2.63372 - 2.03081I$	$2.46981 + 3.49424I$
$u = -1.171210 + 0.355781I$	$-3.48236 + 0.26932I$	0
$u = -1.171210 - 0.355781I$	$-3.48236 - 0.26932I$	0
$u = 0.210213 + 0.746916I$	$0.80429 + 3.32068I$	$3.63756 - 3.48400I$
$u = 0.210213 - 0.746916I$	$0.80429 - 3.32068I$	$3.63756 + 3.48400I$
$u = -0.030138 + 0.769212I$	$-8.37203 - 4.39350I$	$-4.42980 + 3.66957I$
$u = -0.030138 - 0.769212I$	$-8.37203 + 4.39350I$	$-4.42980 - 3.66957I$
$u = 1.186530 + 0.345924I$	$-1.93546 + 3.48342I$	0
$u = 1.186530 - 0.345924I$	$-1.93546 - 3.48342I$	0
$u = -0.232794 + 0.720428I$	$3.19797 + 0.23783I$	$7.38580 - 1.36908I$
$u = -0.232794 - 0.720428I$	$3.19797 - 0.23783I$	$7.38580 + 1.36908I$
$u = -1.194950 + 0.346219I$	$-7.28468 - 7.09304I$	0
$u = -1.194950 - 0.346219I$	$-7.28468 + 7.09304I$	0
$u = 1.187990 + 0.376609I$	$-9.77179 - 1.54569I$	0
$u = 1.187990 - 0.376609I$	$-9.77179 + 1.54569I$	0
$u = 1.135180 + 0.516102I$	$-4.27730 - 0.86035I$	0
$u = 1.135180 - 0.516102I$	$-4.27730 + 0.86035I$	0
$u = 0.254021 + 0.705615I$	$-1.71544 - 3.78990I$	$2.46470 + 2.68690I$
$u = 0.254021 - 0.705615I$	$-1.71544 + 3.78990I$	$2.46470 - 2.68690I$
$u = -1.145610 + 0.517637I$	$0.54284 + 4.45067I$	0
$u = -1.145610 - 0.517637I$	$0.54284 - 4.45067I$	0
$u = 0.024127 + 0.738550I$	$-2.71130 + 1.67121I$	$-0.69520 - 4.31990I$
$u = 0.024127 - 0.738550I$	$-2.71130 - 1.67121I$	$-0.69520 + 4.31990I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.183260 + 0.440258I$	$-6.16175 + 2.53795I$	0
$u = -1.183260 - 0.440258I$	$-6.16175 - 2.53795I$	0
$u = 1.183560 + 0.457869I$	$-6.03690 - 6.01989I$	0
$u = 1.183560 - 0.457869I$	$-6.03690 + 6.01989I$	0
$u = 1.158060 + 0.520565I$	$-1.95947 - 8.07713I$	0
$u = 1.158060 - 0.520565I$	$-1.95947 + 8.07713I$	0
$u = 1.196400 + 0.436391I$	$-11.94130 + 0.11930I$	0
$u = 1.196400 - 0.436391I$	$-11.94130 - 0.11930I$	0
$u = 1.168870 + 0.519518I$	$-2.33921 - 8.11453I$	0
$u = 1.168870 - 0.519518I$	$-2.33921 + 8.11453I$	0
$u = -1.194470 + 0.462138I$	$-11.7595 + 8.8469I$	0
$u = -1.194470 - 0.462138I$	$-11.7595 - 8.8469I$	0
$u = -1.178340 + 0.508340I$	$-8.84661 + 7.00922I$	0
$u = -1.178340 - 0.508340I$	$-8.84661 - 7.00922I$	0
$u = -1.174810 + 0.524984I$	$-0.69320 + 12.00310I$	0
$u = -1.174810 - 0.524984I$	$-0.69320 - 12.00310I$	0
$u = 1.178820 + 0.526166I$	$-6.0335 - 15.6946I$	0
$u = 1.178820 - 0.526166I$	$-6.0335 + 15.6946I$	0
$u = -0.341083 + 0.508049I$	$-3.35078 - 2.71253I$	$2.28153 + 2.87054I$
$u = -0.341083 - 0.508049I$	$-3.35078 + 2.71253I$	$2.28153 - 2.87054I$
$u = 0.428376 + 0.354973I$	$1.061290 + 0.175167I$	$9.58671 - 0.79856I$
$u = 0.428376 - 0.354973I$	$1.061290 - 0.175167I$	$9.58671 + 0.79856I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{82} + 43u^{81} + \cdots + 3u + 1$
c_2, c_6	$u^{82} - u^{81} + \cdots - u + 1$
c_3	$u^{82} + u^{81} + \cdots - 5u + 2$
c_4, c_{10}, c_{11}	$u^{82} - u^{81} + \cdots - u + 1$
c_5, c_8	$u^{82} - 7u^{81} + \cdots - 383u + 37$
c_7, c_{12}	$u^{82} - 3u^{81} + \cdots - 55u + 56$
c_9	$u^{82} + 19u^{81} + \cdots + 5211u + 283$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{82} - 7y^{81} + \cdots + 9y + 1$
c_2, c_6	$y^{82} - 43y^{81} + \cdots - 3y + 1$
c_3	$y^{82} - 3y^{81} + \cdots - 25y + 4$
c_4, c_{10}, c_{11}	$y^{82} + 73y^{81} + \cdots - 3y + 1$
c_5, c_8	$y^{82} + 53y^{81} + \cdots + 11449y + 1369$
c_7, c_{12}	$y^{82} + 57y^{81} + \cdots + 137423y + 3136$
c_9	$y^{82} + 13y^{81} + \cdots + 2040325y + 80089$