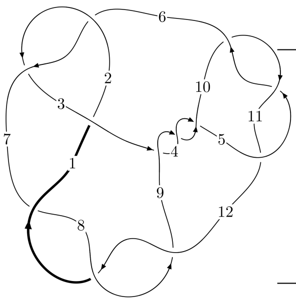
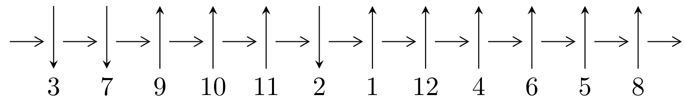
$12a_{0581}$ $(K12a_{0581})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{59} + u^{58} + \cdots + 3u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 59 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. $I_1^u = \langle u^{59} + u^{58} + \cdots + 3u^2 - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^6 - 3u^4 - 2u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^9 + 4u^7 + 5u^5 - 3u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{12} + 5u^{10} + 9u^8 + 4u^6 - 6u^4 - 5u^2 + 1 \\ -u^{14} - 6u^{12} - 13u^{10} - 10u^8 + 4u^6 + 8u^4 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{22} + 9u^{20} + \cdots - 2u^2 + 1 \\ -u^{24} - 10u^{22} + \cdots - 4u^4 - 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{42} + 17u^{40} + \cdots - 5u^2 + 1 \\ -u^{42} - 16u^{40} + \cdots - 12u^4 - u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{32} + 13u^{30} + \cdots - 8u^2 + 1 \\ -u^{34} - 14u^{32} + \cdots + 14u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{57} + 4u^{56} + \cdots + 16u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{59} + 33u^{58} + \cdots + 6u + 1$
c_2, c_6	$u^{59} - u^{58} + \cdots + 2u - 1$
c_3, c_4, c_9	$u^{59} - u^{58} + \cdots - 20u - 17$
c_5, c_{10}, c_{11}	$u^{59} + u^{58} + \cdots + 3u^2 - 1$
c_7, c_8, c_{12}	$u^{59} - 3u^{58} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{59} - 13y^{58} + \cdots - 18y - 1$
c_2, c_6	$y^{59} - 33y^{58} + \cdots + 6y - 1$
c_3, c_4, c_9	$y^{59} - 53y^{58} + \cdots - 2694y - 289$
c_5, c_{10}, c_{11}	$y^{59} + 47y^{58} + \cdots + 6y - 1$
c_7, c_8, c_{12}	$y^{59} + 59y^{58} + \cdots + 94y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.058378 + 1.130960I$	$-2.04129 + 1.77189I$	0
$u = 0.058378 - 1.130960I$	$-2.04129 - 1.77189I$	0
$u = -0.847163 + 0.084618I$	$-1.74912 - 9.58388I$	$5.65604 + 6.28826I$
$u = -0.847163 - 0.084618I$	$-1.74912 + 9.58388I$	$5.65604 - 6.28826I$
$u = 0.848749 + 0.035449I$	$5.75598 + 5.05092I$	$9.97613 - 6.12158I$
$u = 0.848749 - 0.035449I$	$5.75598 - 5.05092I$	$9.97613 + 6.12158I$
$u = -0.844748 + 0.015661I$	$6.96091 - 0.69784I$	$12.84524 - 0.01265I$
$u = -0.844748 - 0.015661I$	$6.96091 + 0.69784I$	$12.84524 + 0.01265I$
$u = 0.839398 + 0.078837I$	$1.60637 + 4.73223I$	$8.74881 - 3.21994I$
$u = 0.839398 - 0.078837I$	$1.60637 - 4.73223I$	$8.74881 + 3.21994I$
$u = -0.829147 + 0.087395I$	$-2.39103 - 0.42285I$	$4.73097 + 0.13131I$
$u = -0.829147 - 0.087395I$	$-2.39103 + 0.42285I$	$4.73097 - 0.13131I$
$u = 0.795102$	2.32839	4.51790
$u = -0.371549 + 1.173570I$	$-5.71912 - 3.91206I$	0
$u = -0.371549 - 1.173570I$	$-5.71912 + 3.91206I$	0
$u = 0.110941 + 1.236520I$	$-3.06428 + 1.85081I$	0
$u = 0.110941 - 1.236520I$	$-3.06428 - 1.85081I$	0
$u = -0.396405 + 1.182980I$	$-5.12049 + 5.11297I$	0
$u = -0.396405 - 1.182980I$	$-5.12049 - 5.11297I$	0
$u = 0.384434 + 1.189160I$	$-1.80148 - 0.32610I$	0
$u = 0.384434 - 1.189160I$	$-1.80148 + 0.32610I$	0
$u = -0.154739 + 1.285240I$	$-5.10187 - 5.52444I$	0
$u = -0.154739 - 1.285240I$	$-5.10187 + 5.52444I$	0
$u = 0.391966 + 1.238580I$	$2.03937 - 0.59806I$	0
$u = 0.391966 - 1.238580I$	$2.03937 + 0.59806I$	0
$u = -0.058596 + 1.302090I$	$-6.34517 + 0.28249I$	0
$u = -0.058596 - 1.302090I$	$-6.34517 - 0.28249I$	0
$u = -0.387543 + 1.257050I$	$3.11544 - 3.72547I$	0
$u = -0.387543 - 1.257050I$	$3.11544 + 3.72547I$	0
$u = 0.349231 + 1.275480I$	$-1.63836 + 4.11991I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.349231 - 1.275480I$	$-1.63836 - 4.11991I$	0
$u = -0.384823 + 1.282600I$	$2.92232 - 5.11207I$	0
$u = -0.384823 - 1.282600I$	$2.92232 + 5.11207I$	0
$u = 0.386365 + 1.297270I$	$1.60085 + 9.48535I$	0
$u = 0.386365 - 1.297270I$	$1.60085 - 9.48535I$	0
$u = -0.126651 + 1.360960I$	$-9.41765 - 3.50298I$	0
$u = -0.126651 - 1.360960I$	$-9.41765 + 3.50298I$	0
$u = 0.476903 + 0.415250I$	$-7.45872 + 6.23445I$	$1.86893 - 7.19389I$
$u = 0.476903 - 0.415250I$	$-7.45872 - 6.23445I$	$1.86893 + 7.19389I$
$u = 0.441341 + 0.448361I$	$-7.59241 - 2.90093I$	$1.279113 - 0.509070I$
$u = 0.441341 - 0.448361I$	$-7.59241 + 2.90093I$	$1.279113 + 0.509070I$
$u = 0.118145 + 1.368160I$	$-13.24570 - 1.08745I$	0
$u = 0.118145 - 1.368160I$	$-13.24570 + 1.08745I$	0
$u = 0.134795 + 1.367180I$	$-13.0323 + 8.2643I$	0
$u = 0.134795 - 1.367180I$	$-13.0323 - 8.2643I$	0
$u = 0.375249 + 1.324440I$	$-2.78863 + 9.10055I$	0
$u = 0.375249 - 1.324440I$	$-2.78863 - 9.10055I$	0
$u = -0.368450 + 1.327520I$	$-6.82502 - 4.73394I$	0
$u = -0.368450 - 1.327520I$	$-6.82502 + 4.73394I$	0
$u = -0.378790 + 1.328850I$	$-6.1782 - 13.9904I$	0
$u = -0.378790 - 1.328850I$	$-6.1782 + 13.9904I$	0
$u = -0.445899 + 0.414347I$	$-3.89834 - 1.60598I$	$4.85193 + 4.07841I$
$u = -0.445899 - 0.414347I$	$-3.89834 + 1.60598I$	$4.85193 - 4.07841I$
$u = -0.451600 + 0.225417I$	$-0.51874 - 3.38908I$	$6.72883 + 9.41856I$
$u = -0.451600 - 0.225417I$	$-0.51874 + 3.38908I$	$6.72883 - 9.41856I$
$u = -0.171695 + 0.376972I$	$-1.43291 + 1.09097I$	$0.441701 - 0.484421I$
$u = -0.171695 - 0.376972I$	$-1.43291 - 1.09097I$	$0.441701 + 0.484421I$
$u = 0.404352 + 0.062637I$	$0.771139 + 0.080818I$	$13.47182 - 1.34489I$
$u = 0.404352 - 0.062637I$	$0.771139 - 0.080818I$	$13.47182 + 1.34489I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{59} + 33u^{58} + \cdots + 6u + 1$
c_2, c_6	$u^{59} - u^{58} + \cdots + 2u - 1$
c_3, c_4, c_9	$u^{59} - u^{58} + \cdots - 20u - 17$
c_5, c_{10}, c_{11}	$u^{59} + u^{58} + \cdots + 3u^2 - 1$
c_7, c_8, c_{12}	$u^{59} - 3u^{58} + \cdots - 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{59} - 13y^{58} + \cdots - 18y - 1$
c_2, c_6	$y^{59} - 33y^{58} + \cdots + 6y - 1$
c_3, c_4, c_9	$y^{59} - 53y^{58} + \cdots - 2694y - 289$
c_5, c_{10}, c_{11}	$y^{59} + 47y^{58} + \cdots + 6y - 1$
c_7, c_8, c_{12}	$y^{59} + 59y^{58} + \cdots + 94y - 1$