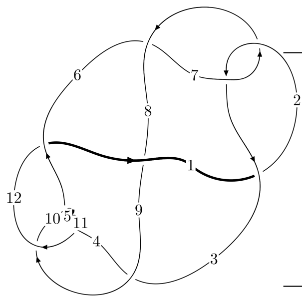
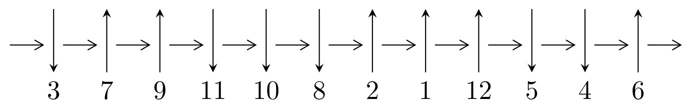
$12a_{0597}$ $(K12a_{0597})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{61} - u^{60} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 61 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. $I_1^u = \langle u^{61} - u^{60} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^7 + 2u^5 + 2u^3 + 2u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{14} - 3u^{12} - 6u^{10} - 9u^8 - 8u^6 - 6u^4 - 2u^2 + 1 \\ -u^{14} - 2u^{12} - 5u^{10} - 6u^8 - 6u^6 - 4u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{10} + u^8 + 2u^6 + u^4 + u^2 + 1 \\ u^{12} + 2u^{10} + 4u^8 + 4u^6 + 3u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{29} - 4u^{27} + \cdots + 2u^3 + 3u \\ -u^{31} - 5u^{29} + \cdots + 4u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{55} + 8u^{53} + \cdots + 18u^5 + 10u^3 \\ u^{57} + 9u^{55} + \cdots + 4u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{40} + 7u^{38} + \cdots + 4u^2 + 1 \\ u^{40} + 6u^{38} + \cdots - 12u^6 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{59} + 4u^{58} + \cdots + 12u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{61} + 19u^{60} + \cdots - 5u - 1$
c_2, c_7	$u^{61} + u^{60} + \cdots + u - 1$
c_3, c_{12}	$u^{61} + u^{60} + \cdots - 39u - 5$
c_4, c_5, c_{10} c_{11}	$u^{61} + u^{60} + \cdots - 3u - 1$
c_8	$u^{61} - 5u^{60} + \cdots + 861u - 259$
c_9	$u^{61} + 19u^{60} + \cdots + 42053u + 4523$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{61} + 47y^{60} + \cdots - 57y - 1$
c_2, c_7	$y^{61} + 19y^{60} + \cdots - 5y - 1$
c_3, c_{12}	$y^{61} - 53y^{60} + \cdots - 1749y - 25$
c_4, c_5, c_{10} c_{11}	$y^{61} + 71y^{60} + \cdots - 5y - 1$
c_8	$y^{61} - 17y^{60} + \cdots - 237181y - 67081$
c_9	$y^{61} - 29y^{60} + \cdots + 159849859y - 20457529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.198222 + 0.979758I$	$-0.89670 - 2.63312I$	$-3.63978 + 3.74927I$
$u = -0.198222 - 0.979758I$	$-0.89670 + 2.63312I$	$-3.63978 - 3.74927I$
$u = 0.069123 + 1.009000I$	$3.02018 + 3.11542I$	$-2.16036 - 3.84044I$
$u = 0.069123 - 1.009000I$	$3.02018 - 3.11542I$	$-2.16036 + 3.84044I$
$u = -0.716119 + 0.680098I$	$8.47263 + 3.12456I$	$5.89203 - 2.57979I$
$u = -0.716119 - 0.680098I$	$8.47263 - 3.12456I$	$5.89203 + 2.57979I$
$u = -0.626262 + 0.796421I$	$0.48829 - 1.58753I$	$-1.44496 + 3.51896I$
$u = -0.626262 - 0.796421I$	$0.48829 + 1.58753I$	$-1.44496 - 3.51896I$
$u = 0.257675 + 0.950012I$	$1.57037 - 0.31655I$	$2.17444 + 0.48608I$
$u = 0.257675 - 0.950012I$	$1.57037 + 0.31655I$	$2.17444 - 0.48608I$
$u = 0.667956 + 0.719080I$	$1.32938 - 1.40534I$	$2.56264 + 4.66576I$
$u = 0.667956 - 0.719080I$	$1.32938 + 1.40534I$	$2.56264 - 4.66576I$
$u = -0.294395 + 0.976008I$	$9.73503 + 2.12680I$	$3.77784 + 0.86173I$
$u = -0.294395 - 0.976008I$	$9.73503 - 2.12680I$	$3.77784 - 0.86173I$
$u = -0.026838 + 0.978454I$	$-3.53400 - 1.53833I$	$-6.81314 + 5.04627I$
$u = -0.026838 - 0.978454I$	$-3.53400 + 1.53833I$	$-6.81314 - 5.04627I$
$u = 0.206301 + 1.015650I$	$1.05887 + 6.04063I$	$0.60481 - 8.09978I$
$u = 0.206301 - 1.015650I$	$1.05887 - 6.04063I$	$0.60481 + 8.09978I$
$u = -0.214262 + 1.034720I$	$9.14721 - 8.20432I$	$2.64600 + 6.28027I$
$u = -0.214262 - 1.034720I$	$9.14721 + 8.20432I$	$2.64600 - 6.28027I$
$u = 0.591025 + 0.917591I$	$5.89659 + 2.23149I$	$0. - 2.95980I$
$u = 0.591025 - 0.917591I$	$5.89659 - 2.23149I$	$0. + 2.95980I$
$u = 0.820314 + 0.739466I$	$5.73172 - 1.77173I$	0
$u = 0.820314 - 0.739466I$	$5.73172 + 1.77173I$	0
$u = -0.831181 + 0.729794I$	$7.87844 + 5.39756I$	$7.24983 - 4.52597I$
$u = -0.831181 - 0.729794I$	$7.87844 - 5.39756I$	$7.24983 + 4.52597I$
$u = 0.840697 + 0.726055I$	$16.1180 - 7.6640I$	$9.08437 + 0.I$
$u = 0.840697 - 0.726055I$	$16.1180 + 7.6640I$	$9.08437 + 0.I$
$u = -0.823878 + 0.757079I$	$8.38019 - 1.56812I$	$8.32978 + 0.I$
$u = -0.823878 - 0.757079I$	$8.38019 + 1.56812I$	$8.32978 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.712977 + 0.865338I$	$3.82340 + 2.72723I$	$8.74224 + 0.I$
$u = \quad 0.712977 - 0.865338I$	$3.82340 - 2.72723I$	$8.74224 + 0.I$
$u = \quad 0.833971 + 0.766158I$	$16.8468 + 3.4795I$	0
$u = \quad 0.833971 - 0.766158I$	$16.8468 - 3.4795I$	0
$u = -0.653737 + 0.933662I$	$0.02925 - 3.43744I$	0
$u = -0.653737 - 0.933662I$	$0.02925 + 3.43744I$	0
$u = -0.755724 + 0.871667I$	$11.89910 - 2.85751I$	0
$u = -0.755724 - 0.871667I$	$11.89910 + 2.85751I$	0
$u = \quad 0.672779 + 0.960113I$	$0.61376 + 6.63166I$	0
$u = \quad 0.672779 - 0.960113I$	$0.61376 - 6.63166I$	0
$u = -0.683815 + 0.982225I$	$7.58853 - 8.50302I$	0
$u = -0.683815 - 0.982225I$	$7.58853 + 8.50302I$	0
$u = -0.753356 + 0.982783I$	$7.68554 - 4.33983I$	0
$u = -0.753356 - 0.982783I$	$7.68554 + 4.33983I$	0
$u = \quad 0.744405 + 0.991746I$	$4.95753 + 7.64010I$	0
$u = \quad 0.744405 - 0.991746I$	$4.95753 - 7.64010I$	0
$u = \quad 0.763531 + 0.981755I$	$16.1819 + 2.4910I$	0
$u = \quad 0.763531 - 0.981755I$	$16.1819 - 2.4910I$	0
$u = -0.746432 + 1.000940I$	$7.04607 - 11.30270I$	0
$u = -0.746432 - 1.000940I$	$7.04607 + 11.30270I$	0
$u = \quad 0.749645 + 1.006720I$	$15.2551 + 13.6064I$	0
$u = \quad 0.749645 - 1.006720I$	$15.2551 - 13.6064I$	0
$u = -0.668707 + 0.053438I$	$12.66400 - 5.34174I$	$9.57934 + 3.17709I$
$u = -0.668707 - 0.053438I$	$12.66400 + 5.34174I$	$9.57934 - 3.17709I$
$u = \quad 0.638982 + 0.042408I$	$4.44397 + 3.29723I$	$8.06395 - 4.69300I$
$u = \quad 0.638982 - 0.042408I$	$4.44397 - 3.29723I$	$8.06395 + 4.69300I$
$u = -0.605215$	2.19284	3.85720
$u = \quad 0.485051 + 0.321167I$	$6.99050 + 1.74446I$	$6.06464 - 3.55680I$
$u = \quad 0.485051 - 0.321167I$	$6.99050 - 1.74446I$	$6.06464 + 3.55680I$
$u = -0.258895 + 0.323692I$	$0.116836 - 0.908570I$	$2.53961 + 7.56880I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.258895 - 0.323692I$	$0.116836 + 0.908570I$	$2.53961 - 7.56880I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{61} + 19u^{60} + \cdots - 5u - 1$
c_2, c_7	$u^{61} + u^{60} + \cdots + u - 1$
c_3, c_{12}	$u^{61} + u^{60} + \cdots - 39u - 5$
c_4, c_5, c_{10} c_{11}	$u^{61} + u^{60} + \cdots - 3u - 1$
c_8	$u^{61} - 5u^{60} + \cdots + 861u - 259$
c_9	$u^{61} + 19u^{60} + \cdots + 42053u + 4523$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{61} + 47y^{60} + \cdots - 57y - 1$
c_2, c_7	$y^{61} + 19y^{60} + \cdots - 5y - 1$
c_3, c_{12}	$y^{61} - 53y^{60} + \cdots - 1749y - 25$
c_4, c_5, c_{10} c_{11}	$y^{61} + 71y^{60} + \cdots - 5y - 1$
c_8	$y^{61} - 17y^{60} + \cdots - 237181y - 67081$
c_9	$y^{61} - 29y^{60} + \cdots + 159849859y - 20457529$