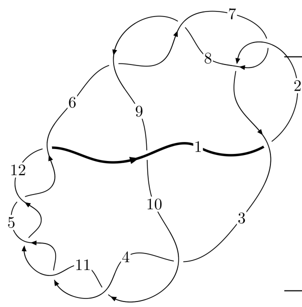
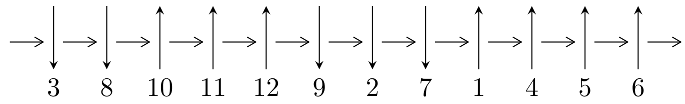
$12a_{0759}$ ($K12a_{0759}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{30} - u^{29} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 30 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. $I_1^u = \langle u^{30} - u^{29} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{10} - u^8 + 2u^6 - u^4 - u^2 + 1 \\ u^{12} - 2u^{10} + 4u^8 - 4u^6 + 3u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{19} - 2u^{17} + 6u^{15} - 8u^{13} + 9u^{11} - 6u^9 + 4u^5 - 3u^3 \\ u^{21} - 3u^{19} + 9u^{17} - 16u^{15} + 24u^{13} - 25u^{11} + 21u^9 - 10u^7 + 3u^5 - u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{13} + 2u^{11} - 5u^9 + 6u^7 - 6u^5 + 4u^3 - u \\ u^{13} - u^{11} + 3u^9 - 2u^7 + 2u^5 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{22} + 3u^{20} + \cdots - 2u^2 + 1 \\ u^{22} - 2u^{20} + \cdots - 4u^4 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{28} + 3u^{26} + \cdots - u^2 + 1 \\ -u^{29} + u^{28} + \cdots - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{29} + 16u^{27} - 4u^{26} - 60u^{25} + 12u^{24} + 148u^{23} - 44u^{22} - 304u^{21} + 88u^{20} + 508u^{19} - 160u^{18} - 692u^{17} + 212u^{16} + 796u^{15} - 224u^{14} - 736u^{13} + 168u^{12} + 568u^{11} - 80u^{10} - 344u^9 + 180u^7 + 24u^6 - 84u^5 + 32u^3 - 8u^2 - 12u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$u^{30} + 7u^{29} + \cdots + 5u + 1$
c_2, c_7	$u^{30} + u^{29} + \cdots + u - 1$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$u^{30} + u^{29} + \cdots - u - 1$
c_9	$u^{30} - 7u^{29} + \cdots + 521u - 295$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^{30} + 33y^{29} + \cdots + 39y + 1$
c_2, c_7	$y^{30} - 7y^{29} + \cdots - 5y + 1$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$y^{30} - 43y^{29} + \cdots - 5y + 1$
c_9	$y^{30} - 23y^{29} + \cdots - 1109241y + 87025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.920005 + 0.430378I$	$4.66034 - 4.78463I$	$7.25047 + 6.81855I$
$u = 0.920005 - 0.430378I$	$4.66034 + 4.78463I$	$7.25047 - 6.81855I$
$u = 0.979433$	12.9125	3.79610
$u = -0.968807 + 0.456896I$	$15.5155 + 5.5117I$	$7.63592 - 5.51087I$
$u = -0.968807 - 0.456896I$	$15.5155 - 5.5117I$	$7.63592 + 5.51087I$
$u = -0.850370 + 0.353923I$	$-0.53732 + 3.17807I$	$2.96134 - 9.77982I$
$u = -0.850370 - 0.353923I$	$-0.53732 - 3.17807I$	$2.96134 + 9.77982I$
$u = -0.895297$	2.40603	3.06770
$u = 0.782312 + 0.234321I$	$-1.26656 - 0.80671I$	$-2.39136 + 0.48620I$
$u = 0.782312 - 0.234321I$	$-1.26656 + 0.80671I$	$-2.39136 - 0.48620I$
$u = 0.873425 + 0.850032I$	$6.78596 - 0.15290I$	$9.21207 - 2.20813I$
$u = 0.873425 - 0.850032I$	$6.78596 + 0.15290I$	$9.21207 + 2.20813I$
$u = -0.353083 + 0.696158I$	$17.4896 - 1.3046I$	$12.03831 + 0.06444I$
$u = -0.353083 - 0.696158I$	$17.4896 + 1.3046I$	$12.03831 - 0.06444I$
$u = -0.902387 + 0.826249I$	$4.85853 + 3.08395I$	$4.14772 - 2.46951I$
$u = -0.902387 - 0.826249I$	$4.85853 - 3.08395I$	$4.14772 + 2.46951I$
$u = -0.858968 + 0.882764I$	$12.99360 - 1.81516I$	$11.64969 + 0.86495I$
$u = -0.858968 - 0.882764I$	$12.99360 + 1.81516I$	$11.64969 - 0.86495I$
$u = 0.853261 + 0.904188I$	$-15.0818 + 2.8449I$	$11.96540 - 0.16863I$
$u = 0.853261 - 0.904188I$	$-15.0818 - 2.8449I$	$11.96540 + 0.16863I$
$u = 0.935818 + 0.828568I$	$6.59163 - 6.09371I$	$8.55797 + 7.37822I$
$u = 0.935818 - 0.828568I$	$6.59163 + 6.09371I$	$8.55797 - 7.37822I$
$u = -0.962584 + 0.839703I$	$12.6661 + 8.1956I$	$11.00485 - 5.80701I$
$u = -0.962584 - 0.839703I$	$12.6661 - 8.1956I$	$11.00485 + 5.80701I$
$u = 0.355798 + 0.609144I$	$6.41234 + 0.93846I$	$12.13091 - 0.39281I$
$u = 0.355798 - 0.609144I$	$6.41234 - 0.93846I$	$12.13091 + 0.39281I$
$u = 0.978792 + 0.847377I$	$-15.4823 - 9.3158I$	$11.28938 + 4.91125I$
$u = 0.978792 - 0.847377I$	$-15.4823 + 9.3158I$	$11.28938 - 4.91125I$
$u = -0.345278 + 0.364509I$	$0.887471 - 0.222734I$	$11.11542 + 1.64999I$
$u = -0.345278 - 0.364509I$	$0.887471 + 0.222734I$	$11.11542 - 1.64999I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$u^{30} + 7u^{29} + \cdots + 5u + 1$
c_2, c_7	$u^{30} + u^{29} + \cdots + u - 1$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$u^{30} + u^{29} + \cdots - u - 1$
c_9	$u^{30} - 7u^{29} + \cdots + 521u - 295$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^{30} + 33y^{29} + \cdots + 39y + 1$
c_2, c_7	$y^{30} - 7y^{29} + \cdots - 5y + 1$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$y^{30} - 43y^{29} + \cdots - 5y + 1$
c_9	$y^{30} - 23y^{29} + \cdots - 1109241y + 87025$