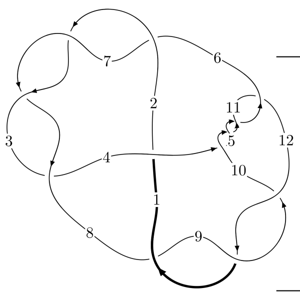
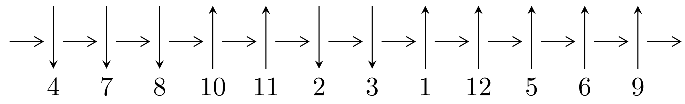
$12a_{1029}$ ($K12a_{1029}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{40} + u^{39} + \cdots - 2u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 40 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. $I_1^u = \langle u^{40} + u^{39} + \cdots - 2u^2 + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 - 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 - 5u^6 + 7u^4 - 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{16} - 9u^{14} + 31u^{12} - 50u^{10} + 39u^8 - 22u^6 + 18u^4 - 4u^2 + 1 \\ u^{18} - 10u^{16} + 39u^{14} - 74u^{12} + 71u^{10} - 40u^8 + 26u^6 - 12u^4 + u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{33} + 18u^{31} + \cdots + 8u^3 - u \\ -u^{35} + 19u^{33} + \cdots - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{12} - 7u^{10} + 17u^8 - 16u^6 + 6u^4 - 5u^2 + 1 \\ -u^{12} + 6u^{10} - 12u^8 + 8u^6 - u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{29} - 16u^{27} + \cdots - 8u^3 - u \\ -u^{29} + 15u^{27} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{37} + 80u^{35} - 4u^{34} - 716u^{33} + 76u^{32} + 3776u^{31} - 640u^{30} - 13020u^{29} + 3140u^{28} + 30896u^{27} - 9940u^{26} - 52168u^{25} + 21336u^{24} + 65184u^{23} - 32132u^{22} - 64416u^{21} + 35572u^{20} + 54464u^{19} - 31380u^{18} - 39892u^{17} + 23748u^{16} + 24224u^{15} - 15004u^{14} - 12824u^{13} + 7500u^{12} + 6132u^{11} - 3152u^{10} - 2204u^9 + 1016u^8 + 768u^7 - 200u^6 - 192u^5 - 24u^4 + 40u^3 + 12u^2 - 12u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{40} - 13u^{39} + \cdots + 2144u - 367$
c_2, c_3, c_6 c_7	$u^{40} - u^{39} + \cdots - 2u^2 + 1$
c_4, c_5, c_{10} c_{11}	$u^{40} - u^{39} + \cdots - 2u^2 + 1$
c_8, c_9, c_{12}	$u^{40} + 5u^{39} + \cdots - 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{40} - 23y^{39} + \cdots + 70036y + 134689$
c_2, c_3, c_6 c_7	$y^{40} - 47y^{39} + \cdots - 4y + 1$
c_4, c_5, c_{10} c_{11}	$y^{40} - 43y^{39} + \cdots - 4y + 1$
c_8, c_9, c_{12}	$y^{40} + 41y^{39} + \cdots - 204y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.542571 + 0.651532I$	$-15.0860 + 7.9109I$	$-4.88905 - 5.84084I$
$u = \ \ 0.542571 - 0.651532I$	$-15.0860 - 7.9109I$	$-4.88905 + 5.84084I$
$u = -0.527459 + 0.636297I$	$-6.73096 - 5.71035I$	$-3.24171 + 7.29309I$
$u = -0.527459 - 0.636297I$	$-6.73096 + 5.71035I$	$-3.24171 - 7.29309I$
$u = \ \ 0.464297 + 0.668009I$	$-15.3188 - 3.4663I$	$-5.54451 - 0.11860I$
$u = \ \ 0.464297 - 0.668009I$	$-15.3188 + 3.4663I$	$-5.54451 + 0.11860I$
$u = -0.473418 + 0.645260I$	$-6.89082 + 1.37781I$	$-3.87753 - 1.00949I$
$u = -0.473418 - 0.645260I$	$-6.89082 - 1.37781I$	$-3.87753 + 1.00949I$
$u = \ \ 0.499489 + 0.625257I$	$-4.40181 + 2.12074I$	$0.59127 - 3.19182I$
$u = \ \ 0.499489 - 0.625257I$	$-4.40181 - 2.12074I$	$0.59127 + 3.19182I$
$u = -0.618622 + 0.396214I$	$-7.28607 - 4.58384I$	$-1.01784 + 7.01456I$
$u = -0.618622 - 0.396214I$	$-7.28607 + 4.58384I$	$-1.01784 - 7.01456I$
$u = \ \ 0.718137$	-5.12638	3.48520
$u = \ \ 0.572228 + 0.316761I$	$0.05545 + 3.04563I$	$2.18963 - 10.11321I$
$u = \ \ 0.572228 - 0.316761I$	$0.05545 - 3.04563I$	$2.18963 + 10.11321I$
$u = \ \ 1.40155$	-3.93842	0
$u = -0.528521 + 0.160054I$	$0.971034 - 0.396253I$	$8.46848 + 1.43778I$
$u = -0.528521 - 0.160054I$	$0.971034 + 0.396253I$	$8.46848 - 1.43778I$
$u = -0.201519 + 0.501257I$	$-8.55103 + 1.48154I$	$-5.89219 - 0.00172I$
$u = -0.201519 - 0.501257I$	$-8.55103 - 1.48154I$	$-5.89219 + 0.00172I$
$u = -1.46893$	4.21738	0
$u = -1.48557 + 0.20651I$	$-8.98600 + 0.32573I$	0
$u = -1.48557 - 0.20651I$	$-8.98600 - 0.32573I$	0
$u = \ \ 1.49641 + 0.19308I$	$-0.46594 + 1.62239I$	0
$u = \ \ 1.49641 - 0.19308I$	$-0.46594 - 1.62239I$	0
$u = -1.51559 + 0.18786I$	$2.21863 - 5.03906I$	0
$u = -1.51559 - 0.18786I$	$2.21863 + 5.03906I$	0
$u = \ \ 1.53784 + 0.04515I$	$7.95920 + 1.14176I$	0
$u = \ \ 1.53784 - 0.04515I$	$7.95920 - 1.14176I$	0
$u = \ \ 1.52750 + 0.19715I$	$0.03564 + 8.72849I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.52750 - 0.19715I$	$0.03564 - 8.72849I$	0
$u = -1.54376 + 0.07625I$	$7.16214 - 4.39597I$	0
$u = -1.54376 - 0.07625I$	$7.16214 + 4.39597I$	0
$u = -1.53396 + 0.20587I$	$-8.24623 - 11.03140I$	0
$u = -1.53396 - 0.20587I$	$-8.24623 + 11.03140I$	0
$u = \quad 1.55491 + 0.10083I$	$0.00334 + 6.33230I$	0
$u = \quad 1.55491 - 0.10083I$	$0.00334 - 6.33230I$	0
$u = -1.56390$	2.49097	0
$u = \quad 0.189740 + 0.365299I$	$-1.060900 - 0.590018I$	$-5.58523 + 1.45123I$
$u = \quad 0.189740 - 0.365299I$	$-1.060900 + 0.590018I$	$-5.58523 - 1.45123I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{40} - 13u^{39} + \cdots + 2144u - 367$
c_2, c_3, c_6 c_7	$u^{40} - u^{39} + \cdots - 2u^2 + 1$
c_4, c_5, c_{10} c_{11}	$u^{40} - u^{39} + \cdots - 2u^2 + 1$
c_8, c_9, c_{12}	$u^{40} + 5u^{39} + \cdots - 8u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{40} - 23y^{39} + \cdots + 70036y + 134689$
c_2, c_3, c_6 c_7	$y^{40} - 47y^{39} + \cdots - 4y + 1$
c_4, c_5, c_{10} c_{11}	$y^{40} - 43y^{39} + \cdots - 4y + 1$
c_8, c_9, c_{12}	$y^{40} + 41y^{39} + \cdots - 204y + 1$