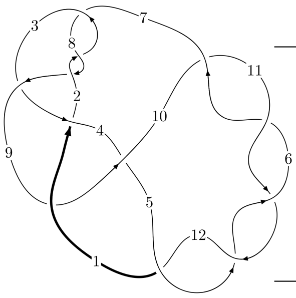
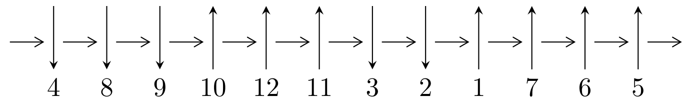
$12a_{1139}$ ($K12a_{1139}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{50} + u^{49} + \cdots + 3u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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. $I_1^u = \langle u^{50} + u^{49} + \cdots + 3u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^6 - 3u^4 + 1 \\ u^8 + 4u^6 + 4u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{17} - 10u^{15} - 37u^{13} - 60u^{11} - 35u^9 + 8u^7 + 16u^5 + 4u^3 + u \\ u^{19} + 11u^{17} + 48u^{15} + 107u^{13} + 133u^{11} + 95u^9 + 34u^7 + 2u^5 - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9 - 6u^7 - 11u^5 - 6u^3 - u \\ -u^9 - 5u^7 - 7u^5 - 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{26} + 17u^{24} + \cdots + u^2 + 1 \\ u^{26} + 16u^{24} + \cdots + 6u^4 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{45} - 28u^{43} + \cdots - 4u^3 - u \\ u^{47} + 29u^{45} + \cdots - 2u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{49} + 4u^{48} + \cdots + 20u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{50} - 11u^{49} + \cdots - 971u + 99$
c_2, c_7, c_8	$u^{50} - u^{49} + \cdots - u + 1$
c_3	$u^{50} + u^{49} + \cdots - 3u + 1$
c_4	$u^{50} - u^{49} + \cdots + 135u + 29$
c_5, c_6, c_{10} c_{11}, c_{12}	$u^{50} - u^{49} + \cdots - 3u + 1$
c_9	$u^{50} - 7u^{49} + \cdots - 511u + 215$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{50} + 13y^{49} + \cdots + 182789y + 9801$
c_2, c_7, c_8	$y^{50} + 45y^{49} + \cdots + y + 1$
c_3	$y^{50} + y^{49} + \cdots + y + 1$
c_4	$y^{50} + 9y^{49} + \cdots - 5523y + 841$
c_5, c_6, c_{10} c_{11}, c_{12}	$y^{50} + 65y^{49} + \cdots + y + 1$
c_9	$y^{50} + 17y^{49} + \cdots + 738629y + 46225$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.267263 + 0.974653I$	$-2.52565 - 3.29260I$	0
$u = -0.267263 - 0.974653I$	$-2.52565 + 3.29260I$	0
$u = 0.300039 + 0.917172I$	$3.68092 + 1.88018I$	$3.28403 - 3.42848I$
$u = 0.300039 - 0.917172I$	$3.68092 - 1.88018I$	$3.28403 + 3.42848I$
$u = 0.303413 + 0.993489I$	$-3.97531 + 7.01696I$	0
$u = 0.303413 - 0.993489I$	$-3.97531 - 7.01696I$	0
$u = -0.228796 + 1.014910I$	$-2.85501 - 3.56952I$	0
$u = -0.228796 - 1.014910I$	$-2.85501 + 3.56952I$	0
$u = 0.167253 + 1.029960I$	$-5.48280 + 0.26480I$	0
$u = 0.167253 - 1.029960I$	$-5.48280 - 0.26480I$	0
$u = -0.322805 + 0.992607I$	$1.41582 - 10.58410I$	0
$u = -0.322805 - 0.992607I$	$1.41582 + 10.58410I$	0
$u = -0.122951 + 1.057210I$	$-0.72813 + 3.07389I$	0
$u = -0.122951 - 1.057210I$	$-0.72813 - 3.07389I$	0
$u = 0.293582 + 0.669845I$	$5.06450 + 3.76743I$	$4.59609 - 5.34956I$
$u = 0.293582 - 0.669845I$	$5.06450 - 3.76743I$	$4.59609 + 5.34956I$
$u = -0.165448 + 0.666519I$	$-0.48337 - 1.40800I$	$0.29896 + 5.97525I$
$u = -0.165448 - 0.666519I$	$-0.48337 + 1.40800I$	$0.29896 - 5.97525I$
$u = -0.376224 + 0.489617I$	$4.12836 + 4.50612I$	$3.44574 - 0.89848I$
$u = -0.376224 - 0.489617I$	$4.12836 - 4.50612I$	$3.44574 + 0.89848I$
$u = -0.543737 + 0.197520I$	$5.08510 - 7.63642I$	$6.10437 + 7.49857I$
$u = -0.543737 - 0.197520I$	$5.08510 + 7.63642I$	$6.10437 - 7.49857I$
$u = 0.513985 + 0.202878I$	$-0.28571 + 4.22898I$	$1.46755 - 7.80159I$
$u = 0.513985 - 0.202878I$	$-0.28571 - 4.22898I$	$1.46755 + 7.80159I$
$u = 0.334706 + 0.422369I$	$-1.09545 - 1.33004I$	$-1.86370 + 0.68284I$
$u = 0.334706 - 0.422369I$	$-1.09545 + 1.33004I$	$-1.86370 - 0.68284I$
$u = 0.521502 + 0.099632I$	$6.77978 - 0.91733I$	$9.49995 - 0.90455I$
$u = 0.521502 - 0.099632I$	$6.77978 + 0.91733I$	$9.49995 + 0.90455I$
$u = -0.420230 + 0.281296I$	$1.13900 - 1.36467I$	$1.97434 + 4.92900I$
$u = -0.420230 - 0.281296I$	$1.13900 + 1.36467I$	$1.97434 - 4.92900I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.448171+0.153855I$	$0.966748-0.838351I$	$5.97312+2.21174I$
$u=-0.448171-0.153855I$	$0.966748+0.838351I$	$5.97312-2.21174I$
$u=\ \ 0.02262+1.64150I$	$-2.97025+4.57226I$	0
$u=\ \ 0.02262-1.64150I$	$-2.97025-4.57226I$	0
$u=-0.01192+1.65807I$	$-8.80943-1.80374I$	0
$u=-0.01192-1.65807I$	$-8.80943+1.80374I$	0
$u=\ \ 0.07257+1.69685I$	$-5.55279+3.30682I$	0
$u=\ \ 0.07257-1.69685I$	$-5.55279-3.30682I$	0
$u=-0.06955+1.71380I$	$-12.07900-4.64056I$	0
$u=-0.06955-1.71380I$	$-12.07900+4.64056I$	0
$u=-0.08449+1.71651I$	$-8.1767-12.2216I$	0
$u=-0.08449-1.71651I$	$-8.1767+12.2216I$	0
$u=\ \ 0.07899+1.71722I$	$-13.5884+8.5544I$	0
$u=\ \ 0.07899-1.71722I$	$-13.5884-8.5544I$	0
$u=-0.05785+1.72253I$	$-12.61190-4.72463I$	0
$u=-0.05785-1.72253I$	$-12.61190+4.72463I$	0
$u=\ \ 0.04441+1.72496I$	$-15.3216+1.1374I$	0
$u=\ \ 0.04441-1.72496I$	$-15.3216-1.1374I$	0
$u=-0.03365+1.72806I$	$-10.67560+2.41850I$	0
$u=-0.03365-1.72806I$	$-10.67560-2.41850I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{50} - 11u^{49} + \cdots - 971u + 99$
c_2, c_7, c_8	$u^{50} - u^{49} + \cdots - u + 1$
c_3	$u^{50} + u^{49} + \cdots - 3u + 1$
c_4	$u^{50} - u^{49} + \cdots + 135u + 29$
c_5, c_6, c_{10} c_{11}, c_{12}	$u^{50} - u^{49} + \cdots - 3u + 1$
c_9	$u^{50} - 7u^{49} + \cdots - 511u + 215$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{50}+13y^{49}+\cdots+182789y+9801$
c_2, c_7, c_8	$y^{50}+45y^{49}+\cdots+y+1$
c_3	$y^{50}+y^{49}+\cdots+y+1$
c_4	$y^{50}+9y^{49}+\cdots-5523y+841$
c_5, c_6, c_{10} c_{11}, c_{12}	$y^{50}+65y^{49}+\cdots+y+1$
c_9	$y^{50}+17y^{49}+\cdots+738629y+46225$