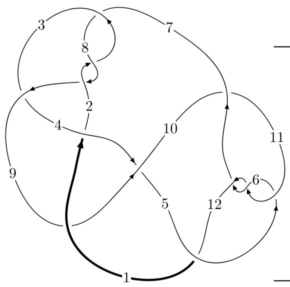
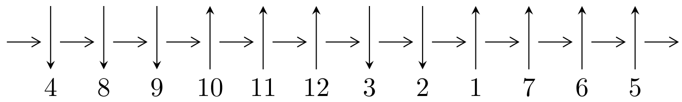
$12a_{1133}$ ($K12a_{1133}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{79} - u^{78} + \cdots + 2u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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. $I^u_1 = \langle u^{79} - u^{78} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{10} - 5u^8 + 8u^6 - 3u^4 - 3u^2 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{27} + 12u^{25} + \cdots - 2u^5 + 5u^3 \\ u^{27} - 11u^{25} + \cdots - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{15} - 6u^{13} + 14u^{11} - 14u^9 + 2u^7 + 6u^5 - 2u^3 - 2u \\ u^{17} - 7u^{15} + 19u^{13} - 22u^{11} + 3u^9 + 14u^7 - 6u^5 - 4u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{42} + 17u^{40} + \cdots - u^2 + 1 \\ -u^{44} + 18u^{42} + \cdots + 5u^4 + 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{71} - 30u^{69} + \cdots - 2u^3 - 2u \\ -u^{71} + 29u^{69} + \cdots - 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{77} + 128u^{75} + \cdots + 16u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{79} - 17u^{78} + \cdots - 26040u + 1697$
c_2, c_7, c_8	$u^{79} - u^{78} + \cdots + 2u - 1$
c_3	$u^{79} + u^{78} + \cdots + 13u - 2$
c_4	$u^{79} - u^{78} + \cdots - 40u - 25$
c_5, c_6, c_{11}	$u^{79} + u^{78} + \cdots + 2u - 1$
c_9	$u^{79} - 7u^{78} + \cdots + 4620u + 121$
c_{10}, c_{12}	$u^{79} - 3u^{78} + \cdots - 221u + 56$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} + 23y^{78} + \cdots - 69562296y - 2879809$
c_2, c_7, c_8	$y^{79} + 71y^{78} + \cdots - 8y^2 - 1$
c_3	$y^{79} + 3y^{78} + \cdots - 11y - 4$
c_4	$y^{79} - 5y^{78} + \cdots + 34200y - 625$
c_5, c_6, c_{11}	$y^{79} - 65y^{78} + \cdots - 4y^2 - 1$
c_9	$y^{79} + 19y^{78} + \cdots + 25448720y - 14641$
c_{10}, c_{12}	$y^{79} + 51y^{78} + \cdots + 22297y - 3136$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.119910 + 0.269996I$	$6.31309 + 1.50449I$	0
$u = \quad 1.119910 - 0.269996I$	$6.31309 - 1.50449I$	0
$u = -1.116140 + 0.344098I$	$3.99592 + 7.01460I$	0
$u = -1.116140 - 0.344098I$	$3.99592 - 7.01460I$	0
$u = \quad 1.129450 + 0.339661I$	$-1.35951 - 3.44188I$	0
$u = \quad 1.129450 - 0.339661I$	$-1.35951 + 3.44188I$	0
$u = -0.127859 + 0.804619I$	$0.99138 - 11.20740I$	$1.90900 + 7.76695I$
$u = -0.127859 - 0.804619I$	$0.99138 + 11.20740I$	$1.90900 - 7.76695I$
$u = \quad 0.120290 + 0.801749I$	$-4.42516 + 7.60535I$	$-2.69052 - 7.48919I$
$u = \quad 0.120290 - 0.801749I$	$-4.42516 - 7.60535I$	$-2.69052 + 7.48919I$
$u = -1.151830 + 0.322827I$	$0.174975 - 0.262644I$	0
$u = -1.151830 - 0.322827I$	$0.174975 + 0.262644I$	0
$u = -0.088144 + 0.798068I$	$-3.42247 - 4.03212I$	$-1.76280 + 4.49310I$
$u = -0.088144 - 0.798068I$	$-3.42247 + 4.03212I$	$-1.76280 - 4.49310I$
$u = -0.046884 + 0.799298I$	$-1.44028 + 2.80439I$	$-0.85617 - 2.18147I$
$u = -0.046884 - 0.799298I$	$-1.44028 - 2.80439I$	$-0.85617 + 2.18147I$
$u = \quad 0.065230 + 0.795734I$	$-6.12113 + 0.61604I$	$-6.03236 + 0.34847I$
$u = \quad 0.065230 - 0.795734I$	$-6.12113 - 0.61604I$	$-6.03236 - 0.34847I$
$u = -0.109674 + 0.789656I$	$-2.98096 - 3.79614I$	$-0.06060 + 2.39804I$
$u = -0.109674 - 0.789656I$	$-2.98096 + 3.79614I$	$-0.06060 - 2.39804I$
$u = \quad 0.129454 + 0.770426I$	$3.35446 + 2.37248I$	$4.39926 - 2.88601I$
$u = \quad 0.129454 - 0.770426I$	$3.35446 - 2.37248I$	$4.39926 + 2.88601I$
$u = -1.174720 + 0.339826I$	$-0.109212 - 0.094646I$	0
$u = -1.174720 - 0.339826I$	$-0.109212 + 0.094646I$	0
$u = \quad 1.201820 + 0.343577I$	$-2.63933 + 3.50252I$	0
$u = \quad 1.201820 - 0.343577I$	$-2.63933 - 3.50252I$	0
$u = -1.217970 + 0.349990I$	$2.16029 - 6.95203I$	0
$u = -1.217970 - 0.349990I$	$2.16029 + 6.95203I$	0
$u = -1.27536$	2.83534	0
$u = \quad 1.318290 + 0.071541I$	$6.31838 + 2.66253I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.318290 - 0.071541I$	$6.31838 - 2.66253I$	0
$u = -1.311270 + 0.248102I$	$3.39241 - 1.40885I$	0
$u = -1.311270 - 0.248102I$	$3.39241 + 1.40885I$	0
$u = \quad 1.296480 + 0.346961I$	$2.75060 + 1.32326I$	0
$u = \quad 1.296480 - 0.346961I$	$2.75060 - 1.32326I$	0
$u = \quad 0.156652 + 0.634430I$	$5.00375 + 3.99260I$	$5.33060 - 4.90046I$
$u = \quad 0.156652 - 0.634430I$	$5.00375 - 3.99260I$	$5.33060 + 4.90046I$
$u = \quad 1.320350 + 0.276038I$	$3.78685 + 4.88557I$	0
$u = \quad 1.320350 - 0.276038I$	$3.78685 - 4.88557I$	0
$u = \quad 1.330100 + 0.236506I$	$8.98594 - 1.62355I$	0
$u = \quad 1.330100 - 0.236506I$	$8.98594 + 1.62355I$	0
$u = -1.310030 + 0.345318I$	$-1.81920 - 4.72773I$	0
$u = -1.310030 - 0.345318I$	$-1.81920 + 4.72773I$	0
$u = -0.543300 + 0.338999I$	$5.11761 - 7.49924I$	$6.46948 + 7.99126I$
$u = -0.543300 - 0.338999I$	$5.11761 + 7.49924I$	$6.46948 - 7.99126I$
$u = \quad 0.601727 + 0.206736I$	$6.71860 - 1.01423I$	$9.60570 - 1.23872I$
$u = \quad 0.601727 - 0.206736I$	$6.71860 + 1.01423I$	$9.60570 + 1.23872I$
$u = -1.339530 + 0.276387I$	$9.68534 - 7.36202I$	0
$u = -1.339530 - 0.276387I$	$9.68534 + 7.36202I$	0
$u = \quad 1.324120 + 0.346948I$	$1.00559 + 8.16070I$	0
$u = \quad 1.324120 - 0.346948I$	$1.00559 - 8.16070I$	0
$u = \quad 1.369290 + 0.043682I$	$6.62983 + 1.55922I$	0
$u = \quad 1.369290 - 0.043682I$	$6.62983 - 1.55922I$	0
$u = -0.080168 + 0.624756I$	$-0.62665 - 1.53685I$	$1.09952 + 5.24112I$
$u = -0.080168 - 0.624756I$	$-0.62665 + 1.53685I$	$1.09952 - 5.24112I$
$u = \quad 1.337040 + 0.341010I$	$1.56661 + 7.87869I$	0
$u = \quad 1.337040 - 0.341010I$	$1.56661 - 7.87869I$	0
$u = -1.379070 + 0.061269I$	$5.59871 - 5.23109I$	0
$u = -1.379070 - 0.061269I$	$5.59871 + 5.23109I$	0
$u = -1.344960 + 0.330309I$	$7.99521 - 6.35631I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.344960-0.330309I$	$7.99521+6.35631I$	0
$u=-1.343360+0.346682I$	$0.17815-11.74890I$	0
$u=-1.343360-0.346682I$	$0.17815+11.74890I$	0
$u=-1.387760+0.032369I$	$12.77490+0.40459I$	0
$u=-1.387760-0.032369I$	$12.77490-0.40459I$	0
$u=\ \ 1.389120+0.063240I$	$11.12760+8.64852I$	0
$u=\ \ 1.389120-0.063240I$	$11.12760-8.64852I$	0
$u=\ \ 1.347730+0.347472I$	$5.6350+15.3639I$	0
$u=\ \ 1.347730-0.347472I$	$5.6350-15.3639I$	0
$u=\ \ 0.508944+0.322602I$	$-0.25179+4.12095I$	$1.80082-8.29426I$
$u=\ \ 0.508944-0.322602I$	$-0.25179-4.12095I$	$1.80082+8.29426I$
$u=-0.252272+0.515953I$	$4.20461+4.40403I$	$4.02126-1.02784I$
$u=-0.252272-0.515953I$	$4.20461-4.40403I$	$4.02126+1.02784I$
$u=-0.466798+0.223035I$	$0.965294-0.777908I$	$6.33896+2.42905I$
$u=-0.466798-0.223035I$	$0.965294+0.777908I$	$6.33896-2.42905I$
$u=-0.373663+0.351639I$	$1.20042-1.33503I$	$2.25607+5.14188I$
$u=-0.373663-0.351639I$	$1.20042+1.33503I$	$2.25607-5.14188I$
$u=\ \ 0.237055+0.443394I$	$-1.04518-1.27519I$	$-1.51740+0.90528I$
$u=\ \ 0.237055-0.443394I$	$-1.04518+1.27519I$	$-1.51740-0.90528I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{79} - 17u^{78} + \cdots - 26040u + 1697$
c_2, c_7, c_8	$u^{79} - u^{78} + \cdots + 2u - 1$
c_3	$u^{79} + u^{78} + \cdots + 13u - 2$
c_4	$u^{79} - u^{78} + \cdots - 40u - 25$
c_5, c_6, c_{11}	$u^{79} + u^{78} + \cdots + 2u - 1$
c_9	$u^{79} - 7u^{78} + \cdots + 4620u + 121$
c_{10}, c_{12}	$u^{79} - 3u^{78} + \cdots - 221u + 56$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} + 23y^{78} + \cdots - 69562296y - 2879809$
c_2, c_7, c_8	$y^{79} + 71y^{78} + \cdots - 8y^2 - 1$
c_3	$y^{79} + 3y^{78} + \cdots - 11y - 4$
c_4	$y^{79} - 5y^{78} + \cdots + 34200y - 625$
c_5, c_6, c_{11}	$y^{79} - 65y^{78} + \cdots - 4y^2 - 1$
c_9	$y^{79} + 19y^{78} + \cdots + 25448720y - 14641$
c_{10}, c_{12}	$y^{79} + 51y^{78} + \cdots + 22297y - 3136$