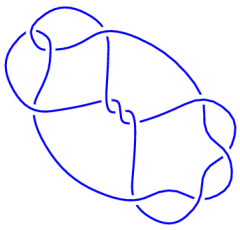
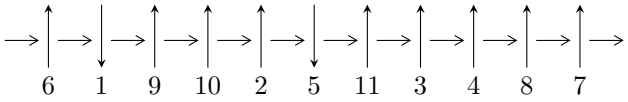
$11a_{144}$ $(K11a_{144})$



[1]

Arc Sequences



Solving Sequence

$$1,6 \underset{c_1}{\longrightarrow} 2 \underset{c_2}{\longrightarrow} 3 \underset{c_5}{\longrightarrow} 5 \underset{c_6}{\longrightarrow} 7 \underset{c_{11}}{\longrightarrow} 11 \underset{c_7}{\longrightarrow} 8 \underset{c_8}{\longrightarrow} 9 \underset{c_{10}}{\longrightarrow} 10 \underset{c_4}{\longrightarrow} 4 \twoheadrightarrow c_3, c_9$$

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{36} + u^{35} + \cdots - 2u - 1 \rangle$$

There are 1 irreducible components with 36 representations.

[1] The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u = \langle u^{36} + u^{35} + \cdots - 2u - 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^8-u^6-u^4+1 \\ u^{10}+2u^8+3u^6+2u^4+u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{13}-2u^{11}-3u^9-2u^7+u \\ u^{15}+3u^{13}+6u^{11}+7u^9+6u^7+4u^5+2u^3+u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{19}+4u^{17}+10u^{15}+16u^{13}+19u^{11}+18u^9+14u^7+10u^5+5u^3+2u \\ -u^{19}-3u^{17}-6u^{15}-7u^{13}-5u^{11}-3u^9+u^3+u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{18}-3u^{16}-6u^{14}-7u^{12}-5u^{10}-3u^8+u^2+1 \\ u^{20}+4u^{18}+10u^{16}+16u^{14}+19u^{12}+18u^{10}+14u^8+10u^6+5u^4+2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{35}+6u^{33}+\cdots-5u^3-2u \\ -u^{35}-u^{34}+\cdots+2u+1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{35}+6u^{33}+\cdots-5u^3-2u \\ -u^{35}-u^{34}+\cdots+2u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.797844-0.581711I$	$4.47120-6.26474I$	$10.83951+2.93620I$
$u=-0.797844+0.581711I$	$4.47120+6.26474I$	$10.83951-2.93620I$
$u=-0.745932-0.776140I$	$10.58170-0.71346I$	$14.5980+0.1805I$
$u=-0.745932+0.776140I$	$10.58170+0.71346I$	$14.5980-0.1805I$
$u=-0.740774-0.521458I$	$-2.65222+0.70366I$	$6.36717-3.04538I$
$u=-0.740774+0.521458I$	$-2.65222-0.70366I$	$6.36717+3.04538I$
$u=-0.715018-0.930256I$	$10.11544+6.26287I$	$13.3685-5.9468I$
$u=-0.715018+0.930256I$	$10.11544-6.26287I$	$13.3685+5.9468I$
$u=-0.677606-1.049083I$	$3.07837+11.82286I$	$8.77665-7.47971I$
$u=-0.677606+1.049083I$	$3.07837-11.82286I$	$8.77665+7.47971I$
$u=-0.643360-1.045175I$	$-4.15822+4.56725I$	$4.13742-2.02324I$
$u=-0.643360+1.045175I$	$-4.15822-4.56725I$	$4.13742+2.02324I$
$u=-0.610887-0.861297I$	$0.72337+2.40081I$	$4.52745-2.97125I$
$u=-0.610887+0.861297I$	$0.72337-2.40081I$	$4.52745+2.97125I$
$u=-0.300399$	0.618616	16.2520
$u=-0.123410-0.794730I$	$-1.48090+1.31158I$	$2.04069-6.11196I$
$u=-0.123410+0.794730I$	$-1.48090-1.31158I$	$2.04069+6.11196I$
$u=-0.013383-1.120543I$	$-8.13948+2.15908I$	$0.61666-3.24444I$
$u=-0.013383+1.120543I$	$-8.13948-2.15908I$	$0.61666+3.24444I$
$u=0.041910-1.122207I$	$-1.54097-5.15567I$	$4.24292+3.22654I$
$u=0.041910+1.122207I$	$-1.54097+5.15567I$	$4.24292-3.22654I$
$u=0.294729-0.907394I$	$4.63881-2.63367I$	$6.64909+4.26268I$
$u=0.294729+0.907394I$	$4.63881+2.63367I$	$6.64909-4.26268I$
$u=0.527603$	7.24314	14.1447
$u=0.617505-1.043723I$	$2.05877-1.63752I$	$7.52025+2.08477I$
$u=0.617505+1.043723I$	$2.05877+1.63752I$	$7.52025-2.08477I$
$u=0.661656-1.047538I$	$-3.83553-8.85264I$	$5.15779+8.13246I$
$u=0.661656+1.047538I$	$-3.83553+8.85264I$	$5.15779-8.13246I$
$u=0.669880-0.917013I$	$2.57098-4.98460I$	$11.29661+8.23770I$
$u=0.669880+0.917013I$	$2.57098+4.98460I$	$11.29661-8.23770I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=0.679511-0.773446I$	$3.00630-0.23147I$	$13.24902-1.70066I$
$u=0.679511+0.773446I$	$3.00630+0.23147I$	$13.24902+1.70066I$
$u=0.717690-0.456936I$	$3.69893-3.42946I$	$10.21925+3.00785I$
$u=0.717690+0.456936I$	$3.69893+3.42946I$	$10.21925-3.00785I$
$u=0.771732-0.557099I$	$-2.39341+3.42442I$	$7.19469-3.59924I$
$u=0.771732+0.557099I$	$-2.39341-3.42442I$	$7.19469+3.59924I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{36} + u^{35} + \cdots - 2u - 1)$
c_2, c_6	$(u^{36} + 13u^{35} + \cdots - 6u + 1)$
c_3, c_4, c_8 c_9	$(u^{36} + u^{35} + \cdots + 3u^2 - 1)$
c_7, c_{10}, c_{11}	$(u^{36} + 5u^{35} + \cdots - 28u - 7)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{36} + 13y^{35} + \cdots - 6y + 1)$
c_2, c_6	$(y^{36} + 21y^{35} + \cdots - 126y + 1)$
c_3, c_4, c_8 c_9	$(y^{36} - 39y^{35} + \cdots - 6y + 1)$
c_7, c_{10}, c_{11}	$(y^{36} + 33y^{35} + \cdots - 406y + 49)$