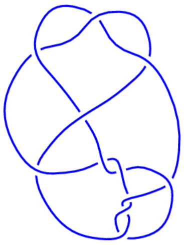
$11a_{309}$ ($K11a_{309}$)



[1]

Arc Sequences

$\rightarrow \downarrow_{7} \rightarrow \downarrow_{6} \rightarrow \downarrow_{1} \rightarrow \downarrow_{10} \rightarrow \downarrow_{9} \rightarrow \downarrow_{2} \rightarrow \downarrow_{3} \rightarrow \uparrow_{11} \rightarrow \downarrow_{4} \rightarrow \downarrow_{5} \rightarrow \uparrow_{8} \rightarrow$

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{46} - u^{45} + \cdots + 3u - 1 \rangle$$

There are 1 irreducible components with 46 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. $I_1^u = \langle u^{46} - u^{45} + \cdots + 3u - 1 \rangle$

(i) Arc colorings

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

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

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

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{12} + 5u^{10} + 9u^8 + 6u^6 - u^2 + 1 \\ u^{14} + 6u^{12} + 13u^{10} + 10u^8 - 2u^6 - 4u^4 + u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{19} - 8u^{17} - 26u^{15} - 42u^{13} - 31u^{11} - 2u^9 + 8u^7 - 2u^5 - 5u^3 \\ -u^{21} - 9u^{19} + \cdots - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{29} + 12u^{27} + \cdots - 2u^3 - u \\ -u^{29} - 13u^{27} + \cdots - 3u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{37} + 16u^{35} + \cdots + 5u^5 + u \\ u^{39} + 17u^{37} + \cdots - 3u^5 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{37} + 16u^{35} + \cdots + 5u^5 + u \\ u^{39} + 17u^{37} + \cdots - 3u^5 + u \end{pmatrix}$$

(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
$u = -0.735656 - 0.193124I$	$-10.04571 + 1.08177I$	$-15.0686 + 0.6754I$
$u = -0.735656 + 0.193124I$	$-10.04571 - 1.08177I$	$-15.0686 - 0.6754I$
$u = -0.720082 - 0.243420I$	$-3.31119 - 5.72979I$	$-10.05626 + 7.33064I$
$u = -0.720082 + 0.243420I$	$-3.31119 + 5.72979I$	$-10.05626 - 7.33064I$
$u = -0.633625$	-5.91200	-16.5208
$u = -0.508207 - 0.312848I$	$1.51039 - 1.50155I$	$-2.27260 + 5.37426I$
$u = -0.508207 + 0.312848I$	$1.51039 + 1.50155I$	$-2.27260 - 5.37426I$
$u = -0.295699 - 1.371024I$	$-5.09568 - 2.64921I$	$-10.39691 + 2.00509I$
$u = -0.295699 + 1.371024I$	$-5.09568 + 2.64921I$	$-10.39691 - 2.00509I$
$u = -0.28699 - 1.39792I$	$1.91287 - 9.38652I$	$-5.20305 + 7.91054I$
$u = -0.28699 + 1.39792I$	$1.91287 + 9.38652I$	$-5.20305 - 7.91054I$
$u = -0.262309 - 0.944898I$	$-7.72158 - 4.89307I$	$-11.69733 + 4.06237I$
$u = -0.262309 + 0.944898I$	$-7.72158 + 4.89307I$	$-11.69733 - 4.06237I$
$u = -0.232626 - 0.769208I$	$-1.47350 + 1.99549I$	$-7.38990 - 2.72369I$
$u = -0.232626 + 0.769208I$	$-1.47350 - 1.99549I$	$-7.38990 + 2.72369I$
$u = -0.20570 - 1.40316I$	$6.95779 - 4.17599I$	$1.17304 + 4.31736I$
$u = -0.20570 + 1.40316I$	$6.95779 + 4.17599I$	$1.17304 - 4.31736I$
$u = -0.197313 - 1.258130I$	$-2.09433 - 3.02163I$	$-10.70890 + 3.43995I$
$u = -0.197313 + 1.258130I$	$-2.09433 + 3.02163I$	$-10.70890 - 3.43995I$
$u = -0.084209 - 1.388933I$	$4.69829 + 1.24621I$	$-1.93786 - 3.60564I$
$u = -0.084209 + 1.388933I$	$4.69829 - 1.24621I$	$-1.93786 + 3.60564I$
$u = 0.05761 - 1.41497I$	$-0.82034 - 4.36000I$	$-6.54566 + 3.26503I$
$u = 0.05761 + 1.41497I$	$-0.82034 + 4.36000I$	$-6.54566 - 3.26503I$
$u = 0.140968 - 1.343297I$	$3.63229 + 1.96690I$	$-5.76565 - 3.43589I$
$u = 0.140968 + 1.343297I$	$3.63229 - 1.96690I$	$-5.76565 + 3.43589I$
$u = 0.16951 - 1.40533I$	$3.73352 + 1.14194I$	$-3.26529 - 0.05591I$
$u = 0.16951 + 1.40533I$	$3.73352 - 1.14194I$	$-3.26529 + 0.05591I$
$u = 0.186642 - 0.910074I$	$-1.58749 + 1.92674I$	$-8.17224 - 4.16982I$
$u = 0.186642 + 0.910074I$	$-1.58749 - 1.92674I$	$-8.17224 + 4.16982I$
$u = 0.23123 - 1.40917I$	$2.87934 + 7.34272I$	$-4.77006 - 6.74279I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.23123 + 1.40917I$	$2.87934 - 7.34272I$	$-4.77006 + 6.74279I$
$u = \quad 0.281884 - 1.383072I$	$1.33332 + 5.27035I$	$-6.71990 - 1.90933I$
$u = \quad 0.281884 + 1.383072I$	$1.33332 - 5.27035I$	$-6.71990 + 1.90933I$
$u = \quad 0.29568 - 1.40274I$	$-4.02180 + 12.82068I$	$-8.97759 - 7.64155I$
$u = \quad 0.29568 + 1.40274I$	$-4.02180 - 12.82068I$	$-8.97759 + 7.64155I$
$u = \quad 0.314077 - 0.787630I$	$-7.46462 - 5.12455I$	$-11.02166 + 2.13659I$
$u = \quad 0.314077 + 0.787630I$	$-7.46462 + 5.12455I$	$-11.02166 - 2.13659I$
$u = \quad 0.407227 - 0.421079I$	$-1.94572 - 1.01820I$	$-6.96761 - 0.40643I$
$u = \quad 0.407227 + 0.421079I$	$-1.94572 + 1.01820I$	$-6.96761 + 0.40643I$
$u = \quad 0.427442$	-0.677522	-14.9941
$u = \quad 0.597677 - 0.308192I$	$-2.59332 + 4.30245I$	$-9.29851 - 7.25504I$
$u = \quad 0.597677 + 0.308192I$	$-2.59332 - 4.30245I$	$-9.29851 + 7.25504I$
$u = \quad 0.710206 - 0.212604I$	$-3.73492 + 1.67350I$	$-11.57713 - 0.85623I$
$u = \quad 0.710206 + 0.212604I$	$-3.73492 - 1.67350I$	$-11.57713 + 0.85623I$
$u = \quad 0.739171 - 0.251155I$	$-9.28633 + 9.06645I$	$-13.6028 - 6.9083I$
$u = \quad 0.739171 + 0.251155I$	$-9.28633 - 9.06645I$	$-13.6028 + 6.9083I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_2, c_6	$(u^{46} + u^{45} + \cdots - 3u - 1)$
c_3	$(u^{46} + 11u^{45} + \cdots + 95u + 11)$
c_4, c_9	$(u^{46} + u^{45} + \cdots + u - 1)$
c_5	$(u^{46} + 3u^{45} + \cdots + 95u + 56)$
c_7	$(u^{46} + u^{45} + \cdots + 3u - 2)$
c_8, c_{11}	$(u^{46} + 7u^{45} + \cdots + 119u + 7)$
c_{10}	$(u^{46} + u^{45} + \cdots + u - 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_2, c_6	$(y^{46} + 41y^{45} + \cdots - 5y + 1)$
c_3	$(y^{46} + 5y^{45} + \cdots + 2679y + 121)$
c_4, c_9	$(y^{46} - 43y^{45} + \cdots - 5y + 1)$
c_5	$(y^{46} - 15y^{45} + \cdots - 63233y + 3136)$
c_7	$(y^{46} - 3y^{45} + \cdots + 15y + 4)$
c_8, c_{11}	$(y^{46} + 37y^{45} + \cdots - 1337y + 49)$
c_{10}	$(y^{46} - 43y^{45} + \cdots - 5y + 1)$