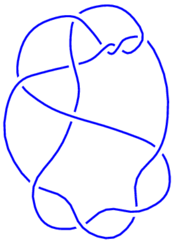
$11a_{307}$ ($K11a_{307}$)



[1]

Arc Sequences

$$\rightarrow \overset{\uparrow}{8} \rightarrow \overset{\uparrow}{7} \rightarrow \overset{\downarrow}{1} \rightarrow \overset{\uparrow}{11} \rightarrow \overset{\uparrow}{10} \rightarrow \overset{\uparrow}{2} \rightarrow \overset{\uparrow}{3} \rightarrow \overset{\downarrow}{4} \rightarrow \overset{\uparrow}{6} \rightarrow \overset{\uparrow}{5} \rightarrow \overset{\downarrow}{9} \rightarrow$$

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{41} - u^{40} + \cdots + u + 1 \rangle$$

There are 1 irreducible components with 41 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. $I_1^u = \langle u^{41} - u^{40} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^8 - 3u^6 + u^4 + 2u^2 + 1 \\ u^8 - 4u^6 + 4u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{15} + 6u^{13} - 12u^{11} + 6u^9 + 6u^7 - 2u^5 - 4u^3 \\ -u^{15} + 7u^{13} - 18u^{11} + 19u^9 - 4u^7 - 4u^5 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{19} - 8u^{17} + 24u^{15} - 30u^{13} + 7u^{11} + 10u^9 + 4u^7 - 6u^5 - 3u^3 \\ u^{21} - 9u^{19} + 33u^{17} - 62u^{15} + 62u^{13} - 33u^{11} + 13u^9 - 6u^7 + u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{37} + 16u^{35} + \cdots + 3u^5 - u \\ -u^{39} + 17u^{37} + \cdots - 2u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{26} + 11u^{24} + \cdots + u^2 + 1 \\ -u^{26} + 12u^{24} + \cdots - 2u^4 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{26} + 11u^{24} + \cdots + u^2 + 1 \\ -u^{26} + 12u^{24} + \cdots - 2u^4 + u^2 \end{pmatrix}$$

(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
$u = -1.42652 - 0.20286I$	$1.03962 + 4.49848I$	$7.12017 - 3.52127I$
$u = -1.42652 + 0.20286I$	$1.03962 - 4.49848I$	$7.12017 + 3.52127I$
$u = -1.41661 - 0.12778I$	$5.86406 - 0.88498I$	$9.39506 + 3.49005I$
$u = -1.41661 + 0.12778I$	$5.86406 + 0.88498I$	$9.39506 - 3.49005I$
$u = -1.41194 - 0.27160I$	$3.83065 + 9.56504I$	$6.30600 - 8.62495I$
$u = -1.41194 + 0.27160I$	$3.83065 - 9.56504I$	$6.30600 + 8.62495I$
$u = -1.365466 - 0.241449I$	$1.86460 + 3.44778I$	$2.94863 - 1.78570I$
$u = -1.365466 + 0.241449I$	$1.86460 - 3.44778I$	$2.94863 + 1.78570I$
$u = -1.11700$	1.66824	7.38977
$u = -1.046146 - 0.223939I$	$-8.35529 + 4.56229I$	$0.39000 - 3.84475I$
$u = -1.046146 + 0.223939I$	$-8.35529 - 4.56229I$	$0.39000 + 3.84475I$
$u = -0.681237 - 0.347030I$	$-7.84552 - 4.44427I$	$1.76887 + 1.55975I$
$u = -0.681237 + 0.347030I$	$-7.84552 + 4.44427I$	$1.76887 - 1.55975I$
$u = -0.397594 - 0.359864I$	$0.917102 + 0.596105I$	$8.98647 - 4.74096I$
$u = -0.397594 + 0.359864I$	$0.917102 - 0.596105I$	$8.98647 + 4.74096I$
$u = -0.280343 - 0.720260I$	$-9.34338 + 8.33215I$	$-0.86165 - 6.60092I$
$u = -0.280343 + 0.720260I$	$-9.34338 - 8.33215I$	$-0.86165 + 6.60092I$
$u = -0.269533 - 0.643764I$	$-0.08359 + 2.56810I$	$5.39788 - 3.59460I$
$u = -0.269533 + 0.643764I$	$-0.08359 - 2.56810I$	$5.39788 + 3.59460I$
$u = -0.141874 - 0.704451I$	$-11.05977 - 1.01340I$	$-3.63842 - 0.71701I$
$u = -0.141874 + 0.704451I$	$-11.05977 + 1.01340I$	$-3.63842 + 0.71701I$
$u = 0.164742 - 0.644372I$	$-2.99086 - 0.25085I$	$-2.71271 + 0.09233I$
$u = 0.164742 + 0.644372I$	$-2.99086 + 0.25085I$	$-2.71271 - 0.09233I$
$u = 0.278364 - 0.691368I$	$-1.56642 - 6.05654I$	$1.56838 + 8.60655I$
$u = 0.278364 + 0.691368I$	$-1.56642 + 6.05654I$	$1.56838 - 8.60655I$
$u = 0.391448 - 0.543944I$	$-4.74796 - 1.76607I$	$3.33618 + 3.94184I$
$u = 0.391448 + 0.543944I$	$-4.74796 + 1.76607I$	$3.33618 - 3.94184I$
$u = 0.587096 - 0.303306I$	$-0.19628 + 2.43472I$	$4.58629 - 3.61518I$
$u = 0.587096 + 0.303306I$	$-0.19628 - 2.43472I$	$4.58629 + 3.61518I$
$u = 1.071213 - 0.139228I$	$-0.40127 - 2.84366I$	$1.98426 + 5.43463I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.071213 + 0.139228I$	$-0.40127 + 2.84366I$	$1.98426 - 5.43463I$
$u = 1.338866 - 0.271838I$	$-6.40559 - 2.51190I$	$1.38150 + 2.46879I$
$u = 1.338866 + 0.271838I$	$-6.40559 + 2.51190I$	$1.38150 - 2.46879I$
$u = 1.40643 - 0.25423I$	$5.27082 - 5.85936I$	$9.90370 + 3.39056I$
$u = 1.40643 + 0.25423I$	$5.27082 + 5.85936I$	$9.90370 - 3.39056I$
$u = 1.41180 - 0.16148I$	$6.59801 - 2.64882I$	$11.65137 + 3.90041I$
$u = 1.41180 + 0.16148I$	$6.59801 + 2.64882I$	$11.65137 - 3.90041I$
$u = 1.41491 - 0.28413I$	$-3.93253 - 11.98378I$	$3.64923 + 6.96576I$
$u = 1.41491 + 0.28413I$	$-3.93253 + 11.98378I$	$3.64923 - 6.96576I$
$u = 1.43088 - 0.09977I$	$-1.36673 + 3.09799I$	$6.14389 - 2.05117I$
$u = 1.43088 + 0.09977I$	$-1.36673 - 3.09799I$	$6.14389 + 2.05117I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{41} + 3u^{40} + \cdots - u - 1)$
c_2, c_6, c_7	$(u^{41} + u^{40} + \cdots + u - 1)$
c_3	$(u^{41} + 9u^{40} + \cdots + 337u + 41)$
c_4, c_5, c_9 c_{10}	$(u^{41} + u^{40} + \cdots + 3u + 1)$
c_8	$(u^{41} + u^{40} + \cdots + 127u + 61)$
c_{11}	$(u^{41} + 11u^{40} + \cdots + 121u + 11)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^{41} - y^{40} + \cdots + 5y - 1)$
c_2, c_6, c_7	$(y^{41} - 37y^{40} + \cdots + y - 1)$
c_3	$(y^{41} + 11y^{40} + \cdots - 26979y - 1681)$
c_4, c_5, c_9 c_{10}	$(y^{41} + 47y^{40} + \cdots + y - 1)$
c_8	$(y^{41} - 13y^{40} + \cdots + 51997y - 3721)$
c_{11}	$(y^{41} - 5y^{40} + \cdots - 275y - 121)$