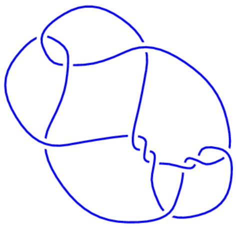
$11a_{145}$ $(K11a_{145})$



[1]

Arc Sequences

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

Solving Sequence

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

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

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^8-u^6-u^4+1 \\ u^{10}+2u^8+3u^6+2u^4+u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{13}-2u^{11}-3u^9-2u^7+u \\ u^{15}+3u^{13}+6u^{11}+7u^9+6u^7+4u^5+2u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{19}+4u^{17}+10u^{15}+16u^{13}+19u^{11}+18u^9+14u^7+10u^5+5u^3+2u \\ -u^{19}-3u^{17}-6u^{15}-7u^{13}-5u^{11}-3u^9+u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{40}+7u^{38}+\cdots-2u^2+1 \\ -u^{40}-u^{39}+\cdots+2u^2-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{18}-3u^{16}-6u^{14}-7u^{12}-5u^{10}-3u^8+u^2+1 \\ u^{20}+4u^{18}+10u^{16}+16u^{14}+19u^{12}+18u^{10}+14u^8+10u^6+5u^4+2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{18}-3u^{16}-6u^{14}-7u^{12}-5u^{10}-3u^8+u^2+1 \\ u^{20}+4u^{18}+10u^{16}+16u^{14}+19u^{12}+18u^{10}+14u^8+10u^6+5u^4+2u^2 \end{pmatrix}$$

(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
$u = -0.806047 - 0.549030I$	$-8.94893 - 6.85378I$	$3.02004 + 3.14653I$
$u = -0.806047 + 0.549030I$	$-8.94893 + 6.85378I$	$3.02004 - 3.14653I$
$u = -0.755820 - 0.517358I$	$-3.00487 + 0.67608I$	$5.83606 - 3.00610I$
$u = -0.755820 + 0.517358I$	$-3.00487 - 0.67608I$	$5.83606 + 3.00610I$
$u = -0.723389 - 0.712701I$	$-1.40317 - 2.83072I$	$6.43491 + 2.95500I$
$u = -0.723389 + 0.712701I$	$-1.40317 + 2.83072I$	$6.43491 - 2.95500I$
$u = -0.693368 - 0.847987I$	$0.42753 + 2.65969I$	$8.24093 - 3.41095I$
$u = -0.693368 + 0.847987I$	$0.42753 - 2.65969I$	$8.24093 + 3.41095I$
$u = -0.684591 - 0.962511I$	$-2.15015 + 8.22064I$	$4.65359 - 8.30848I$
$u = -0.684591 + 0.962511I$	$-2.15015 - 8.22064I$	$4.65359 + 8.30848I$
$u = -0.668298 - 1.062094I$	$-10.4751 + 12.3911I$	$0.95545 - 7.64540I$
$u = -0.668298 + 1.062094I$	$-10.4751 - 12.3911I$	$0.95545 + 7.64540I$
$u = -0.645065 - 1.051396I$	$-4.55106 + 4.63624I$	$3.54482 - 1.91862I$
$u = -0.645065 + 1.051396I$	$-4.55106 - 4.63624I$	$3.54482 + 1.91862I$
$u = -0.621133 - 0.863903I$	$0.77518 + 2.43453I$	$4.67673 - 2.83072I$
$u = -0.621133 + 0.863903I$	$0.77518 - 2.43453I$	$4.67673 + 2.83072I$
$u = -0.318245$	0.648370	15.5210
$u = -0.115917 - 0.818177I$	$-1.55862 + 1.34593I$	$1.69201 - 5.88103I$
$u = -0.115917 + 0.818177I$	$-1.55862 - 1.34593I$	$1.69201 + 5.88103I$
$u = -0.011468 - 1.129054I$	$-8.57548 + 2.18961I$	$0.00248 - 3.13615I$
$u = -0.011468 + 1.129054I$	$-8.57548 - 2.18961I$	$0.00248 + 3.13615I$
$u = 0.023621 - 1.144640I$	$-14.9420 - 5.4434I$	$-3.20395 + 3.09405I$
$u = 0.023621 + 1.144640I$	$-14.9420 + 5.4434I$	$-3.20395 - 3.09405I$
$u = 0.148379 - 0.957091I$	$-6.92446 - 3.50964I$	$-2.41858 + 4.66080I$
$u = 0.148379 + 0.957091I$	$-6.92446 + 3.50964I$	$-2.41858 - 4.66080I$
$u = 0.480200 - 0.212125I$	$-3.50591 - 1.71670I$	$5.52450 + 3.61654I$
$u = 0.480200 + 0.212125I$	$-3.50591 + 1.71670I$	$5.52450 - 3.61654I$
$u = 0.515887 - 0.932646I$	$-5.03762 - 1.88806I$	$-0.24106 + 3.02995I$
$u = 0.515887 + 0.932646I$	$-5.03762 + 1.88806I$	$-0.24106 - 3.02995I$
$u = 0.634950 - 1.064323I$	$-11.04332 - 1.60938I$	$0.06795 + 1.93850I$

	Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.634950 + 1.064323I$	$-11.04332 + 1.60938I$	$0.06795 - 1.93850I$
$u =$	$0.660870 - 1.052988I$	$-4.27384 - 8.98491I$	$4.35745 + 7.89511I$
$u =$	$0.660870 + 1.052988I$	$-4.27384 + 8.98491I$	$4.35745 - 7.89511I$
$u =$	$0.674707 - 0.926922I$	$2.60925 - 5.20134I$	$10.53591 + 7.82962I$
$u =$	$0.674707 + 0.926922I$	$2.60925 + 5.20134I$	$10.53591 - 7.82962I$
$u =$	$0.691393 - 0.764064I$	$3.10340 - 0.06542I$	$12.57860 - 1.49885I$
$u =$	$0.691393 + 0.764064I$	$3.10340 + 0.06542I$	$12.57860 + 1.49885I$
$u =$	$0.774175 - 0.483647I$	$-9.35158 - 3.69269I$	$2.52382 + 2.88457I$
$u =$	$0.774175 + 0.483647I$	$-9.35158 + 3.69269I$	$2.52382 - 2.88457I$
$u =$	$0.780035 - 0.548337I$	$-2.78722 + 3.54108I$	$6.45783 - 3.37439I$
$u =$	$0.780035 + 0.548337I$	$-2.78722 - 3.54108I$	$6.45783 + 3.37439I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{41} + u^{40} + \cdots + u + 1)$
c_2, c_6	$(u^{41} + 15u^{40} + \cdots + 5u - 1)$
c_3, c_4, c_9	$(u^{41} + u^{40} + \cdots + u + 1)$
c_7, c_{10}, c_{11}	$(u^{41} + 5u^{40} + \cdots - 23u - 3)$
c_8	$(u^{41} + u^{40} + \cdots - 53u - 37)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{41} + 15y^{40} + \cdots + 5y - 1)$
c_2, c_6	$(y^{41} + 23y^{40} + \cdots + 85y - 1)$
c_3, c_4, c_9	$(y^{41} + 39y^{40} + \cdots + 5y - 1)$
c_7, c_{10}, c_{11}	$(y^{41} + 43y^{40} + \cdots - 131y - 9)$
c_8	$(y^{41} + 19y^{40} + \cdots - 34931y - 1369)$