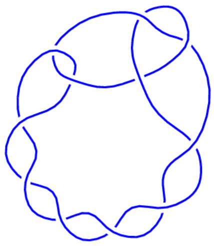
$11a_{59}$ $(K11a_{59})$



[1]

Arc Sequences

$\downarrow$	$\downarrow$	$\downarrow$	$\downarrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\downarrow$	$\uparrow$	$\uparrow$	$\uparrow$
4	1	8	2	11	10	9	3	7	6	5

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{21} + u^{20} + \cdots + u - 1 \rangle$$

There are 1 irreducible components with 21 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.

$\boldsymbol{I_1^u = \langle u^{21} + u^{20} + 2u^{19} + u^{18} + 9u^{17} + 7u^{16} + 14u^{15} + 6u^{14} + 28u^{13} + 16u^{12} + 32u^{11} + 11u^{10} + 35u^9 + 13u^8 + 26u^7 + 6u^6 + 15u^5 + u^4 + 4u^3 - u^2 + u - 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^5 + u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^7 + 2u^3 \\ u^9 + u^7 + 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^9 + 3u^5 + u \\ u^{11} + u^9 + 4u^7 + 3u^5 + 3u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{11} + 4u^7 + 3u^3 \\ u^{13} + u^{11} + 5u^9 + 4u^7 + 6u^5 + 3u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{17} - 2u^{15} - 7u^{13} - 10u^{11} - 15u^9 - 12u^7 - 10u^5 - 2u^3 - u \\ -u^{17} - u^{15} - 5u^{13} - 4u^{11} - 5u^9 - 2u^7 + 2u^5 + 2u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{17} - 2u^{15} - 7u^{13} - 10u^{11} - 15u^9 - 12u^7 - 10u^5 - 2u^3 - u \\ -u^{17} - u^{15} - 5u^{13} - 4u^{11} - 5u^9 - 2u^7 + 2u^5 + 2u^3 + u \end{pmatrix}$$

(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
$u = -0.955049 - 0.950617I$	$18.6641 + 1.6077I$	$-7.04859 - 0.65486I$
$u = -0.955049 + 0.950617I$	$18.6641 - 1.6077I$	$-7.04859 + 0.65486I$
$u = -0.941847 - 0.971443I$	$18.7348 - 8.5672I$	$-6.90755 + 5.03550I$
$u = -0.941847 + 0.971443I$	$18.7348 + 8.5672I$	$-6.90755 - 5.03550I$
$u = -0.753872 - 0.830111I$	$-5.48993 - 2.78640I$	$-3.21012 + 3.06333I$
$u = -0.753872 + 0.830111I$	$-5.48993 + 2.78640I$	$-3.21012 - 3.06333I$
$u = -0.587129 - 0.496977I$	$-2.94174 + 0.96273I$	$-7.66565 - 0.63893I$
$u = -0.587129 + 0.496977I$	$-2.94174 - 0.96273I$	$-7.66565 + 0.63893I$
$u = -0.467258 - 0.810103I$	$-1.91084 - 4.81660I$	$-2.93817 + 8.87119I$
$u = -0.467258 + 0.810103I$	$-1.91084 + 4.81660I$	$-2.93817 - 8.87119I$
$u = 0.115156 - 0.749248I$	$0.91477 + 1.54422I$	$4.91782 - 5.70348I$
$u = 0.115156 + 0.749248I$	$0.91477 - 1.54422I$	$4.91782 + 5.70348I$
$u = 0.349064 - 0.668896I$	$0.159228 + 1.336096I$	$1.40948 - 5.21346I$
$u = 0.349064 + 0.668896I$	$0.159228 - 1.336096I$	$1.40948 + 5.21346I$
$u = 0.434332$	-1.29680	-8.38839
$u = 0.763438 - 0.895133I$	$-8.87843 + 7.21776I$	$-6.27845 - 6.45593I$
$u = 0.763438 + 0.895133I$	$-8.87843 - 7.21776I$	$-6.27845 + 6.45593I$
$u = 0.817997 - 0.795900I$	$-9.21675 - 1.40322I$	$-7.22383 + 0.67485I$
$u = 0.817997 + 0.795900I$	$-9.21675 + 1.40322I$	$-7.22383 - 0.67485I$
$u = 0.942335 - 0.957457I$	$-16.7890 + 3.4594I$	$-3.86074 - 2.19983I$
$u = 0.942335 + 0.957457I$	$-16.7890 - 3.4594I$	$-3.86074 + 2.19983I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_4	$(u^{21} + u^{20} + \cdots - 3u - 1)$
c_2	$(u^{21} + 13u^{20} + \cdots - u + 1)$
c_3, c_8	$(u^{21} + u^{20} + \cdots + u - 1)$
c_5, c_6, c_7 c_9, c_{10}, c_{11}	$(u^{21} + 3u^{20} + \cdots - u - 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_4	$(y^{21} - 13y^{20} + \cdots - y - 1)$
c_2	$(y^{21} - 9y^{20} + \cdots + 3y - 1)$
c_3, c_8	$(y^{21} + 3y^{20} + \cdots - y - 1)$
c_5, c_6, c_7 c_9, c_{10}, c_{11}	$(y^{21} + 31y^{20} + \cdots + 19y - 1)$