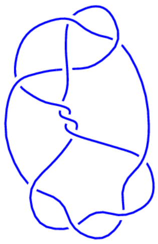
$11a_{98}$ ($K11a_{98}$)



[1]

Arc Sequences

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

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{38} + u^{37} + \cdots + u + 1 \rangle$$

There are 1 irreducible components with 38 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. $I_1^u = \langle u^{38} + u^{37} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ -u^7 - u^5 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{12} + 3u^{10} + 5u^8 + 4u^6 + 2u^4 + u^2 + 1 \\ u^{12} + 2u^{10} + 2u^8 - u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{17} - 4u^{15} - 9u^{13} - 12u^{11} - 11u^9 - 8u^7 - 6u^5 - 4u^3 - u \\ -u^{17} - 3u^{15} - 5u^{13} - 4u^{11} - u^9 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{17} - 4u^{15} - 9u^{13} - 12u^{11} - 11u^9 - 8u^7 - 6u^5 - 4u^3 - u \\ u^{19} + 3u^{17} + 6u^{15} + 7u^{13} + 7u^{11} + 7u^9 + 6u^7 + 4u^5 + u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{35} - 8u^{33} + \cdots - 8u^5 - u^3 \\ u^{37} + 7u^{35} + \cdots + u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{22} + 5u^{20} + \cdots + 2u^2 + 1 \\ u^{22} + 4u^{20} + 9u^{18} + 12u^{16} + 10u^{14} + 6u^{12} + 3u^{10} + 2u^8 - u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{22} + 5u^{20} + \cdots + 2u^2 + 1 \\ u^{22} + 4u^{20} + 9u^{18} + 12u^{16} + 10u^{14} + 6u^{12} + 3u^{10} + 2u^8 - u^6 - 2u^4 - u^2 \end{pmatrix}$$

(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
$u = -0.795498 - 0.444952I$	$-0.02756 - 6.72233I$	$1.77258 + 3.20130I$
$u = -0.795498 + 0.444952I$	$-0.02756 + 6.72233I$	$1.77258 - 3.20130I$
$u = -0.776170 - 0.495513I$	$6.87083 + 0.63435I$	$5.86902 - 2.86167I$
$u = -0.776170 + 0.495513I$	$6.87083 - 0.63435I$	$5.86902 + 2.86167I$
$u = -0.627823 - 0.206044I$	$-6.95274 - 2.61432I$	$-1.90331 + 2.91868I$
$u = -0.627823 + 0.206044I$	$-6.95274 + 2.61432I$	$-1.90331 - 2.91868I$
$u = -0.622253 - 1.069081I$	$5.16060 + 4.64389I$	$3.40172 - 1.99685I$
$u = -0.622253 + 1.069081I$	$5.16060 - 4.64389I$	$3.40172 + 1.99685I$
$u = -0.615257 - 1.097821I$	$-1.97382 + 12.02171I$	$-1.07574 - 7.53451I$
$u = -0.615257 + 1.097821I$	$-1.97382 - 12.02171I$	$-1.07574 + 7.53451I$
$u = -0.493899 - 1.096284I$	$-9.41307 + 6.91152I$	$-5.65067 - 6.70434I$
$u = -0.493899 + 1.096284I$	$-9.41307 - 6.91152I$	$-5.65067 + 6.70434I$
$u = -0.475314 - 0.978788I$	$-0.48331 + 2.76150I$	$3.31371 - 3.04166I$
$u = -0.475314 + 0.978788I$	$-0.48331 - 2.76150I$	$3.31371 + 3.04166I$
$u = -0.401690 - 0.611039I$	$0.630271 + 1.053361I$	$5.17597 - 5.21367I$
$u = -0.401690 + 0.611039I$	$0.630271 - 1.053361I$	$5.17597 + 5.21367I$
$u = -0.329177 - 1.081403I$	$-10.49982 + 0.35836I$	$-7.98179 - 0.69582I$
$u = -0.329177 + 1.081403I$	$-10.49982 - 0.35836I$	$-7.98179 + 0.69582I$
$u = -0.080771 - 1.108593I$	$-5.33654 - 4.72378I$	$-4.33572 + 2.87727I$
$u = -0.080771 + 1.108593I$	$-5.33654 + 4.72378I$	$-4.33572 - 2.87727I$
$u = 0.032527 - 1.081455I$	$1.34506 + 2.00929I$	$-0.48209 - 3.49556I$
$u = 0.032527 + 1.081455I$	$1.34506 - 2.00929I$	$-0.48209 + 3.49556I$
$u = 0.348229 - 1.006034I$	$-3.03329 - 1.00909I$	$-7.12564 - 0.28235I$
$u = 0.348229 + 1.006034I$	$-3.03329 + 1.00909I$	$-7.12564 + 0.28235I$
$u = 0.494501 - 0.296797I$	$-0.018847 + 1.384115I$	$1.16696 - 5.74622I$
$u = 0.494501 + 0.296797I$	$-0.018847 - 1.384115I$	$1.16696 + 5.74622I$
$u = 0.496597 - 1.050963I$	$-2.01726 - 5.47617I$	$-3.09870 + 9.17486I$
$u = 0.496597 + 1.050963I$	$-2.01726 + 5.47617I$	$-3.09870 - 9.17486I$
$u = 0.546467 - 0.788835I$	$-4.91125 - 2.21769I$	$0.61182 + 3.56508I$
$u = 0.546467 + 0.788835I$	$-4.91125 + 2.21769I$	$0.61182 - 3.56508I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618866 - 1.084233I$	$4.89318 - 8.99255I$	$2.54683 + 8.05726I$
$u = 0.618866 + 1.084233I$	$4.89318 + 8.99255I$	$2.54683 - 8.05726I$
$u = 0.627400 - 1.049146I$	$-1.12742 - 1.62626I$	$0.04993 + 2.02770I$
$u = 0.627400 + 1.049146I$	$-1.12742 + 1.62626I$	$0.04993 - 2.02770I$
$u = 0.767793 - 0.526507I$	$0.43075 - 3.64794I$	$2.34216 + 2.92467I$
$u = 0.767793 + 0.526507I$	$0.43075 + 3.64794I$	$2.34216 - 2.92467I$
$u = 0.785472 - 0.469764I$	$6.72503 + 3.70347I$	$5.40296 - 3.46584I$
$u = 0.785472 + 0.469764I$	$6.72503 - 3.70347I$	$5.40296 + 3.46584I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{38} + u^{37} + \cdots + u + 1)$
c_2	$(u^{38} + 17u^{37} + \cdots + 3u + 1)$
c_3, c_4, c_8 c_9	$(u^{38} + u^{37} + \cdots + u + 1)$
c_6	$(u^{38} + u^{37} + \cdots + u + 1)$
c_7, c_{10}, c_{11}	$(u^{38} + 5u^{37} + \cdots + 25u + 3)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{38}+17y^{37}+\cdots+3y+1)$
c_2	$(y^{38}+9y^{37}+\cdots+19y+1)$
c_3, c_4, c_8 c_9	$(y^{38}+41y^{37}+\cdots+3y+1)$
c_6	$(y^{38}+y^{37}+\cdots+35y+1)$
c_7, c_{10}, c_{11}	$(y^{38}+37y^{37}+\cdots+59y+9)$