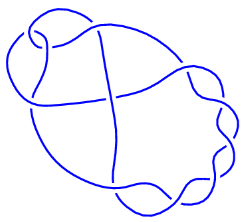
$11a_{206}$ ($K11a_{206}$)



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Arc Sequences

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

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{23} + u^{22} + \cdots - 2u + 1 \rangle$$

There are 1 irreducible components with 23 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. $I^u_1 = \langle u^{23} + u^{22} + \cdots - 2u + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^9+2u^7+3u^5+2u^3+u \\ -u^9-u^7-u^5+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{16}-3u^{14}-7u^{12}-10u^{10}-11u^8-8u^6-4u^4+1 \\ u^{16}+2u^{14}+4u^{12}+4u^{10}+2u^8-2u^4-2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^8-u^6-u^4+1 \\ u^{10}+2u^8+3u^6+2u^4+u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{15}+2u^{13}+4u^{11}+4u^9+2u^7-2u^3-2u \\ -u^{17}-3u^{15}-7u^{13}-10u^{11}-11u^9-8u^7-4u^5+u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{22}+3u^{20}+\cdots-2u^2+1 \\ -u^{22}-u^{21}+\cdots+3u-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{22}+3u^{20}+\cdots-2u^2+1 \\ -u^{22}-u^{21}+\cdots+3u-1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =**unknown**

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.862702 - 0.746175I$	$-18.8163 - 2.5543I$	$15.9877 + 0.1490I$
$u = -0.862702 + 0.746175I$	$-18.8163 + 2.5543I$	$15.9877 - 0.1490I$
$u = -0.769773 - 1.006746I$	$-19.6232 + 8.6288I$	$14.6907 - 4.9949I$
$u = -0.769773 + 1.006746I$	$-19.6232 - 8.6288I$	$14.6907 + 4.9949I$
$u = -0.731982 - 0.784107I$	$3.25860 + 0.02327I$	$13.38062 + 2.15520I$
$u = -0.731982 + 0.784107I$	$3.25860 - 0.02327I$	$13.38062 - 2.15520I$
$u = -0.714154 - 0.939346I$	$2.78784 + 5.50013I$	$11.6998 - 7.9457I$
$u = -0.714154 + 0.939346I$	$2.78784 - 5.50013I$	$11.6998 + 7.9457I$
$u = -0.612110$	5.70319	16.3485
$u = -0.227985 - 0.971221I$	$2.66448 + 2.76032I$	$9.49755 - 4.44807I$
$u = -0.227985 + 0.971221I$	$2.66448 - 2.76032I$	$9.49755 + 4.44807I$
$u = 0.078829 - 0.893980I$	$-1.87270 - 1.23334I$	$3.38642 + 5.87652I$
$u = 0.078829 + 0.893980I$	$-1.87270 + 1.23334I$	$3.38642 - 5.87652I$
$u = 0.268514 - 1.049113I$	$13.20355 - 3.30165I$	$10.15005 + 3.37633I$
$u = 0.268514 + 1.049113I$	$13.20355 + 3.30165I$	$10.15005 - 3.37633I$
$u = 0.310396$	0.571551	17.3563
$u = 0.683177 - 0.873071I$	$1.27817 - 2.63439I$	$7.17328 + 2.59344I$
$u = 0.683177 + 0.873071I$	$1.27817 + 2.63439I$	$7.17328 - 2.59344I$
$u = 0.723840$	16.6303	16.0671
$u = 0.749494 - 0.981641I$	$8.65288 - 7.54251I$	$14.3885 + 6.0343I$
$u = 0.749494 + 0.981641I$	$8.65288 + 7.54251I$	$14.3885 - 6.0343I$
$u = 0.815519 - 0.753290I$	$9.35127 + 1.67104I$	$15.7595 - 0.7836I$
$u = 0.815519 + 0.753290I$	$9.35127 - 1.67104I$	$15.7595 + 0.7836I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_6	$(u^{23} + u^{22} + \cdots - 2u + 1)$
c_2, c_7	$(u^{23} + 7u^{22} + \cdots + 8u - 1)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(u^{23} + u^{22} + \cdots - 4u^2 + 1)$
c_{11}	$(u^{23} + 5u^{22} + \cdots - 136u - 39)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_6	$(y^{23} + 7y^{22} + \cdots + 8y - 1)$
c_2, c_7	$(y^{23} + 19y^{22} + \cdots + 116y - 1)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(y^{23} - 33y^{22} + \cdots + 8y - 1)$
c_{11}	$(y^{23} - 13y^{22} + \cdots + 17092y - 1521)$