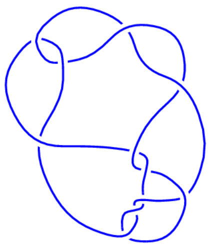
$11a_{220}$ $(K11a_{220})$



[1]

Arc Sequences

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

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{42} + u^{41} + \cdots + u - 1 \rangle$$

There are 1 irreducible components with 42 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. $I_1^u = \langle u^{42} + u^{41} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{10} - u^8 + 2u^6 - u^4 - u^2 + 1 \\ -u^{12} + 2u^{10} - 4u^8 + 4u^6 - 3u^4 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{17} + 2u^{15} - 5u^{13} + 6u^{11} - 5u^9 + 2u^7 + 2u^5 - 4u^3 + u \\ u^{19} - 3u^{17} + 8u^{15} - 13u^{13} + 17u^{11} - 15u^9 + 10u^7 - 2u^5 - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{27} + 4u^{25} + \cdots - 12u^7 - u^3 \\ -u^{27} + 3u^{25} + \cdots - u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{33} - 4u^{31} + \cdots - 4u^5 + u \\ -u^{35} + 5u^{33} + \cdots - u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{33} - 4u^{31} + \cdots - 4u^5 + u \\ -u^{35} + 5u^{33} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.999856 - 0.230040I$	$-9.89796 + 1.92247I$	$-15.7973 + 0.4198I$
$u = -0.999856 + 0.230040I$	$-9.89796 - 1.92247I$	$-15.7973 - 0.4198I$
$u = -0.984924 - 0.794269I$	$-2.40746 - 12.62146I$	$-9.25724 + 7.92136I$
$u = -0.984924 + 0.794269I$	$-2.40746 + 12.62146I$	$-9.25724 - 7.92136I$
$u = -0.974768 - 0.299033I$	$-3.48205 - 4.78463I$	$-11.04017 + 7.62920I$
$u = -0.974768 + 0.299033I$	$-3.48205 + 4.78463I$	$-11.04017 - 7.62920I$
$u = -0.957195 - 0.782616I$	$2.57048 - 5.10842I$	$-7.05988 + 2.20532I$
$u = -0.957195 + 0.782616I$	$2.57048 + 5.10842I$	$-7.05988 - 2.20532I$
$u = -0.925681 - 0.824926I$	$3.86157 - 6.43991I$	$-5.27816 + 6.02462I$
$u = -0.925681 + 0.824926I$	$3.86157 + 6.43991I$	$-5.27816 - 6.02462I$
$u = -0.875279 - 0.842032I$	$4.01809 + 0.23438I$	$-4.86393 - 0.79093I$
$u = -0.875279 + 0.842032I$	$4.01809 - 0.23438I$	$-4.86393 + 0.79093I$
$u = -0.873644$	-5.74682	-16.7145
$u = -0.817312 - 0.821496I$	$3.00179 - 0.90271I$	$-6.25769 + 2.96370I$
$u = -0.817312 + 0.821496I$	$3.00179 + 0.90271I$	$-6.25769 - 2.96370I$
$u = -0.795276 - 0.862080I$	$-1.81787 + 6.45853I$	$-8.20257 - 3.12488I$
$u = -0.795276 + 0.862080I$	$-1.81787 - 6.45853I$	$-8.20257 + 3.12488I$
$u = -0.632599 - 0.398397I$	$1.00543 - 1.56832I$	$-1.50314 + 6.19843I$
$u = -0.632599 + 0.398397I$	$1.00543 + 1.56832I$	$-1.50314 - 6.19843I$
$u = -0.070669 - 0.569247I$	$-0.76961 + 1.72495I$	$-4.78052 - 3.91512I$
$u = -0.070669 + 0.569247I$	$-0.76961 - 1.72495I$	$-4.78052 + 3.91512I$
$u = 0.078125 - 0.645897I$	$-6.53816 - 4.66456I$	$-8.73294 + 3.22301I$
$u = 0.078125 + 0.645897I$	$-6.53816 + 4.66456I$	$-8.73294 - 3.22301I$
$u = 0.391819 - 0.484675I$	$-2.15848 - 0.53603I$	$-5.34890 - 0.08897I$
$u = 0.391819 + 0.484675I$	$-2.15848 + 0.53603I$	$-5.34890 + 0.08897I$
$u = 0.612665$	-0.781422	-13.7110
$u = 0.777102 - 0.791603I$	$-3.29340 + 3.04757I$	$-9.78149 - 2.92743I$
$u = 0.777102 + 0.791603I$	$-3.29340 - 3.04757I$	$-9.78149 + 2.92743I$
$u = 0.802079 - 0.435652I$	$-3.32923 + 3.99615I$	$-9.76353 - 7.26560I$
$u = 0.802079 + 0.435652I$	$-3.32923 - 3.99615I$	$-9.76353 + 7.26560I$

	Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.808059-0.850430I$	$3.89441-3.00577I$	$-4.12276+3.17486I$
$u=$	$0.808059+0.850430I$	$3.89441+3.00577I$	$-4.12276-3.17486I$
$u=$	$0.900700-0.830818I$	$7.60462+3.09519I$	$-0.01509-2.78190I$
$u=$	$0.900700+0.830818I$	$7.60462-3.09519I$	$-0.01509+2.78190I$
$u=$	$0.963650-0.251682I$	$-3.76676+0.88407I$	$-12.38985-0.56473I$
$u=$	$0.963650+0.251682I$	$-3.76676-0.88407I$	$-12.38985+0.56473I$
$u=$	$0.965280-0.756873I$	$-3.85638+2.79254I$	$-10.83982-2.48068I$
$u=$	$0.965280+0.756873I$	$-3.85638-2.79254I$	$-10.83982+2.48068I$
$u=$	$0.973159-0.794297I$	$3.38201+9.13654I$	$-5.22617-8.05199I$
$u=$	$0.973159+0.794297I$	$3.38201-9.13654I$	$-5.22617+8.05199I$
$u=$	$1.004078-0.309281I$	$-9.43094+7.97441I$	$-14.5261-7.0603I$
$u=$	$1.004078+0.309281I$	$-9.43094-7.97441I$	$-14.5261+7.0603I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_6	$(u^{42} + u^{41} + \cdots + u - 1)$
c_2, c_5, c_7	$(u^{42} + 11u^{41} + \cdots + 3u + 1)$
c_3, c_9, c_{10}	$(u^{42} + u^{41} + \cdots - 3u - 1)$
c_4	$(u^{42} + 3u^{41} + \cdots - 61u + 39)$
c_8, c_{11}	$(u^{42} + 7u^{41} + \cdots + 279u + 23)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_6	$(y^{42} - 11y^{41} + \cdots - 3y + 1)$
c_2, c_5, c_7	$(y^{42} + 41y^{41} + \cdots - 11y + 1)$
c_3, c_9, c_{10}	$(y^{42} - 39y^{41} + \cdots - 3y + 1)$
c_4	$(y^{42} - 11y^{41} + \cdots - 25951y + 1521)$
c_8, c_{11}	$(y^{42} + 29y^{41} + \cdots - 14039y + 529)$