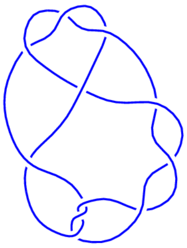
$11a_{341}$ $(K11a_{341})$



[1]

Arc Sequences

8 7 1 11 10 9 2 3 6 4 5

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{30} + u^{29} + \cdots - u - 1 \rangle$$

There are 1 irreducible components with 30 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. $I_1^u = \langle u^{30} + u^{29} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ -u^6 + 2u^4 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{24} + 9u^{22} + \cdots - 2u^2 + 1 \\ -u^{26} + 10u^{24} + \cdots - 10u^4 - u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{19} - 8u^{17} + 26u^{15} - 40u^{13} + 19u^{11} + 24u^9 - 30u^7 + 2u^5 + 5u^3 + 2u \\ -u^{19} + 7u^{17} - 20u^{15} + 27u^{13} - 11u^{11} - 13u^9 + 16u^7 - 6u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{19} - 8u^{17} + 26u^{15} - 40u^{13} + 19u^{11} + 24u^9 - 30u^7 + 2u^5 + 5u^3 + 2u \\ -u^{19} + 7u^{17} - 20u^{15} + 27u^{13} - 11u^{11} - 13u^9 + 16u^7 - 6u^5 + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.306326 - 0.437358I$	$12.2507 - 10.4619I$	$-5.88987 + 5.77440I$
$u = -1.306326 + 0.437358I$	$12.2507 + 10.4619I$	$-5.88987 - 5.77440I$
$u = -1.291241 - 0.080442I$	$-1.40610 - 2.59166I$	$-13.13861 + 3.85906I$
$u = -1.291241 + 0.080442I$	$-1.40610 + 2.59166I$	$-13.13861 - 3.85906I$
$u = -1.289934 - 0.269184I$	$2.71542 - 7.35959I$	$-8.50810 + 6.87083I$
$u = -1.289934 + 0.269184I$	$2.71542 + 7.35959I$	$-8.50810 - 6.87083I$
$u = -1.274058 - 0.435895I$	$6.01443 - 2.51871I$	$-8.78607 + 0.11545I$
$u = -1.274058 + 0.435895I$	$6.01443 + 2.51871I$	$-8.78607 - 0.11545I$
$u = -1.170377 - 0.182149I$	$-1.55681 - 1.24454I$	$-9.57026 + 0.01940I$
$u = -1.170377 + 0.182149I$	$-1.55681 + 1.24454I$	$-9.57026 - 0.01940I$
$u = -0.289035$	-0.539047	-18.6187
$u = -0.085803 - 0.574843I$	$1.55006 - 1.51308I$	$-5.97054 + 5.56899I$
$u = -0.085803 + 0.574843I$	$1.55006 + 1.51308I$	$-5.97054 - 5.56899I$
$u = -0.011432 - 0.903800I$	$9.93135 - 2.26722I$	$-5.50678 + 2.95936I$
$u = -0.011432 + 0.903800I$	$9.93135 + 2.26722I$	$-5.50678 - 2.95936I$
$u = 0.025624 - 0.918937I$	$16.4000 + 5.6172I$	$-2.30571 - 2.94796I$
$u = 0.025624 + 0.918937I$	$16.4000 - 5.6172I$	$-2.30571 + 2.94796I$
$u = 0.133435 - 0.677542I$	$7.12139 + 3.97751I$	$-2.60373 - 4.61085I$
$u = 0.133435 + 0.677542I$	$7.12139 - 3.97751I$	$-2.60373 + 4.61085I$
$u = 0.384081 - 0.329837I$	$3.55481 + 1.33307I$	$-6.99438 - 4.68394I$
$u = 0.384081 + 0.329837I$	$3.55481 - 1.33307I$	$-6.99438 + 4.68394I$
$u = 1.077259 - 0.280883I$	$4.37079 - 0.39876I$	$-5.65256 - 0.33151I$
$u = 1.077259 + 0.280883I$	$4.37079 + 0.39876I$	$-5.65256 + 0.33151I$
$u = 1.259718 - 0.224875I$	$-2.55759 + 4.40021I$	$-13.4404 - 7.3156I$
$u = 1.259718 + 0.224875I$	$-2.55759 - 4.40021I$	$-13.4404 + 7.3156I$
$u = 1.266670 - 0.453503I$	$12.55708 - 0.72268I$	$-5.44447 - 0.15080I$
$u = 1.266670 + 0.453503I$	$12.55708 + 0.72268I$	$-5.44447 + 0.15080I$
$u = 1.26925$	-5.06052	-19.4193
$u = 1.292276 - 0.430300I$	$5.87624 + 7.03616I$	$-9.16949 - 5.90820I$
$u = 1.292276 + 0.430300I$	$5.87624 - 7.03616I$	$-9.16949 + 5.90820I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_2, c_7	$(u^{30} + u^{29} + \cdots + u - 1)$
c_3, c_5, c_6 c_9	$(u^{30} + 3u^{29} + \cdots + 7u + 3)$
c_4, c_{10}, c_{11}	$(u^{30} + u^{29} + \cdots - u - 1)$
c_8	$(u^{30} + u^{29} + \cdots - 135u - 53)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_2, c_7	$(y^{30} + 29y^{29} + \cdots - 9y + 1)$
c_3, c_5, c_6 c_9	$(y^{30} + 37y^{29} + \cdots - 49y + 9)$
c_4, c_{10}, c_{11}	$(y^{30} - 23y^{29} + \cdots - 9y + 1)$
c_8	$(y^{30} + 17y^{29} + \cdots + 12939y + 2809)$