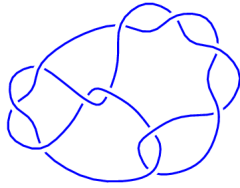
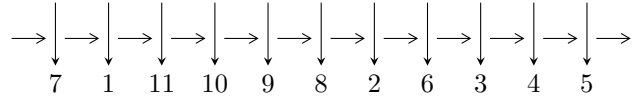


11a₂₄₃ (K11a₂₄₃)

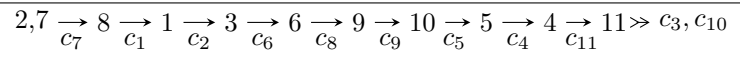


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{34} - u^{33} + \dots + u - 1 \rangle$$

There are 1 irreducible components with 34 representations.

¹The knot diagram image is adapter from “C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, <http://www.indiana.edu/~knotinfo>”

$$\mathbf{I. } I_1^u = \langle u^{34} - u^{33} + \dots + u - 1 \rangle$$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} u^3 \\ -u^3 + u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^{11} - 2u^9 + 4u^7 - 6u^5 + 3u^3 - 2u \\ -u^{13} + u^{11} - 3u^9 + 2u^7 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^7 + 2u^3 \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{31} - 4u^{29} + \dots - 16u^5 + 6u^3 \\ -u^{33} + 3u^{31} + \dots - 4u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{16} + u^{14} - 5u^{12} + 4u^{10} - 7u^8 + 4u^6 - 2u^4 + 1 \\ u^{16} - 2u^{14} + 6u^{12} - 8u^{10} + 10u^8 - 8u^6 + 4u^4 - 2u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{16} + u^{14} - 5u^{12} + 4u^{10} - 7u^8 + 4u^6 - 2u^4 + 1 \\ u^{16} - 2u^{14} + 6u^{12} - 8u^{10} + 10u^8 - 8u^6 + 4u^4 - 2u^2 \end{pmatrix}$$

(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
$u = -0.957008 - 0.864633I$	$6.39073 - 7.51888I$	$-9.58479 + 5.88933I$
$u = -0.957008 + 0.864633I$	$6.39073 + 7.51888I$	$-9.58479 - 5.88933I$
$u = -0.933149 - 0.900837I$	$15.8663 - 3.3207I$	$-2.12280 + 2.39131I$
$u = -0.933149 + 0.900837I$	$15.8663 + 3.3207I$	$-2.12280 - 2.39131I$
$u = -0.922322 - 0.514518I$	$2.40379 - 8.43362I$	$-8.56504 + 8.66068I$
$u = -0.922322 + 0.514518I$	$2.40379 + 8.43362I$	$-8.56504 - 8.66068I$
$u = -0.901185$	-4.70685	-19.4900
$u = -0.887193 - 0.895874I$	$6.61353 + 1.01180I$	$-9.12967 - 1.18783I$
$u = -0.887193 + 0.895874I$	$6.61353 - 1.01180I$	$-9.12967 + 1.18783I$
$u = -0.872014 - 0.400496I$	$0.949146 - 0.978585I$	$-10.88963 + 3.28439I$
$u = -0.872014 + 0.400496I$	$0.949146 + 0.978585I$	$-10.88963 - 3.28439I$
$u = -0.703635 - 0.475487I$	$1.07563 - 1.83024I$	$-6.47079 + 5.97936I$
$u = -0.703635 + 0.475487I$	$1.07563 + 1.83024I$	$-6.47079 - 5.97936I$
$u = -0.484387 - 0.660768I$	$3.79773 + 4.05189I$	$-4.65777 - 2.65947I$
$u = -0.484387 + 0.660768I$	$3.79773 - 4.05189I$	$-4.65777 + 2.65947I$
$u = -0.226712 - 0.537212I$	$2.73574 - 2.31248I$	$-4.68504 + 3.18940I$
$u = -0.226712 + 0.537212I$	$2.73574 + 2.31248I$	$-4.68504 - 3.18940I$
$u = 0.440591 - 0.564184I$	$-0.754026 - 0.647677I$	$-10.09307 + 0.88782I$
$u = 0.440591 + 0.564184I$	$-0.754026 + 0.647677I$	$-10.09307 - 0.88782I$
$u = 0.490234$	-0.620230	-16.5582
$u = 0.747104 - 0.637416I$	$6.64470 + 2.36489I$	$-2.86883 - 3.72968I$
$u = 0.747104 + 0.637416I$	$6.64470 - 2.36489I$	$-2.86883 + 3.72968I$
$u = 0.885998 - 0.911204I$	$11.67775 - 4.89843I$	$-4.67803 + 2.35929I$
$u = 0.885998 + 0.911204I$	$11.67775 + 4.89843I$	$-4.67803 - 2.35929I$
$u = 0.899925 - 0.475897I$	$-2.14151 + 4.62376I$	$-13.8382 - 7.0838I$
$u = 0.899925 + 0.475897I$	$-2.14151 - 4.62376I$	$-13.8382 + 7.0838I$
$u = 0.905647 - 0.876658I$	$8.74108 + 3.00465I$	$-6.23462 - 3.51022I$
$u = 0.905647 + 0.876658I$	$8.74108 - 3.00465I$	$-6.23462 + 3.51022I$
$u = 0.911159 - 0.064557I$	$-0.80027 + 3.72913I$	$-14.4528 - 4.1895I$
$u = 0.911159 + 0.064557I$	$-0.80027 - 3.72913I$	$-14.4528 + 4.1895I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.933946 - 0.863515I$	$8.64990 + 3.44136I$	$-6.50419 - 1.50666I$
$u = 0.933946 + 0.863515I$	$8.64990 - 3.44136I$	$-6.50419 + 1.50666I$
$u = 0.967526 - 0.871929I$	$11.4151 + 11.4767I$	$-5.20067 - 7.04203I$
$u = 0.967526 + 0.871929I$	$11.4151 - 11.4767I$	$-5.20067 + 7.04203I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_7	$(u^{34} + u^{33} + \dots - u - 1)$
c_2, c_5, c_6 c_8	$(u^{34} + 7u^{33} + \dots + 7u + 1)$
c_3, c_4, c_{10}	$(u^{34} + u^{33} + \dots + 3u - 1)$
c_9, c_{11}	$(u^{34} + u^{33} + \dots - 11u - 2)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_7	$(y^{34} - 7y^{33} + \dots - 7y + 1)$
c_2, c_5, c_6 c_8	$(y^{34} + 41y^{33} + \dots + y + 1)$
c_3, c_4, c_{10}	$(y^{34} + 29y^{33} + \dots - 7y + 1)$
c_9, c_{11}	$(y^{34} - 15y^{33} + \dots - 25y + 4)$