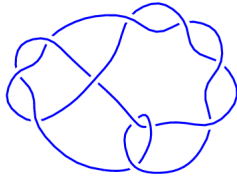
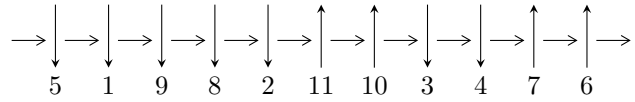


11a₁₄₀ (K11a₁₄₀)

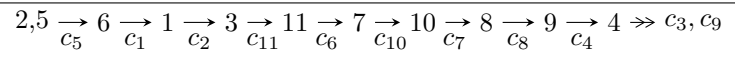


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{32} - u^{31} + \dots + 2u - 1 \rangle$$

There are 1 irreducible components with 32 representations.

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

$$\text{I. } I_1^u = \langle u^{32} - u^{31} + \dots + 2u - 1 \rangle$$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_{11} = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^7 + 2u^5 - 2u^3 \\ u^7 - u^5 + u \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -u^{13} + 4u^{11} - 7u^9 + 4u^7 + 2u^5 - 4u^3 + u \\ u^{13} - 3u^{11} + 3u^9 + 2u^7 - 4u^5 + u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{19} - 6u^{17} + 16u^{15} - 22u^{13} + 13u^{11} + 4u^9 - 12u^7 + 8u^5 - 3u^3 \\ -u^{21} + 5u^{19} - 11u^{17} + 10u^{15} + 2u^{13} - 13u^{11} + 9u^9 + 2u^7 - 5u^5 + u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{27} - 8u^{25} + \dots - 8u^5 + u^3 \\ -u^{27} + 7u^{25} + \dots + u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{27} - 8u^{25} + \dots - 8u^5 + u^3 \\ -u^{27} + 7u^{25} + \dots + u^3 + u \end{pmatrix}$$

(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
$u = -1.280206 - 0.458189I$	$-18.7882 + 0.7378I$	$-12.72584 + 0.13438I$
$u = -1.280206 + 0.458189I$	$-18.7882 - 0.7378I$	$-12.72584 - 0.13438I$
$u = -1.263646 - 0.477439I$	$-12.11660 - 7.17755I$	$-9.14770 + 5.86389I$
$u = -1.263646 + 0.477439I$	$-12.11660 + 7.17755I$	$-9.14770 - 5.86389I$
$u = -1.157413 - 0.314330I$	$-9.45578 + 0.50238I$	$-13.25888 + 0.22265I$
$u = -1.157413 + 0.314330I$	$-9.45578 - 0.50238I$	$-13.25888 - 0.22265I$
$u = -1.076924 - 0.423315I$	$-2.77345 - 5.10982I$	$-6.71803 + 8.18202I$
$u = -1.076924 + 0.423315I$	$-2.77345 + 5.10982I$	$-6.71803 - 8.18202I$
$u = -1.04533$	-6.54630	-13.9218
$u = -0.756512 - 0.350926I$	$0.83897 - 1.64134I$	$1.45053 + 5.73960I$
$u = -0.756512 + 0.350926I$	$0.83897 + 1.64134I$	$1.45053 - 5.73960I$
$u = -0.144298 - 0.527794I$	$-0.269618 + 1.333493I$	$-2.86164 - 5.19756I$
$u = -0.144298 + 0.527794I$	$-0.269618 - 1.333493I$	$-2.86164 + 5.19756I$
$u = -0.012118 - 0.901786I$	$-8.30499 + 2.26267I$	$-6.08064 - 2.91656I$
$u = -0.012118 + 0.901786I$	$-8.30499 - 2.26267I$	$-6.08064 + 2.91656I$
$u = 0.026700 - 0.917936I$	$-14.7670 - 5.6087I$	$-9.35181 + 2.83991I$
$u = 0.026700 + 0.917936I$	$-14.7670 + 5.6087I$	$-9.35181 - 2.83991I$
$u = 0.163704 - 0.669811I$	$-5.64755 - 3.79286I$	$-7.65510 + 3.79891I$
$u = 0.163704 + 0.669811I$	$-5.64755 + 3.79286I$	$-7.65510 - 3.79891I$
$u = 0.522402 - 0.426932I$	$-2.44365 - 0.31845I$	$-3.24811 - 0.20471I$
$u = 0.522402 + 0.426932I$	$-2.44365 + 0.31845I$	$-3.24811 + 0.20471I$
$u = 0.804096$	-1.07276	-10.5906
$u = 0.868634 - 0.432115I$	$-3.34862 + 4.04370I$	$-6.04453 - 7.13519I$
$u = 0.868634 + 0.432115I$	$-3.34862 - 4.04370I$	$-6.04453 + 7.13519I$
$u = 1.083137 - 0.341712I$	$-3.37831 + 1.66824I$	$-9.56243 - 0.35146I$
$u = 1.083137 + 0.341712I$	$-3.37831 - 1.66824I$	$-9.56243 + 0.35146I$
$u = 1.110461 - 0.463462I$	$-8.33031 + 8.05747I$	$-10.74797 - 7.46464I$
$u = 1.110461 + 0.463462I$	$-8.33031 - 8.05747I$	$-10.74797 + 7.46464I$
$u = 1.267861 - 0.464164I$	$-12.21503 + 2.58352I$	$-9.43681 - 0.14752I$
$u = 1.267861 + 0.464164I$	$-12.21503 - 2.58352I$	$-9.43681 + 0.14752I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.268833 - 0.488464I$	$-18.5604 + 10.6275I$	$-12.35486 - 5.78214I$
$u = 1.268833 + 0.488464I$	$-18.5604 - 10.6275I$	$-12.35486 + 5.78214I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{32} + u^{31} + \dots - 2u - 1)$
c_2	$(u^{32} + 19u^{31} + \dots - 8u^2 + 1)$
c_3, c_8, c_9	$(u^{32} + u^{31} + \dots + 2u - 1)$
c_4	$(u^{32} + 3u^{31} + \dots + 202u + 77)$
c_6, c_7, c_{10} c_{11}	$(u^{32} + 3u^{31} + \dots + 16u + 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{32} - 19y^{31} + \dots - 8y^2 + 1)$
c_2	$(y^{32} - 11y^{31} + \dots - 16y + 1)$
c_3, c_8, c_9	$(y^{32} - 31y^{31} + \dots - 16y^2 + 1)$
c_4	$(y^{32} - 19y^{31} + \dots - 95320y + 5929)$
c_6, c_7, c_{10} c_{11}	$(y^{32} + 41y^{31} + \dots - 112y + 1)$