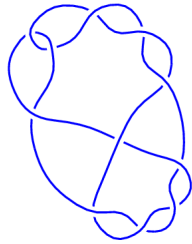
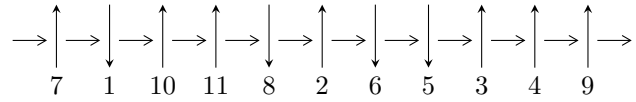


11a₂₂₅ (K11a₂₂₅)

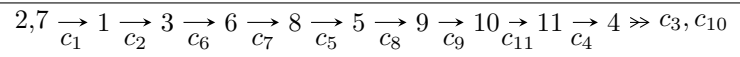


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{26} - u^{25} + \dots - u - 1 \rangle$$

There are 1 irreducible components with 26 representations.

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

$$\mathbf{I. } I_1^u = \langle u^{26} - u^{25} + \dots - u - 1 \rangle$$

(i) Arc colorings

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

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

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

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

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

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

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

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

$$a_{10} = \begin{pmatrix} u^{13} + 2u^{11} + 5u^9 + 6u^7 + 6u^5 + 2u^3 + u \\ u^{15} + u^{13} + 4u^{11} + 3u^9 + 4u^7 + 2u^5 + 2u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{24} - 3u^{22} + \dots - 5u^4 + 1 \\ -u^{25} + u^{24} + \dots - u - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{24} - 3u^{22} + \dots - 5u^4 + 1 \\ -u^{25} + u^{24} + \dots - u - 1 \end{pmatrix}$$

(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
$u = -0.907051 - 0.911013I$	$11.16141 - 0.44023I$	$10.10436 + 1.46145I$
$u = -0.907051 + 0.911013I$	$11.16141 + 0.44023I$	$10.10436 - 1.46145I$
$u = -0.887317 - 0.951652I$	$11.03033 + 7.05835I$	$9.75996 - 6.21969I$
$u = -0.887317 + 0.951652I$	$11.03033 - 7.05835I$	$9.75996 + 6.21969I$
$u = -0.726871 - 0.589145I$	$10.74899 - 1.83401I$	$11.98633 + 0.23070I$
$u = -0.726871 + 0.589145I$	$10.74899 + 1.83401I$	$11.98633 - 0.23070I$
$u = -0.592242 - 0.916703I$	$9.67676 + 6.71425I$	$9.25508 - 6.45300I$
$u = -0.592242 + 0.916703I$	$9.67676 - 6.71425I$	$9.25508 + 6.45300I$
$u = -0.484637 - 0.751855I$	$0.26125 + 1.87689I$	$2.74450 - 3.73316I$
$u = -0.484637 + 0.751855I$	$0.26125 - 1.87689I$	$2.74450 + 3.73316I$
$u = -0.361497$	0.783407	12.8957
$u = -0.089478 - 0.789753I$	$-1.41635 + 1.31903I$	$-1.30126 - 6.10882I$
$u = -0.089478 + 0.789753I$	$-1.41635 - 1.31903I$	$-1.30126 + 6.10882I$
$u = 0.197517 - 0.899510I$	$5.28037 - 2.44629I$	$3.67676 + 4.11819I$
$u = 0.197517 + 0.899510I$	$5.28037 + 2.44629I$	$3.67676 - 4.11819I$
$u = 0.549813 - 0.855063I$	$1.89109 - 4.88723I$	$7.24553 + 8.84366I$
$u = 0.549813 + 0.855063I$	$1.89109 + 4.88723I$	$7.24553 - 8.84366I$
$u = 0.597139$	8.17274	12.1061
$u = 0.612956 - 0.606631I$	$2.67984 + 0.49611I$	$10.71301 - 1.37639I$
$u = 0.612956 + 0.606631I$	$2.67984 - 0.49611I$	$10.71301 + 1.37639I$
$u = 0.887776 - 0.927734I$	$8.58736 - 3.27967I$	$5.99252 + 2.35106I$
$u = 0.887776 + 0.927734I$	$8.58736 + 3.27967I$	$5.99252 - 2.35106I$
$u = 0.893815 - 0.969703I$	$19.5205 - 9.3622I$	$11.47654 + 4.95795I$
$u = 0.893815 + 0.969703I$	$19.5205 + 9.3622I$	$11.47654 - 4.95795I$
$u = 0.927899 - 0.905240I$	$19.7312 + 2.6570I$	$11.84579 - 0.35212I$
$u = 0.927899 + 0.905240I$	$19.7312 - 2.6570I$	$11.84579 + 0.35212I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_6	$(u^{26} + u^{25} + \dots + u - 1)$
c_2, c_5, c_7 c_8	$(u^{26} + 5u^{25} + \dots - 3u + 1)$
c_3, c_4, c_9 c_{10}	$(u^{26} + u^{25} + \dots + u - 1)$
c_{11}	$(u^{26} + 9u^{25} + \dots - 247u - 89)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_6	$(y^{26} + 5y^{25} + \dots - 3y + 1)$
c_2, c_5, c_7 c_8	$(y^{26} + 33y^{25} + \dots - 59y + 1)$
c_3, c_4, c_9 c_{10}	$(y^{26} - 31y^{25} + \dots - 3y + 1)$
c_{11}	$(y^{26} - 19y^{25} + \dots - 92159y + 7921)$