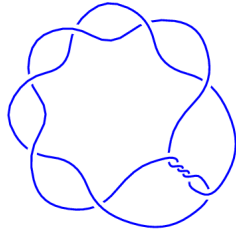
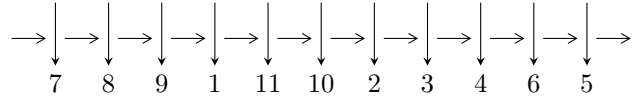


11a₃₅₈ (K11a₃₅₈)

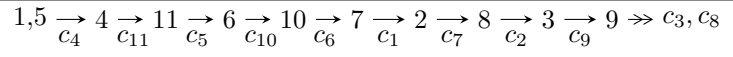


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{15} + u^{14} + 10u^{13} + 9u^{12} + 38u^{11} + 30u^{10} + 68u^9 + 45u^8 + 58u^7 + 30u^6 + 20u^5 + 8u^4 - 4u^3 - 2u^2 - 4u - 1 \rangle$$

There are 1 irreducible components with 15 representations.

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

$$\mathbf{I. } I_1^u = \langle u^{15} + u^{14} + 10u^{13} + 9u^{12} + 38u^{11} + 30u^{10} + 68u^9 + 45u^8 + 58u^7 + 30u^6 + 20u^5 + 8u^4 - 4u^3 - 2u^2 - 4u - 1 \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

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

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

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

$$a_2 = \begin{pmatrix} -u^8 - 5u^6 - 7u^4 - 2u^2 + 1 \\ u^{10} + 6u^8 + 11u^6 + 6u^4 + u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{13} + 8u^{11} + 23u^9 + 28u^7 + 12u^5 - 2u^3 - 3u \\ u^{14} + u^{13} + \dots - 3u - 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{11} + 6u^9 + 10u^7 + 2u^5 - 3u^3 - 2u \\ u^{11} + 7u^9 + 16u^7 + 13u^5 + 3u^3 - u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^6 - 3u^4 + 1 \\ -u^6 - 4u^4 - 3u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^6 - 3u^4 + 1 \\ -u^6 - 4u^4 - 3u^2 \end{pmatrix}$$

(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
$u = -0.678893$	-15.5909	-17.7931
$u = -0.465283 - 0.852312I$	-13.01076 - 3.83507I	-13.8855 + 3.7296I
$u = -0.465283 + 0.852312I$	-13.01076 + 3.83507I	-13.8855 - 3.7296I
$u = -0.261729$	-0.476358	-20.8369
$u = -0.12648 - 1.66151I$	-4.34377 - 6.10280I	-12.08614 + 2.62288I
$u = -0.12648 + 1.66151I$	-4.34377 + 6.10280I	-12.08614 - 2.62288I
$u = -0.116562 - 0.800263I$	1.82113 - 1.28999I	-7.07135 + 5.74970I
$u = -0.116562 + 0.800263I$	1.82113 + 1.28999I	-7.07135 - 5.74970I
$u = -0.02475 - 1.66154I$	10.51143 - 1.78822I	-6.95572 + 3.41628I
$u = -0.02475 + 1.66154I$	10.51143 + 1.78822I	-6.95572 - 3.41628I
$u = 0.08053 - 1.65575I$	5.92954 + 4.61437I	-11.26027 - 3.61452I
$u = 0.08053 + 1.65575I$	5.92954 - 4.61437I	-11.26027 + 3.61452I
$u = 0.345475 - 0.813275I$	-2.65857 + 3.05774I	-13.13888 - 4.89846I
$u = 0.345475 + 0.813275I$	-2.65857 - 3.05774I	-13.13888 + 4.89846I
$u = 0.554774$	-5.10471	-18.5743

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_2, c_3 c_7, c_8, c_9	$(u^{15} + u^{14} + \dots - 2u - 1)$
c_4, c_5, c_6 c_{10}, c_{11}	$(u^{15} + u^{14} + \dots - 4u - 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_2, c_3 c_7, c_8, c_9	$(y^{15} - 21y^{14} + \dots + 12y - 1)$
c_4, c_5, c_6 c_{10}, c_{11}	$(y^{15} + 19y^{14} + \dots + 12y - 1)$