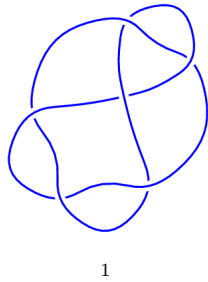
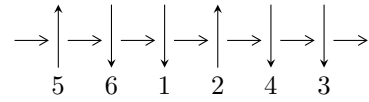


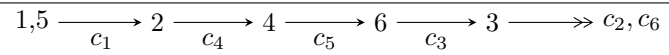
6₂ (K6a₂)



Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^5 - u^4 + 2u^3 - u^2 + u - 1 \rangle$$

There are 1 irreducible components with 5 representations.

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

$$\text{I. } I_1^u = \langle u^5 - u^4 + 2u^3 - u^2 + u - 1 \rangle$$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^3 \\ u^4 - u^3 + u^2 + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $4u^3 - 4u^2 + 4u - 6$

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.339110 - 0.822375I$	$-0.32910 + 1.53058I$	$-2.51511 - 4.43065I$
$u = -0.339110 + 0.822375I$	$-0.32910 - 1.53058I$	$-2.51511 + 4.43065I$
$u = 0.455697 - 1.200152I$	$-5.87256 - 4.40083I$	$-6.74431 + 3.49859I$
$u = 0.455697 + 1.200152I$	$-5.87256 + 4.40083I$	$-6.74431 - 3.49859I$
$u = 0.766826$	-2.40108	-3.48114

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_4	$(u^5 + u^4 + 2u^3 + u^2 + u + 1)$
c_2, c_3, c_6	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)$
c_5	$(u^5 + 3u^4 + 4u^3 + u^2 - u - 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_4	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)$
c_2, c_3, c_6	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)$
c_5	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)$