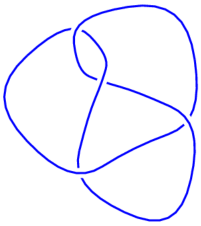
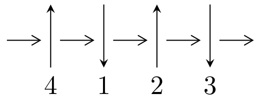
4_1 $(K4a_1)$



[1]

Arc Sequences



Solving Sequence

$$1,3 \xrightarrow[c_2]{} 2 \xrightarrow[c_4]{} 4 \twoheadrightarrow c_1, c_3$$

Representation Ideals

$$I = I_1^u$$

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

There are 1 irreducible components with 2 representations.

[1] The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u = \langle u^2 - u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u - 2$

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u		$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.500000 - 0.866025I$	$2.02988I$	$-3.46410I$
$u =$	$0.500000 + 0.866025I$	$-2.02988I$	$3.46410I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_2, c_3 c_4	(u^2+u+1)

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_2, c_3 c_4	$(y^2 + y + 1)$