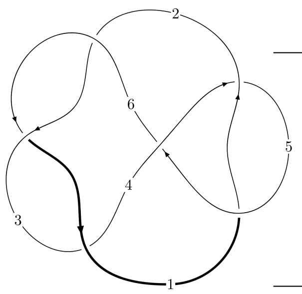
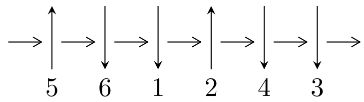
6_2 $(K6a_2)$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$1,5 \xrightarrow[c_1]{} 2 \xrightarrow[c_4]{} 4 \xrightarrow[c_3]{} 3 \xrightarrow[c_6]{} 6 \twoheadrightarrow c_2, c_5$$

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

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

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 5 representations.

[1] The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2] All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

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

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 \\ -u^4 - u^3 - u^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
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	$u^5 + 3u^4 + 4u^3 + u^2 - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
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	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.339110 + 0.822375I$	$-0.32910 + 1.53058I$	$-2.51511 - 4.43065I$
$u = \quad 0.339110 - 0.822375I$	$-0.32910 - 1.53058I$	$-2.51511 + 4.43065I$
$u = -0.766826$	-2.40108	-3.48110
$u = -0.455697 + 1.200150I$	$-5.87256 - 4.40083I$	$-6.74431 + 3.49859I$
$u = -0.455697 - 1.200150I$	$-5.87256 + 4.40083I$	$-6.74431 - 3.49859I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
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 crossing
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	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$