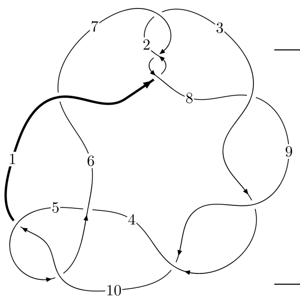
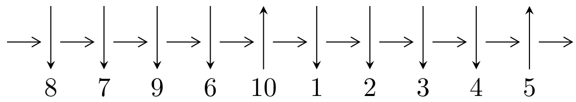
10_{21} $(K10a_{60})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$3{,}7 \xrightarrow[c_2]{} 2 \xrightarrow[c_7]{} 8 \xrightarrow[c_8]{} 9 \xrightarrow[c_3]{} 4 \xrightarrow[c_9]{} 10 \xrightarrow[c_1]{} 1 \xrightarrow[c_6]{} 6 \xrightarrow[c_5]{} 5 \twoheadrightarrow c_4, c_{10}$$

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

$$I_1^u = \langle u^{16} - u^{15} + \cdots - 2u + 1 \rangle$$
$$I_2^u = \langle u^6 + 2u^4 + u^3 + u^2 + u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 22 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. $\boldsymbol{I_1^u = \langle u^{16} - u^{15} + 7u^{14} - 7u^{13} + 20u^{12} - 20u^{11} + 27u^{10} - 27u^9 + 12u^8 - 12u^7 - 8u^6 + 8u^5 - 6u^4 + 6u^3 + 3u^2 - 2u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^6 - 3u^4 - 2u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^9 + 4u^7 + 5u^5 - 3u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{15} + 7u^{13} + \cdots - 3u^2 + u \\ -u^{15} - 7u^{13} + \cdots + 3u^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{15} - 4u^{14} + 28u^{13} - 24u^{12} + 76u^{11} - 56u^{10} + 88u^9 - 52u^8 + 8u^7 + 4u^6 - 64u^5 + 28u^4 - 24u^3 - 4u^2 + 20u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$u^{16} + u^{15} + \cdots + 2u + 1$
c_3, c_6, c_8 c_9	$u^{16} + 2u^{15} + \cdots + u + 2$
c_4	$u^{16} + 9u^{15} + \cdots + 2u + 1$
c_5, c_{10}	$u^{16} + u^{15} + \cdots + u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_7	$y^{16} + 13y^{15} + \cdots + 2y + 1$
c_3, c_6, c_8 c_9	$y^{16} - 18y^{15} + \cdots + 19y + 4$
c_4	$y^{16} - 3y^{15} + \cdots - 2y + 1$
c_5, c_{10}	$y^{16} + 9y^{15} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.913611 + 0.024079I$	$-12.72960 - 4.85972I$	$-13.14726 + 3.11789I$
$u = 0.913611 - 0.024079I$	$-12.72960 + 4.85972I$	$-13.14726 - 3.11789I$
$u = 0.186298 + 1.238560I$	$2.77285 - 2.45923I$	$-2.72504 + 3.25382I$
$u = 0.186298 - 1.238560I$	$2.77285 + 2.45923I$	$-2.72504 - 3.25382I$
$u = 0.048176 + 1.278470I$	$4.14984 - 1.95072I$	$-0.93886 + 4.17042I$
$u = 0.048176 - 1.278470I$	$4.14984 + 1.95072I$	$-0.93886 - 4.17042I$
$u = -0.255012 + 1.283570I$	$0.60263 + 6.60937I$	$-6.51664 - 7.40663I$
$u = -0.255012 - 1.283570I$	$0.60263 - 6.60937I$	$-6.51664 + 7.40663I$
$u = -0.650102 + 0.127920I$	$-3.75337 + 3.37292I$	$-12.93248 - 5.20888I$
$u = -0.650102 - 0.127920I$	$-3.75337 - 3.37292I$	$-12.93248 + 5.20888I$
$u = -0.427423 + 1.281870I$	$-4.90049 + 4.73480I$	$-6.47201 - 3.02289I$
$u = -0.427423 - 1.281870I$	$-4.90049 - 4.73480I$	$-6.47201 + 3.02289I$
$u = 0.434047 + 1.303760I$	$-8.59381 - 9.67514I$	$-9.50822 + 5.97678I$
$u = 0.434047 - 1.303760I$	$-8.59381 + 9.67514I$	$-9.50822 - 5.97678I$
$u = 0.250406 + 0.342321I$	$-0.577111 - 1.084380I$	$-7.75949 + 5.90127I$
$u = 0.250406 - 0.342321I$	$-0.577111 + 1.084380I$	$-7.75949 - 5.90127I$

II. $I_2^u = \langle u^6 + 2u^4 + u^3 + u^2 + u - 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^4 + u^3 - u^2 + u \\ -u^3 - u + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^4 - u^2 - 1 \\ -u^3 - u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^5 + u^4 - u^3 + u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 \\ -u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_7, c_{10}	$u^6 + 2u^4 - u^3 + u^2 - u - 1$
c_3, c_6, c_8 c_9	$(u^2 - u - 1)^3$
c_4	$u^6 + 4u^5 + 6u^4 + u^3 - 5u^2 - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_7, c_{10}	$y^6 + 4y^5 + 6y^4 + y^3 - 5y^2 - 3y + 1$
c_3, c_6, c_8 c_9	$(y^2 - 3y + 1)^3$
c_4	$y^6 - 4y^5 + 18y^4 - 35y^3 + 43y^2 - 19y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.896795$	-8.88264	-10.0000
$u = -0.248003 + 1.088360I$	-0.986960	-10.0000
$u = -0.248003 - 1.088360I$	-0.986960	-10.0000
$u = \quad 0.448397 + 1.266170I$	-8.88264	-10.0000
$u = \quad 0.448397 - 1.266170I$	-8.88264	-10.0000
$u = \quad 0.496006$	-0.986960	-10.0000

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$(u^6+2u^4-u^3+u^2-u-1)(u^{16}+u^{15}+\cdots+2u+1)$
c_3, c_6, c_8 c_9	$((u^2-u-1)^3)(u^{16}+2u^{15}+\cdots+u+2)$
c_4	$(u^6+4u^5+6u^4+u^3-5u^2-3u+1)(u^{16}+9u^{15}+\cdots+2u+1)$
c_5, c_{10}	$(u^6+2u^4-u^3+u^2-u-1)(u^{16}+u^{15}+\cdots+u^2+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_7	$(y^6 + 4y^5 + 6y^4 + y^3 - 5y^2 - 3y + 1)(y^{16} + 13y^{15} + \cdots + 2y + 1)$
c_3, c_6, c_8 c_9	$((y^2 - 3y + 1)^3)(y^{16} - 18y^{15} + \cdots + 19y + 4)$
c_4	$(y^6 - 4y^5 + \cdots - 19y + 1)(y^{16} - 3y^{15} + \cdots - 2y + 1)$
c_5, c_{10}	$(y^6 + 4y^5 + 6y^4 + y^3 - 5y^2 - 3y + 1)(y^{16} + 9y^{15} + \cdots + 2y + 1)$