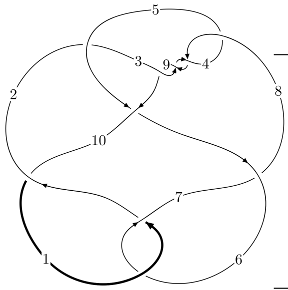
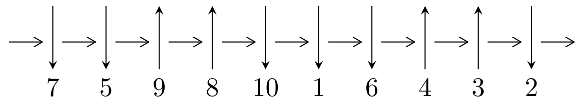
10_{18} $(K10a_{63})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{27} - u^{26} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 27 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. $I_1^u = \langle u^{27} - u^{26} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^6 + 3u^4 + 2u^2 + 1 \\ u^8 + 4u^6 + 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^6 + 3u^4 + 2u^2 + 1 \\ -u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{15} - 8u^{13} - 24u^{11} - 34u^9 - 26u^7 - 14u^5 - 4u^3 \\ u^{15} + 7u^{13} + 16u^{11} + 11u^9 - 2u^7 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{15} + 8u^{13} + 24u^{11} + 34u^9 + 26u^7 + 14u^5 + 4u^3 \\ u^{17} + 9u^{15} + 31u^{13} + 50u^{11} + 37u^9 + 12u^7 + 4u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{25} - 4u^{24} + 60u^{23} - 56u^{22} + 384u^{21} - 332u^{20} + 1364u^{19} - 1084u^{18} + 2936u^{17} - 2136u^{16} + 3956u^{15} - 2664u^{14} + 3412u^{13} - 2236u^{12} + 2008u^{11} - 1396u^{10} + 896u^9 - 656u^8 + 304u^7 - 204u^6 + 124u^5 - 64u^4 + 60u^3 - 20u^2 + 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{27} - u^{26} + \cdots + u^2 + 1$
c_2	$u^{27} - 7u^{26} + \cdots + 8u - 1$
c_3, c_4, c_8 c_9	$u^{27} + u^{26} + \cdots + 2u + 1$
c_5	$u^{27} + u^{26} + \cdots + 8u + 4$
c_7, c_{10}	$u^{27} + 9u^{26} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{27} - 9y^{26} + \cdots - 2y - 1$
c_2	$y^{27} - y^{26} + \cdots - 34y - 1$
c_3, c_4, c_8 c_9	$y^{27} + 31y^{26} + \cdots - 2y - 1$
c_5	$y^{27} - 5y^{26} + \cdots + 56y - 16$
c_7, c_{10}	$y^{27} + 19y^{26} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.509948 + 0.671959I$	$1.37783 + 8.19998I$	$-2.79147 - 8.55054I$
$u = 0.509948 - 0.671959I$	$1.37783 - 8.19998I$	$-2.79147 + 8.55054I$
$u = 0.113525 + 0.797622I$	$-0.95481 - 2.34352I$	$-6.62935 + 2.39389I$
$u = 0.113525 - 0.797622I$	$-0.95481 + 2.34352I$	$-6.62935 - 2.39389I$
$u = -0.501343 + 0.630190I$	$2.26803 - 2.57835I$	$-0.81917 + 3.65038I$
$u = -0.501343 - 0.630190I$	$2.26803 + 2.57835I$	$-0.81917 - 3.65038I$
$u = 0.376782 + 0.707314I$	$-3.62827 + 2.81912I$	$-9.45302 - 5.56399I$
$u = 0.376782 - 0.707314I$	$-3.62827 - 2.81912I$	$-9.45302 + 5.56399I$
$u = 0.576068 + 0.227813I$	$2.67334 - 4.47788I$	$0.69991 + 3.02325I$
$u = 0.576068 - 0.227813I$	$2.67334 + 4.47788I$	$0.69991 - 3.02325I$
$u = -0.548106 + 0.284426I$	$3.27525 - 1.04588I$	$2.08117 + 3.01333I$
$u = -0.548106 - 0.284426I$	$3.27525 + 1.04588I$	$2.08117 - 3.01333I$
$u = -0.312350 + 0.509712I$	$-0.041447 - 1.170260I$	$-0.65568 + 5.80154I$
$u = -0.312350 - 0.509712I$	$-0.041447 + 1.170260I$	$-0.65568 - 5.80154I$
$u = -0.02510 + 1.42921I$	$-1.89158 - 2.85128I$	$-2.36117 + 2.96428I$
$u = -0.02510 - 1.42921I$	$-1.89158 + 2.85128I$	$-2.36117 - 2.96428I$
$u = 0.459274$	-1.66811	-4.57270
$u = -0.07989 + 1.56731I$	$-7.20164 - 2.51533I$	$-4.12254 + 2.69602I$
$u = -0.07989 - 1.56731I$	$-7.20164 + 2.51533I$	$-4.12254 - 2.69602I$
$u = -0.14253 + 1.58020I$	$-5.18836 - 4.92710I$	$-3.80267 + 2.17668I$
$u = -0.14253 - 1.58020I$	$-5.18836 + 4.92710I$	$-3.80267 - 2.17668I$
$u = 0.14900 + 1.59440I$	$-6.28352 + 10.63980I$	$-5.63394 - 6.90100I$
$u = 0.14900 - 1.59440I$	$-6.28352 - 10.63980I$	$-5.63394 + 6.90100I$
$u = 0.04709 + 1.60412I$	$-9.06338 - 1.66777I$	$-8.35861 + 2.79123I$
$u = 0.04709 - 1.60412I$	$-9.06338 + 1.66777I$	$-8.35861 - 2.79123I$
$u = 0.10726 + 1.60486I$	$-11.51840 + 4.62424I$	$-10.86711 - 3.60523I$
$u = 0.10726 - 1.60486I$	$-11.51840 - 4.62424I$	$-10.86711 + 3.60523I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{27} - u^{26} + \cdots + u^2 + 1$
c_2	$u^{27} - 7u^{26} + \cdots + 8u - 1$
c_3, c_4, c_8 c_9	$u^{27} + u^{26} + \cdots + 2u + 1$
c_5	$u^{27} + u^{26} + \cdots + 8u + 4$
c_7, c_{10}	$u^{27} + 9u^{26} + \cdots - 2u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{27} - 9y^{26} + \cdots - 2y - 1$
c_2	$y^{27} - y^{26} + \cdots - 34y - 1$
c_3, c_4, c_8 c_9	$y^{27} + 31y^{26} + \cdots - 2y - 1$
c_5	$y^{27} - 5y^{26} + \cdots + 56y - 16$
c_7, c_{10}	$y^{27} + 19y^{26} + \cdots - 2y - 1$