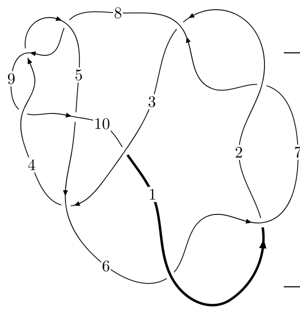
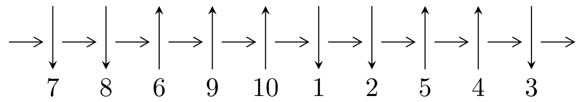
10_{19} $(K10a_{108})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{25} - u^{24} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 25 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. $I_1^u = \langle u^{25} - u^{24} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^7 - 4u^5 - 4u^3 \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{14} + 7u^{12} + 18u^{10} + 19u^8 + 4u^6 - 4u^4 + 1 \\ u^{14} + 6u^{12} + 13u^{10} + 10u^8 - 2u^6 - 4u^4 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{13} + 6u^{11} + 13u^9 + 10u^7 - 2u^5 - 4u^3 + u \\ u^{15} + 7u^{13} + 18u^{11} + 19u^9 + 4u^7 - 4u^5 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{24} - 11u^{22} + \cdots + 5u^4 + 1 \\ -u^{24} + u^{23} + \cdots - 2u^3 + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -4u^{24} + 4u^{23} - 48u^{22} + 40u^{21} - 240u^{20} + 164u^{19} - 636u^{18} + 340u^{17} - 920u^{16} + 332u^{15} - 620u^{14} + 36u^{13} - 12u^{12} - 184u^{11} + 140u^{10} - 80u^9 - 56u^8 + 36u^7 - 60u^6 + 12u^4 - 12u^3 + 4u^2 + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_6 c_7	$u^{25} - u^{24} + \cdots + u + 1$
c_3	$u^{25} + 5u^{24} + \cdots - 47u - 11$
c_4, c_8, c_9	$u^{25} - u^{24} + \cdots - u + 1$
c_5	$u^{25} + u^{24} + \cdots + 3u + 2$
c_{10}	$u^{25} - 7u^{24} + \cdots + 41u - 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7	$y^{25} - 29y^{24} + \cdots + y - 1$
c_3	$y^{25} + 11y^{24} + \cdots - 827y - 121$
c_4, c_8, c_9	$y^{25} + 23y^{24} + \cdots + y - 1$
c_5	$y^{25} + 3y^{24} + \cdots - 31y - 4$
c_{10}	$y^{25} - 5y^{24} + \cdots + 197y - 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.083328 + 1.136530I$	$-1.41378 + 1.61686I$	$-0.87509 - 4.54712I$
$u = \quad 0.083328 - 1.136530I$	$-1.41378 - 1.61686I$	$-0.87509 + 4.54712I$
$u = -0.226231 + 1.195340I$	$-7.69988 - 3.32898I$	$-4.74899 + 3.47484I$
$u = -0.226231 - 1.195340I$	$-7.69988 + 3.32898I$	$-4.74899 - 3.47484I$
$u = \quad 0.700117 + 0.334469I$	$-7.82366 + 6.30957I$	$-3.83367 - 5.57691I$
$u = \quad 0.700117 - 0.334469I$	$-7.82366 - 6.30957I$	$-3.83367 + 5.57691I$
$u = \quad 0.461544 + 0.584785I$	$-8.81533 - 2.31852I$	$-6.07988 - 0.26267I$
$u = \quad 0.461544 - 0.584785I$	$-8.81533 + 2.31852I$	$-6.07988 + 0.26267I$
$u = -0.652943 + 0.287492I$	$-0.14392 - 4.18290I$	$-0.98515 + 7.72660I$
$u = -0.652943 - 0.287492I$	$-0.14392 + 4.18290I$	$-0.98515 - 7.72660I$
$u = -0.677492$	-4.07756	0.217760
$u = \quad 0.580674 + 0.194968I$	$1.16471 + 0.92486I$	$4.08147 - 1.66278I$
$u = \quad 0.580674 - 0.194968I$	$1.16471 - 0.92486I$	$4.08147 + 1.66278I$
$u = \quad 0.224985 + 1.385120I$	$-3.90410 + 3.87050I$	$-2.00448 - 2.43861I$
$u = \quad 0.224985 - 1.385120I$	$-3.90410 - 3.87050I$	$-2.00448 + 2.43861I$
$u = -0.15893 + 1.40888I$	$-6.93669 - 1.11527I$	$-8.41631 - 0.71281I$
$u = -0.15893 - 1.40888I$	$-6.93669 + 1.11527I$	$-8.41631 + 0.71281I$
$u = -0.333053 + 0.458284I$	$-1.19946 + 0.82124I$	$-4.96410 - 1.46331I$
$u = -0.333053 - 0.458284I$	$-1.19946 - 0.82124I$	$-4.96410 + 1.46331I$
$u = -0.25437 + 1.41342I$	$-5.58181 - 7.50021I$	$-5.62573 + 7.29113I$
$u = -0.25437 - 1.41342I$	$-5.58181 + 7.50021I$	$-5.62573 - 7.29113I$
$u = \quad 0.26972 + 1.43636I$	$-13.4988 + 9.8448I$	$-7.88321 - 5.59341I$
$u = \quad 0.26972 - 1.43636I$	$-13.4988 - 9.8448I$	$-7.88321 + 5.59341I$
$u = \quad 0.14391 + 1.45939I$	$-15.3081 - 0.2303I$	$-9.77375 - 0.13265I$
$u = \quad 0.14391 - 1.45939I$	$-15.3081 + 0.2303I$	$-9.77375 + 0.13265I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_6 c_7	$u^{25} - u^{24} + \cdots + u + 1$
c_3	$u^{25} + 5u^{24} + \cdots - 47u - 11$
c_4, c_8, c_9	$u^{25} - u^{24} + \cdots - u + 1$
c_5	$u^{25} + u^{24} + \cdots + 3u + 2$
c_{10}	$u^{25} - 7u^{24} + \cdots + 41u - 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7	$y^{25} - 29y^{24} + \cdots + y - 1$
c_3	$y^{25} + 11y^{24} + \cdots - 827y - 121$
c_4, c_8, c_9	$y^{25} + 23y^{24} + \cdots + y - 1$
c_5	$y^{25} + 3y^{24} + \cdots - 31y - 4$
c_{10}	$y^{25} - 5y^{24} + \cdots + 197y - 49$