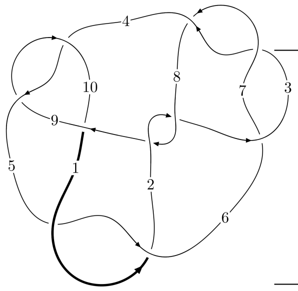
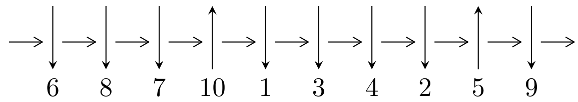
10_{25} $(K10a_{61})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{32} + u^{31} + \cdots - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 32 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. $\boldsymbol{I_1^u = \langle u^{32} + u^{31} + \cdots - 2u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^9 + 4u^7 - 5u^5 + 3u \\ u^{11} - 5u^9 + 8u^7 - 3u^5 - 3u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{16} - 7u^{14} + 19u^{12} - 22u^{10} + 3u^8 + 14u^6 - 6u^4 - 4u^2 + 1 \\ -u^{18} + 8u^{16} - 25u^{14} + 36u^{12} - 17u^{10} - 12u^8 + 12u^6 + 2u^4 - 3u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{23} - 10u^{21} + \cdots - 2u^3 + 4u \\ u^{23} - 9u^{21} + \cdots - 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{29} + 48u^{27} - 4u^{26} - 252u^{25} + 44u^{24} + 740u^{23} - 208u^{22} - 1264u^{21} + 536u^{20} + 1080u^{19} - 768u^{18} + 64u^{17} + 480u^{16} - 1008u^{15} + 176u^{14} + 612u^{13} - 436u^{12} + 320u^{11} + 120u^{10} - 424u^9 + 128u^8 - 4u^7 - 60u^6 + 108u^5 - 12u^4 - 4u^3 + 4u^2 - 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{32} - u^{31} + \cdots + 14u - 5$
c_2, c_8	$u^{32} - 3u^{31} + \cdots - 4u^4 + 1$
c_3, c_6, c_7	$u^{32} + u^{31} + \cdots - 2u - 1$
c_4, c_9	$u^{32} + u^{31} + \cdots - 2u - 1$
c_{10}	$u^{32} + 17u^{31} + \cdots - 8u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{32} - 23y^{31} + \cdots - 296y + 25$
c_2, c_8	$y^{32} + 17y^{31} + \cdots - 8y^2 + 1$
c_3, c_6, c_7	$y^{32} - 27y^{31} + \cdots + 16y^2 + 1$
c_4, c_9	$y^{32} + 17y^{31} + \cdots - 8y^2 + 1$
c_{10}	$y^{32} - 3y^{31} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.029010 + 0.281289I$	$-3.89830 + 3.89503I$	$-9.35061 - 2.90091I$
$u = 1.029010 - 0.281289I$	$-3.89830 - 3.89503I$	$-9.35061 + 2.90091I$
$u = -1.134230 + 0.236397I$	$-1.32933 + 0.52783I$	$-5.59448 - 0.64788I$
$u = -1.134230 - 0.236397I$	$-1.32933 - 0.52783I$	$-5.59448 + 0.64788I$
$u = 0.166316 + 0.775774I$	$-1.27472 - 7.88151I$	$-6.19556 + 6.68910I$
$u = 0.166316 - 0.775774I$	$-1.27472 + 7.88151I$	$-6.19556 - 6.68910I$
$u = 0.729645 + 0.240963I$	$-4.28206 - 3.88889I$	$-10.89128 + 4.90467I$
$u = 0.729645 - 0.240963I$	$-4.28206 + 3.88889I$	$-10.89128 - 4.90467I$
$u = -0.028912 + 0.764004I$	$4.01456 + 2.24194I$	$-0.65690 - 3.79727I$
$u = -0.028912 - 0.764004I$	$4.01456 - 2.24194I$	$-0.65690 + 3.79727I$
$u = -0.140851 + 0.748200I$	$1.56622 + 3.15266I$	$-2.67728 - 3.41480I$
$u = -0.140851 - 0.748200I$	$1.56622 - 3.15266I$	$-2.67728 + 3.41480I$
$u = 0.191682 + 0.700576I$	$-2.34434 + 0.39737I$	$-7.83598 + 0.58140I$
$u = 0.191682 - 0.700576I$	$-2.34434 - 0.39737I$	$-7.83598 - 0.58140I$
$u = -1.237710 + 0.313650I$	$0.29651 + 1.65231I$	$-4.59303 - 0.15309I$
$u = -1.237710 - 0.313650I$	$0.29651 - 1.65231I$	$-4.59303 + 0.15309I$
$u = 1.288430 + 0.161328I$	$-5.00599 - 2.81562I$	$-13.51638 + 3.82546I$
$u = 1.288430 - 0.161328I$	$-5.00599 + 2.81562I$	$-13.51638 - 3.82546I$
$u = 1.281200 + 0.325415I$	$-0.06115 - 6.17510I$	$-5.73067 + 6.90538I$
$u = 1.281200 - 0.325415I$	$-0.06115 + 6.17510I$	$-5.73067 - 6.90538I$
$u = 1.350330 + 0.317347I$	$-3.13584 - 7.01747I$	$-7.66223 + 4.88322I$
$u = 1.350330 - 0.317347I$	$-3.13584 + 7.01747I$	$-7.66223 - 4.88322I$
$u = 1.39424$	-7.31963	-11.4830
$u = -1.364340 + 0.293820I$	$-7.25067 + 3.23058I$	$-12.64791 - 1.85611I$
$u = -1.364340 - 0.293820I$	$-7.25067 - 3.23058I$	$-12.64791 + 1.85611I$
$u = -0.599844$	-1.22821	-8.26170
$u = -1.364190 + 0.328069I$	$-6.10646 + 11.87580I$	$-10.77954 - 7.99531I$
$u = -1.364190 - 0.328069I$	$-6.10646 - 11.87580I$	$-10.77954 + 7.99531I$
$u = -1.41547 + 0.02215I$	$-10.82670 + 4.39858I$	$-14.8085 - 3.5355I$
$u = -1.41547 - 0.02215I$	$-10.82670 - 4.39858I$	$-14.8085 + 3.5355I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.248101 + 0.323031I$	$-0.501058 + 1.034980I$	$-7.18759 - 6.41402I$
$u = -0.248101 - 0.323031I$	$-0.501058 - 1.034980I$	$-7.18759 + 6.41402I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{32} - u^{31} + \cdots + 14u - 5$
c_2, c_8	$u^{32} - 3u^{31} + \cdots - 4u^4 + 1$
c_3, c_6, c_7	$u^{32} + u^{31} + \cdots - 2u - 1$
c_4, c_9	$u^{32} + u^{31} + \cdots - 2u - 1$
c_{10}	$u^{32} + 17u^{31} + \cdots - 8u^2 + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{32} - 23y^{31} + \cdots - 296y + 25$
c_2, c_8	$y^{32} + 17y^{31} + \cdots - 8y^2 + 1$
c_3, c_6, c_7	$y^{32} - 27y^{31} + \cdots + 16y^2 + 1$
c_4, c_9	$y^{32} + 17y^{31} + \cdots - 8y^2 + 1$
c_{10}	$y^{32} - 3y^{31} + \cdots - 16y + 1$