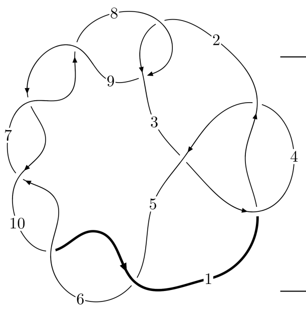
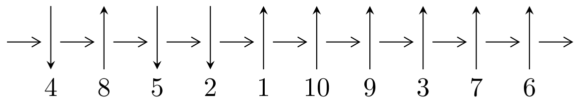
10_{34} $(K10a_{19})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{18} - u^{17} + \cdots - 3u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 18 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. $\boldsymbol{I_1^u = \langle u^{18} - u^{17} - 5u^{16} + 6u^{15} + 10u^{14} - 15u^{13} - 5u^{12} + 16u^{11} - 11u^{10} + u^9 + 17u^8 - 18u^7 - 2u^6 + 12u^5 - 8u^4 + 2u^3 + 3u^2 - 3u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{16} - 20u^{14} + 4u^{13} + 44u^{12} - 16u^{11} - 36u^{10} + 28u^9 - 16u^8 - 12u^7 + 56u^6 - 16u^5 - 24u^4 + 24u^3 - 8u^2 + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{18} - u^{17} + \cdots - 3u + 1$
c_2, c_8	$u^{18} + u^{17} + \cdots + u + 1$
c_3	$u^{18} + 11u^{17} + \cdots + 3u + 1$
c_5, c_6, c_7 c_9, c_{10}	$u^{18} - 3u^{17} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{18} - 11y^{17} + \cdots - 3y + 1$
c_2, c_8	$y^{18} - 3y^{17} + \cdots - 3y + 1$
c_3	$y^{18} - 7y^{17} + \cdots + y + 1$
c_5, c_6, c_7 c_9, c_{10}	$y^{18} + 25y^{17} + \cdots + 9y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.909285 + 0.387234I$	$0.00395 - 3.50386I$	$4.01768 + 8.20647I$
$u = 0.909285 - 0.387234I$	$0.00395 + 3.50386I$	$4.01768 - 8.20647I$
$u = -0.949796 + 0.161768I$	$-1.67574 + 0.60080I$	$-4.05524 - 0.52802I$
$u = -0.949796 - 0.161768I$	$-1.67574 - 0.60080I$	$-4.05524 + 0.52802I$
$u = 0.012693 + 0.930781I$	$-12.31670 + 3.38380I$	$0.20360 - 2.27447I$
$u = 0.012693 - 0.930781I$	$-12.31670 - 3.38380I$	$0.20360 + 2.27447I$
$u = -1.166330 + 0.369488I$	$-5.99819 + 1.29789I$	$-3.32252 - 0.68135I$
$u = -1.166330 - 0.369488I$	$-5.99819 - 1.29789I$	$-3.32252 + 0.68135I$
$u = 1.143080 + 0.442338I$	$-5.44176 - 6.61296I$	$-1.60438 + 7.00860I$
$u = 1.143080 - 0.442338I$	$-5.44176 + 6.61296I$	$-1.60438 - 7.00860I$
$u = 0.082055 + 0.692654I$	$-2.41237 + 2.42038I$	$1.45127 - 3.59982I$
$u = 0.082055 - 0.692654I$	$-2.41237 - 2.42038I$	$1.45127 + 3.59982I$
$u = 1.279130 + 0.484277I$	$-16.2022 - 8.4223I$	$-2.83851 + 5.16445I$
$u = 1.279130 - 0.484277I$	$-16.2022 + 8.4223I$	$-2.83851 - 5.16445I$
$u = -1.285130 + 0.469694I$	$-16.3133 + 1.5857I$	$-3.06627 - 0.65832I$
$u = -1.285130 - 0.469694I$	$-16.3133 - 1.5857I$	$-3.06627 + 0.65832I$
$u = 0.475010 + 0.326439I$	$1.138660 + 0.137643I$	$9.21435 - 0.51404I$
$u = 0.475010 - 0.326439I$	$1.138660 - 0.137643I$	$9.21435 + 0.51404I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{18} - u^{17} + \cdots - 3u + 1$
c_2, c_8	$u^{18} + u^{17} + \cdots + u + 1$
c_3	$u^{18} + 11u^{17} + \cdots + 3u + 1$
c_5, c_6, c_7 c_9, c_{10}	$u^{18} - 3u^{17} + \cdots - 3u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{18} - 11y^{17} + \cdots - 3y + 1$
c_2, c_8	$y^{18} - 3y^{17} + \cdots - 3y + 1$
c_3	$y^{18} - 7y^{17} + \cdots + y + 1$
c_5, c_6, c_7 c_9, c_{10}	$y^{18} + 25y^{17} + \cdots + 9y + 1$