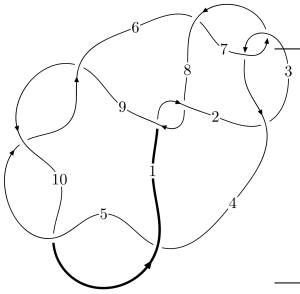
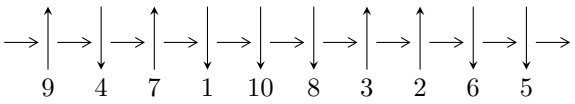
10_{13} $(K10a_{54})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{26} + u^{25} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 26 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. $I_1^u = \langle u^{26} + u^{25} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^4 + 3u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^8 + 5u^6 + 7u^4 + 2u^2 + 1 \\ u^8 + 4u^6 + 4u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{17} - 10u^{15} - 39u^{13} - 74u^{11} - 71u^9 - 38u^7 - 18u^5 - 4u^3 - u \\ -u^{17} - 9u^{15} - 31u^{13} - 50u^{11} - 37u^9 - 12u^7 - 4u^5 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{12} + 7u^{10} + 17u^8 + 16u^6 + 6u^4 + 5u^2 + 1 \\ u^{14} + 8u^{12} + 23u^{10} + 28u^8 + 14u^6 + 6u^4 + 3u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{24} + 4u^{23} + 56u^{22} + 52u^{21} + 332u^{20} + 284u^{19} + 1080u^{18} + 844u^{17} + 2096u^{16} + 1484u^{15} + 2508u^{14} + 1596u^{13} + 1940u^{12} + 1096u^{11} + 1112u^{10} + 540u^9 + 504u^8 + 212u^7 + 132u^6 + 60u^5 + 48u^4 + 12u^3 + 16u^2 + 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{26} + 5u^{25} + \cdots + 5u + 3$
c_2, c_6	$u^{26} + 9u^{25} + \cdots + 5u + 1$
c_3, c_7	$u^{26} - u^{25} + \cdots - u + 1$
c_4, c_5, c_9 c_{10}	$u^{26} - u^{25} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{26} + 13y^{25} + \cdots + 161y + 9$
c_2, c_6	$y^{26} + 17y^{25} + \cdots + 29y + 1$
c_3, c_7	$y^{26} + 9y^{25} + \cdots + 5y + 1$
c_4, c_5, c_9 c_{10}	$y^{26} + 29y^{25} + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.557205+0.605601I$	$-0.14856+7.92757I$	$-1.52051-8.33110I$
$u=-0.557205-0.605601I$	$-0.14856-7.92757I$	$-1.52051+8.33110I$
$u=0.063283+0.808616I$	$3.72335-2.64715I$	$4.54618+3.67555I$
$u=0.063283-0.808616I$	$3.72335+2.64715I$	$4.54618-3.67555I$
$u=0.506771+0.602442I$	$0.97512-2.50037I$	$0.62782+3.68649I$
$u=0.506771-0.602442I$	$0.97512+2.50037I$	$0.62782-3.68649I$
$u=-0.565256+0.486664I$	$-4.58704+1.94179I$	$-7.39486-3.84898I$
$u=-0.565256-0.486664I$	$-4.58704-1.94179I$	$-7.39486+3.84898I$
$u=-0.588033+0.339866I$	$-0.92248-4.00629I$	$-3.77829+2.28167I$
$u=-0.588033-0.339866I$	$-0.92248+4.00629I$	$-3.77829-2.28167I$
$u=0.489623+0.284759I$	$0.114247-1.005510I$	$-2.42231+3.62739I$
$u=0.489623-0.284759I$	$0.114247+1.005510I$	$-2.42231-3.62739I$
$u=-0.08778+1.44888I$	$4.66701-1.77746I$	$-0.37085+2.67865I$
$u=-0.08778-1.44888I$	$4.66701+1.77746I$	$-0.37085-2.67865I$
$u=0.304550+0.390095I$	$-0.062024-0.992541I$	$-1.03716+6.67512I$
$u=0.304550-0.390095I$	$-0.062024+0.992541I$	$-1.03716-6.67512I$
$u=-0.15393+1.51610I$	$2.02080+4.47678I$	$-3.30340-3.58620I$
$u=-0.15393-1.51610I$	$2.02080-4.47678I$	$-3.30340+3.58620I$
$u=0.09394+1.52190I$	$6.42783-2.46970I$	$3.58807+2.77943I$
$u=0.09394-1.52190I$	$6.42783+2.46970I$	$3.58807-2.77943I$
$u=0.14965+1.56671I$	$8.26058-4.90123I$	$3.70149+2.20839I$
$u=0.14965-1.56671I$	$8.26058+4.90123I$	$3.70149-2.20839I$
$u=-0.16684+1.56649I$	$7.11908+10.57850I$	$1.76076-6.94484I$
$u=-0.16684-1.56649I$	$7.11908-10.57850I$	$1.76076+6.94484I$
$u=0.01123+1.60251I$	$11.89050-2.88146I$	$5.60306+2.87824I$
$u=0.01123-1.60251I$	$11.89050+2.88146I$	$5.60306-2.87824I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{26} + 5u^{25} + \cdots + 5u + 3$
c_2, c_6	$u^{26} + 9u^{25} + \cdots + 5u + 1$
c_3, c_7	$u^{26} - u^{25} + \cdots - u + 1$
c_4, c_5, c_9 c_{10}	$u^{26} - u^{25} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{26} + 13y^{25} + \cdots + 161y + 9$
c_2, c_6	$y^{26} + 17y^{25} + \cdots + 29y + 1$
c_3, c_7	$y^{26} + 9y^{25} + \cdots + 5y + 1$
c_4, c_5, c_9 c_{10}	$y^{26} + 29y^{25} + \cdots + 5y + 1$