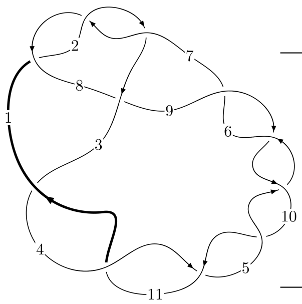
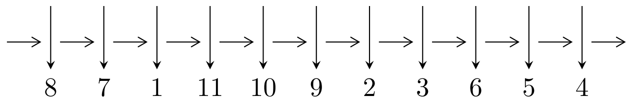
$11a_{343}$ ($K11a_{343}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$5{,}11 \underset{c_4}{\rightarrow} 4 \underset{c_{11}}{\longrightarrow} 1 \underset{c_3}{\longrightarrow} 3 \underset{c_{10}}{\rightarrow} 10 \underset{c_5}{\rightarrow} 6 \underset{c_9}{\longrightarrow} 9 \underset{c_6}{\longrightarrow} 7 \underset{c_2}{\longrightarrow} 2 \underset{c_8}{\longrightarrow} 8 \twoheadrightarrow c_1, c_7$

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

$$I_1^u = \langle u^{15} - u^{14} + 12u^{13} - 11u^{12} + 56u^{11} - 46u^{10} + 128u^9 - 91u^8 + 148u^7 - 86u^6 + 80u^5 - 34u^4 + 16u^3 - 4u^2 +$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 15 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. $I_1^u = \langle u^{15} - u^{14} + 12u^{13} - 11u^{12} + 56u^{11} - 46u^{10} + 128u^9 - 91u^8 + 148u^7 - 86u^6 + 80u^5 - 34u^4 + 16u^3 - 4u^2 + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^4 + 3u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{12} - 9u^{10} - 29u^8 - 40u^6 - 22u^4 - 3u^2 + 1 \\ -u^{12} - 8u^{10} - 22u^8 - 24u^6 - 9u^4 - 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9 + 6u^7 + 11u^5 + 8u^3 + 3u \\ -u^{11} - 7u^9 - 16u^7 - 13u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9 + 6u^7 + 11u^5 + 8u^3 + 3u \\ -u^{11} - 7u^9 - 16u^7 - 13u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{13} - 4u^{12} + 44u^{11} - 40u^{10} + 184u^9 - 148u^8 + 364u^7 - 248u^6 + 344u^5 - 184u^4 + 136u^3 - 48u^2 + 16u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$u^{15} - u^{14} + \cdots - 4u^2 + 1$
c_3, c_4, c_5 c_6, c_9, c_{10} c_{11}	$u^{15} - u^{14} + \cdots - 4u^2 + 1$
c_8	$u^{15} + u^{14} + \cdots + 12u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_7	$y^{15} + 15y^{14} + \cdots + 8y - 1$
c_3, c_4, c_5 c_6, c_9, c_{10} c_{11}	$y^{15} + 23y^{14} + \cdots + 8y - 1$
c_8	$y^{15} + 11y^{14} + \cdots + 196y - 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.271774 + 0.827110I$	$6.93433 - 3.66739I$	$-1.48503 + 4.79553I$
$u = 0.271774 - 0.827110I$	$6.93433 + 3.66739I$	$-1.48503 - 4.79553I$
$u = -0.145768 + 0.662459I$	$1.43348 + 1.40896I$	$-5.12495 - 6.02157I$
$u = -0.145768 - 0.662459I$	$1.43348 - 1.40896I$	$-5.12495 + 6.02157I$
$u = -0.051954 + 1.358880I$	$8.22355 + 2.07648I$	$-3.82909 - 3.39454I$
$u = -0.051954 - 1.358880I$	$8.22355 - 2.07648I$	$-3.82909 + 3.39454I$
$u = 0.12129 + 1.42228I$	$14.4875 - 5.1183I$	$-0.51063 + 3.30297I$
$u = 0.12129 - 1.42228I$	$14.4875 + 5.1183I$	$-0.51063 - 3.30297I$
$u = 0.423199 + 0.251122I$	$3.60506 - 1.37133I$	$-6.75729 + 4.35131I$
$u = 0.423199 - 0.251122I$	$3.60506 + 1.37133I$	$-6.75729 - 4.35131I$
$u = -0.273809$	-0.545301	-18.4880
$u = -0.01197 + 1.83320I$	$-19.2795 + 2.3825I$	$-3.62259 - 2.70854I$
$u = -0.01197 - 1.83320I$	$-19.2795 - 2.3825I$	$-3.62259 + 2.70854I$
$u = 0.03033 + 1.84772I$	$-12.66440 - 5.89363I$	$-0.42649 + 2.70199I$
$u = 0.03033 - 1.84772I$	$-12.66440 + 5.89363I$	$-0.42649 - 2.70199I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$u^{15} - u^{14} + \cdots - 4u^2 + 1$
c_3, c_4, c_5 c_6, c_9, c_{10} c_{11}	$u^{15} - u^{14} + \cdots - 4u^2 + 1$
c_8	$u^{15} + u^{14} + \cdots + 12u + 13$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_7	$y^{15} + 15y^{14} + \cdots + 8y - 1$
c_3, c_4, c_5 c_6, c_9, c_{10} c_{11}	$y^{15} + 23y^{14} + \cdots + 8y - 1$
c_8	$y^{15} + 11y^{14} + \cdots + 196y - 169$