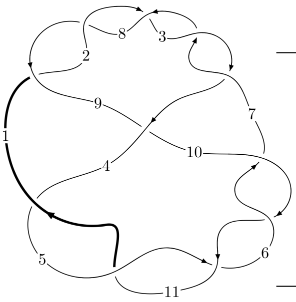
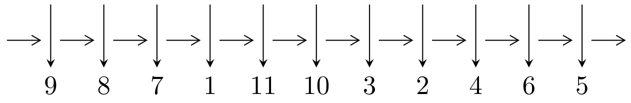
$11a_{363}$ ($K11a_{363}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^5 + 4u^3 + 3u - 1 \rangle$$
$$I_2^u = \langle u^{12} - u^{11} + 8u^{10} - 7u^9 + 22u^8 - 15u^7 + 23u^6 - 9u^5 + 6u^4 + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 17 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. $I_1^u = \langle u^5 + 4u^3 + 3u - 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2+1 \\ u^4+2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3+u^2-u+1 \\ 2u^3-u^2+3u-1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3+u^2+2u \\ -u^3-u^2-2u+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^4-u^3-2u^2-u \\ u^4+u^3+2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4-u^3+2u^2-u+1 \\ -u^4+u^3-u^2+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4-u^3+2u^2-u+1 \\ -u^4+u^3-u^2+u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^4 - 4u^3 - 16u^2 - 12u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$u^5 + 4u^3 + 3u + 1$
c_9	$u^5 + 5u^4 + 14u^3 + 19u^2 + 16u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$y^5 + 8y^4 + 22y^3 + 24y^2 + 9y - 1$
c_9	$y^5 + 3y^4 + 38y^3 + 47y^2 + 104y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.226624 + 1.023230I$	$6.17001 + 3.58174I$	$-1.25591 - 4.89768I$
$u = -0.226624 - 1.023230I$	$6.17001 - 3.58174I$	$-1.25591 + 4.89768I$
$u = \quad 0.297463$	-0.520906	-19.1220
$u = \quad 0.07789 + 1.74776I$	$-13.3118 - 6.2970I$	$-0.18315 + 2.53911I$
$u = \quad 0.07789 - 1.74776I$	$-13.3118 + 6.2970I$	$-0.18315 - 2.53911I$

II. $I_2^u = \langle u^{12} - u^{11} + 8u^{10} - 7u^9 + 22u^8 - 15u^7 + 23u^6 - 9u^5 + 6u^4 + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^2+1 \\ u^4+2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^8-5u^6-7u^4-2u^2+1 \\ -u^{10}-6u^8-11u^6-6u^4-u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^7+4u^5+4u^3+2u \\ -u^7-3u^5+u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{11}+u^{10}-8u^9+7u^8-22u^7+14u^6-23u^5+6u^4-6u^3+1 \\ -u^{10}-7u^8-14u^6-u^5-6u^4-3u^3-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{11}-u^{10}+7u^9-7u^8+16u^7-15u^6+12u^5-10u^4-3u^2-u-1 \\ -u^{11}-6u^9-10u^7-u^6-3u^5-3u^4-u^3-u^2-2u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{11}-u^{10}+7u^9-7u^8+16u^7-15u^6+12u^5-10u^4-3u^2-u-1 \\ -u^{11}-6u^9-10u^7-u^6-3u^5-3u^4-u^3-u^2-2u-1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^6 - 4u^5 + 16u^4 - 12u^3 + 12u^2 - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$u^{12} + u^{11} + 8u^{10} + 7u^9 + 22u^8 + 15u^7 + 23u^6 + 9u^5 + 6u^4 + 1$
c_9	$(u^6 - 2u^5 + 5u^4 - 4u^3 + 8u^2 - 4u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$y^{12} + 15y^{11} + \cdots + 12y^2 + 1$
c_9	$(y^6 + 6y^5 + 25y^4 + 54y^3 + 62y^2 + 32y + 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.105048 + 0.895324I$	$2.14658 - 1.36304I$	$-5.98906 + 5.15276I$
$u = 0.105048 - 0.895324I$	$2.14658 + 1.36304I$	$-5.98906 - 5.15276I$
$u = 0.300612 + 1.096290I$	$15.9921 - 4.7113I$	$-0.92821 + 3.58608I$
$u = 0.300612 - 1.096290I$	$15.9921 + 4.7113I$	$-0.92821 - 3.58608I$
$u = 0.552709 + 0.348214I$	$11.47010 - 1.80634I$	$-5.08274 + 3.33972I$
$u = 0.552709 - 0.348214I$	$11.47010 + 1.80634I$	$-5.08274 - 3.33972I$
$u = -0.423428 + 0.279325I$	$2.14658 + 1.36304I$	$-5.98906 - 5.15276I$
$u = -0.423428 - 0.279325I$	$2.14658 - 1.36304I$	$-5.98906 + 5.15276I$
$u = 0.02018 + 1.70425I$	$11.47010 - 1.80634I$	$-5.08274 + 3.33972I$
$u = 0.02018 - 1.70425I$	$11.47010 + 1.80634I$	$-5.08274 - 3.33972I$
$u = -0.05512 + 1.72697I$	$15.9921 + 4.7113I$	$-0.92821 - 3.58608I$
$u = -0.05512 - 1.72697I$	$15.9921 - 4.7113I$	$-0.92821 + 3.58608I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$(u^5 + 4u^3 + 3u + 1)$ $\cdot (u^{12} + u^{11} + 8u^{10} + 7u^9 + 22u^8 + 15u^7 + 23u^6 + 9u^5 + 6u^4 + 1)$
c_9	$(u^5 + 5u^4 + 14u^3 + 19u^2 + 16u + 4)$ $\cdot (u^6 - 2u^5 + 5u^4 - 4u^3 + 8u^2 - 4u + 3)^2$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_{10} c_{11}	$(y^5 + 8y^4 + 22y^3 + 24y^2 + 9y - 1)(y^{12} + 15y^{11} + \cdots + 12y^2 + 1)$
c_9	$(y^5 + 3y^4 + 38y^3 + 47y^2 + 104y - 16)$ $\cdot\,(y^6 + 6y^5 + 25y^4 + 54y^3 + 62y^2 + 32y + 9)^2$