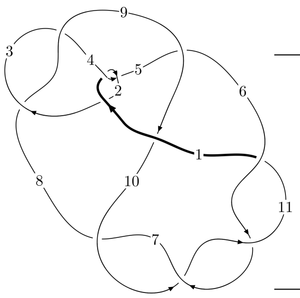
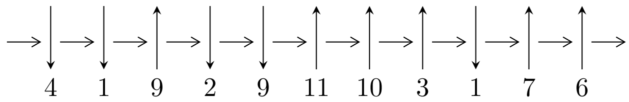
$11n_{62}$ ($K11n_{62}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I^u_1 = \langle & 2464615243943u^{19} + 4244123981661u^{18} + \cdots + 97289799325926b + 197070286033, \\ & -5509715115239u^{19} - 10822359944445u^{18} + \cdots + 9728979932592a + 3267475985807, \\ & u^{20} + 2u^{19} + \cdots + 5u^2 + 1\rangle \\ I^u_2 = \langle & b,\ -u^3 - u^2 + a - u,\ u^4 + u^3 + u^2 + 1\rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 24 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. $I_1^u = \langle 2.46\times10^{12}u^{19} + 4.24\times10^{12}u^{18} + \cdots + 9.73\times10^{12}b + 1.97\times10^{11},\ -5.51\times10^{12}u^{19} - 1.08\times10^{13}u^{18} + \cdots + 9.73\times10^{12}a + 3.27\times10^{12},\ u^{20} + 2u^{19} + \cdots + 5u^2 + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.566320u^{19} + 1.11238u^{18} + \cdots + 2.54326u - 0.335850 \\ -0.253327u^{19} - 0.436235u^{18} + \cdots + 1.56632u - 0.0202560 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.819647u^{19} + 1.54862u^{18} + \cdots + 0.976937u - 0.315594 \\ -0.253327u^{19} - 0.436235u^{18} + \cdots + 1.56632u - 0.0202560 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.819647u^{19} + 1.54862u^{18} + \cdots + 0.976937u - 0.315594 \\ -0.396913u^{19} - 0.728464u^{18} + \cdots + 2.38597u - 0.110931 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.650241u^{19} - 1.16470u^{18} + \cdots + 2.95229u - 0.131187 \\ 0.105052u^{19} + 0.296152u^{18} + \cdots - 1.03621u + 0.246713 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.755292u^{19} - 1.46085u^{18} + \cdots + 3.98849u - 0.377900 \\ 0.105052u^{19} + 0.296152u^{18} + \cdots - 1.03621u + 0.246713 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.246713u^{19} - 0.388373u^{18} + \cdots - 0.520256u - 1.03621 \\ 0.135781u^{19} + 0.563424u^{18} + \cdots - 0.131187u + 0.650241 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.296445u^{19} - 0.863365u^{18} + \cdots - 0.142357u - 1.79150 \\ 0.253735u^{19} + 0.918450u^{18} + \cdots - 0.0814545u + 1.02577 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.408108u^{19} - 0.952751u^{18} + \cdots + 1.33641u - 1.23004 \\ -0.300860u^{19} - 0.485772u^{18} + \cdots - 0.821932u + 0.544643 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.408108u^{19} - 0.952751u^{18} + \cdots + 1.33641u - 1.23004 \\ -0.300860u^{19} - 0.485772u^{18} + \cdots - 0.821932u + 0.544643 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$$= \frac{815395233485}{405374163858}u^{19} + \frac{427506532937}{135124721286}u^{18} + \cdots - \frac{421979351069}{405374163858}u - \frac{2038924430399}{405374163858}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{20} - 5u^{19} + \cdots - 4u + 1$
c_2	$u^{20} + 3u^{19} + \cdots - 4u + 1$
c_3, c_8	$u^{20} - u^{19} + \cdots - 8u + 16$
c_5	$u^{20} + 2u^{19} + \cdots + 154u + 445$
c_6, c_7, c_{10} c_{11}	$u^{20} + 2u^{19} + \cdots + 2u + 1$
c_9	$u^{20} - 2u^{19} + \cdots + 5u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{20} - 3y^{19} + \cdots + 4y + 1$
c_2	$y^{20} + 33y^{19} + \cdots + 4y + 1$
c_3, c_8	$y^{20} - 27y^{19} + \cdots - 1344y + 256$
c_5	$y^{20} + 38y^{19} + \cdots + 4809874y + 198025$
c_6, c_7, c_{10} c_{11}	$y^{20} + 22y^{19} + \cdots + 10y + 1$
c_9	$y^{20} + 26y^{19} + \cdots + 10y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.673071 + 0.753931I$ $a = 0.535459 - 0.003526I$ $b = 0.731278 + 0.210088I$	$0.02154 - 2.08472I$	$2.36846 + 5.36236I$
$u = 0.673071 - 0.753931I$ $a = 0.535459 + 0.003526I$ $b = 0.731278 - 0.210088I$	$0.02154 + 2.08472I$	$2.36846 - 5.36236I$
$u = -0.094946 + 0.739352I$ $a = 1.098280 + 0.336321I$ $b = 0.448296 + 1.074360I$	$-4.77753 + 2.99094I$	$-0.69176 - 3.46155I$
$u = -0.094946 - 0.739352I$ $a = 1.098280 - 0.336321I$ $b = 0.448296 - 1.074360I$	$-4.77753 - 2.99094I$	$-0.69176 + 3.46155I$
$u = -0.177522 + 0.687359I$ $a = -0.716990 + 0.247004I$ $b = -0.553957 + 0.621299I$	$0.995000 - 0.993446I$	$5.17867 + 4.04800I$
$u = -0.177522 - 0.687359I$ $a = -0.716990 - 0.247004I$ $b = -0.553957 - 0.621299I$	$0.995000 + 0.993446I$	$5.17867 - 4.04800I$
$u = -1.12972 + 0.93010I$ $a = -0.456176 - 0.088007I$ $b = -0.757198 + 0.007629I$	$-7.51526 + 3.82239I$	$0.11541 - 4.60594I$
$u = -1.12972 - 0.93010I$ $a = -0.456176 + 0.088007I$ $b = -0.757198 - 0.007629I$	$-7.51526 - 3.82239I$	$0.11541 + 4.60594I$
$u = -0.382707 + 0.237846I$ $a = 2.61545 + 0.82402I$ $b = -0.767833 + 0.639917I$	$-7.81656 + 1.26535I$	$-3.51291 - 0.02866I$
$u = -0.382707 - 0.237846I$ $a = 2.61545 - 0.82402I$ $b = -0.767833 - 0.639917I$	$-7.81656 - 1.26535I$	$-3.51291 + 0.02866I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.18268 + 1.66062I$ $a = 0.734667 - 0.455842I$ $b = 1.90756 - 0.02696I$	$3.14125 + 1.95377I$	$-0.018441 - 0.726692I$
$u = 0.18268 - 1.66062I$ $a = 0.734667 + 0.455842I$ $b = 1.90756 + 0.02696I$	$3.14125 - 1.95377I$	$-0.018441 + 0.726692I$
$u = 0.177052 + 0.214813I$ $a = -2.67119 + 2.37138I$ $b = 0.317909 + 0.453091I$	$-1.76070 - 0.62769I$	$-5.52555 - 1.68478I$
$u = 0.177052 - 0.214813I$ $a = -2.67119 - 2.37138I$ $b = 0.317909 - 0.453091I$	$-1.76070 + 0.62769I$	$-5.52555 + 1.68478I$
$u = -0.21357 + 1.74539I$ $a = -0.684239 - 0.489378I$ $b = -1.90198 - 0.23325I$	$9.48767 + 1.51858I$	$3.11046 + 0.47571I$
$u = -0.21357 - 1.74539I$ $a = -0.684239 + 0.489378I$ $b = -1.90198 + 0.23325I$	$9.48767 - 1.51858I$	$3.11046 - 0.47571I$
$u = 0.24322 + 1.81257I$ $a = 0.640240 - 0.509585I$ $b = 1.85951 - 0.39598I$	$9.21922 - 6.23574I$	$2.42777 + 5.05678I$
$u = 0.24322 - 1.81257I$ $a = 0.640240 + 0.509585I$ $b = 1.85951 + 0.39598I$	$9.21922 + 6.23574I$	$2.42777 - 5.05678I$
$u = -0.27754 + 1.87563I$ $a = -0.595500 - 0.521593I$ $b = -1.78359 - 0.53915I$	$2.29524 + 9.61446I$	$-0.95211 - 4.92599I$
$u = -0.27754 - 1.87563I$ $a = -0.595500 + 0.521593I$ $b = -1.78359 + 0.53915I$	$2.29524 - 9.61446I$	$-0.95211 + 4.92599I$

II. $I_2^u = \langle b,\ -u^3 - u^2 + a - u,\ u^4 + u^3 + u^2 + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^2 + 5u - 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^4$
c_3, c_8	y^4
c_5, c_9	$y^4+y^3+3y^2+2y+1$
c_6, c_7, c_{10} c_{11}	$y^4+5y^3+7y^2+2y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.351808 + 0.720342I$ $a = -0.547424 + 1.120870I$ $b = 0$	$-1.43393 - 1.41510I$	$-0.82145 + 5.62908I$
$u = 0.351808 - 0.720342I$ $a = -0.547424 - 1.120870I$ $b = 0$	$-1.43393 + 1.41510I$	$-0.82145 - 5.62908I$
$u = -0.851808 + 0.911292I$ $a = 0.547424 + 0.585652I$ $b = 0$	$-8.43568 + 3.16396I$	$-5.67855 - 1.65351I$
$u = -0.851808 - 0.911292I$ $a = 0.547424 - 0.585652I$ $b = 0$	$-8.43568 - 3.16396I$	$-5.67855 + 1.65351I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{20}-5u^{19}+\cdots-4u+1)$
c_2	$((u+1)^4)(u^{20}+3u^{19}+\cdots-4u+1)$
c_3, c_8	$u^4(u^{20}-u^{19}+\cdots-8u+16)$
c_4	$((u+1)^4)(u^{20}-5u^{19}+\cdots-4u+1)$
c_5	$(u^4+u^3+u^2+1)(u^{20}+2u^{19}+\cdots+154u+445)$
c_6, c_7	$(u^4+u^3+3u^2+2u+1)(u^{20}+2u^{19}+\cdots+2u+1)$
c_9	$(u^4+u^3+u^2+1)(u^{20}-2u^{19}+\cdots+5u^2+1)$
c_{10}, c_{11}	$(u^4-u^3+3u^2-2u+1)(u^{20}+2u^{19}+\cdots+2u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y-1)^4)(y^{20} - 3y^{19} + \cdots + 4y + 1)$
c_2	$((y-1)^4)(y^{20} + 33y^{19} + \cdots + 4y + 1)$
c_3, c_8	$y^4(y^{20} - 27y^{19} + \cdots - 1344y + 256)$
c_5	$(y^4 + y^3 + 3y^2 + 2y + 1)(y^{20} + 38y^{19} + \cdots + 4809874y + 198025)$
c_6, c_7, c_{10} c_{11}	$(y^4 + 5y^3 + 7y^2 + 2y + 1)(y^{20} + 22y^{19} + \cdots + 10y + 1)$
c_9	$(y^4 + y^3 + 3y^2 + 2y + 1)(y^{20} + 26y^{19} + \cdots + 10y + 1)$