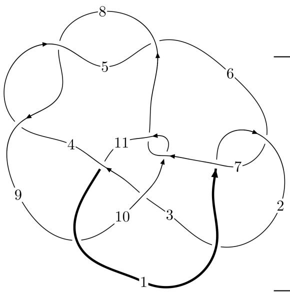
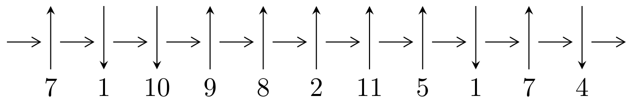
$11n_{132}$ ($K11n_{132}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -7.33308 \times 10^{15} u^{20} - 1.72888 \times 10^{17} u^{19} + \cdots + 1.09599 \times 10^{19} b - 8.78124 \times 10^{18}, \\
& - 2.80505 \times 10^{18} u^{20} + 4.20368 \times 10^{18} u^{19} + \cdots + 7.67190 \times 10^{19} a - 6.10889 \times 10^{19}, \\
& u^{21} - u^{20} + \cdots - 18u + 28 \rangle \\
I_2^u = \langle & u^8 + 3u^6 + u^5 + 2u^4 + u^3 + u^2 + b + u - 1,\ -u^2 + a - 2,\ u^9 + 4u^7 + u^6 + 5u^5 + 2u^4 + 3u^3 + 2u^2 + 1 \rangle
\end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 30 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. $I_1^u = \langle -7.33 \times 10^{15} u^{20} - 1.73 \times 10^{17} u^{19} + \cdots + 1.10 \times 10^{19} b - 8.78 \times 10^{18},\ -2.81 \times 10^{18} u^{20} + 4.20 \times 10^{18} u^{19} + \cdots + 7.67 \times 10^{19} a - 6.11 \times 10^{19},\ u^{21} - u^{20} + \cdots - 18u + 28 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0365627u^{20} - 0.0547932u^{19} + \cdots + 1.60738u + 0.796268 \\ 0.000669086u^{20} + 0.0157746u^{19} + \cdots - 0.933535u + 0.801219 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0196295u^{20} - 0.0100507u^{19} + \cdots + 1.18048u + 0.217188 \\ 0.00797850u^{20} - 0.0158077u^{19} + \cdots + 0.180611u - 0.795772 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0142692u^{20} + 0.0411108u^{19} + \cdots - 0.773349u + 1.95583 \\ -0.00351504u^{20} + 0.0137854u^{19} + \cdots - 0.476341u + 0.0864955 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0138798u^{20} - 0.0293691u^{19} + \cdots + 1.58093u + 0.793197 \\ 0.00952514u^{20} - 0.0122960u^{19} + \cdots + 0.486832u + 0.362072 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0196295u^{20} - 0.0100507u^{19} + \cdots + 1.18048u + 0.217188 \\ 0.0175759u^{20} - 0.0166603u^{19} + \cdots + 0.195992u + 0.0352752 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00205357u^{20} - 0.0267111u^{19} + \cdots + 1.37648u + 0.252463 \\ 0.0175759u^{20} - 0.0166603u^{19} + \cdots + 0.195992u + 0.0352752 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00205357u^{20} - 0.0267111u^{19} + \cdots + 1.37648u + 0.252463 \\ 0.0175759u^{20} - 0.0166603u^{19} + \cdots + 0.195992u + 0.0352752 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{445709904941671169}{2739962993558394514} u^{20} - \frac{891361635722125989}{5479925987116789028} u^{19} + \cdots + \frac{14080564157258258655}{2739962993558394514} u + \frac{29494857492558559055}{1369981496779197257}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{21} + u^{20} + \cdots - 18u - 28$
c_2	$u^{21} + 33u^{20} + \cdots - 1972u - 784$
c_3	$u^{21} - 24u^{19} + \cdots + 1851u - 281$
c_4, c_5, c_8	$u^{21} + 2u^{20} + \cdots - 12u - 11$
c_7, c_{10}	$u^{21} - 3u^{20} + \cdots - 10u - 47$
c_9	$u^{21} - 17u^{19} + \cdots + 73u - 13$
c_{11}	$u^{21} - 4u^{20} + \cdots + 19u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{21} + 33y^{20} + \cdots - 1972y - 784$
c_2	$y^{21} - 87y^{20} + \cdots + 22145008y - 614656$
c_3	$y^{21} - 48y^{20} + \cdots + 982063y - 78961$
c_4, c_5, c_8	$y^{21} + 26y^{20} + \cdots - 846y - 121$
c_7, c_{10}	$y^{21} + 7y^{20} + \cdots - 7232y - 2209$
c_9	$y^{21} - 34y^{20} + \cdots + 2495y - 169$
c_{11}	$y^{21} - 4y^{20} + \cdots + 319y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.667126 + 0.763695I$ $a = 0.82594 - 1.23941I$ $b = 0.258218 + 1.151380I$	$1.34010 - 2.53227I$	$0.85890 + 6.43019I$
$u = -0.667126 - 0.763695I$ $a = 0.82594 + 1.23941I$ $b = 0.258218 - 1.151380I$	$1.34010 + 2.53227I$	$0.85890 - 6.43019I$
$u = -0.354561 + 1.008430I$ $a = -0.227436 + 0.200357I$ $b = 0.917813 - 0.821950I$	$-7.02572 + 3.49738I$	$-2.24629 - 2.87148I$
$u = -0.354561 - 1.008430I$ $a = -0.227436 - 0.200357I$ $b = 0.917813 + 0.821950I$	$-7.02572 - 3.49738I$	$-2.24629 + 2.87148I$
$u = -0.135425 + 0.749831I$ $a = 2.26639 + 0.24841I$ $b = 0.299503 - 0.694156I$	$1.72913 + 0.18094I$	$3.57258 - 0.16926I$
$u = -0.135425 - 0.749831I$ $a = 2.26639 - 0.24841I$ $b = 0.299503 + 0.694156I$	$1.72913 - 0.18094I$	$3.57258 + 0.16926I$
$u = 0.137433 + 0.625721I$ $a = 0.041014 - 0.214438I$ $b = 0.721689 + 0.405487I$	$-1.28019 - 1.09527I$	$-2.70112 + 3.21254I$
$u = 0.137433 - 0.625721I$ $a = 0.041014 + 0.214438I$ $b = 0.721689 - 0.405487I$	$-1.28019 + 1.09527I$	$-2.70112 - 3.21254I$
$u = 0.576539 + 0.104726I$ $a = 0.14734 - 1.76070I$ $b = -0.906943 - 0.072981I$	$-4.46536 - 3.00711I$	$1.90224 + 0.80232I$
$u = 0.576539 - 0.104726I$ $a = 0.14734 + 1.76070I$ $b = -0.906943 + 0.072981I$	$-4.46536 + 3.00711I$	$1.90224 - 0.80232I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.534365$ $a=\ \ 2.09662$ $b=-0.0562424$	1.11788	11.2410
$u=\ \ 0.07520+1.61647I$ $a=-0.453620-0.070826I$ $b=-0.793621-0.491574I$	$-8.87305+0.26805I$	$-1.47803+0.75243I$
$u=\ \ 0.07520-1.61647I$ $a=-0.453620+0.070826I$ $b=-0.793621+0.491574I$	$-8.87305-0.26805I$	$-1.47803-0.75243I$
$u=\ \ 1.10769+1.23434I$ $a=\ \ 0.723626+0.961597I$ $b=\ \ 1.194160-0.750185I$	$-7.93629+2.97451I$	$-2.24011-2.11283I$
$u=\ \ 1.10769-1.23434I$ $a=\ \ 0.723626-0.961597I$ $b=\ \ 1.194160+0.750185I$	$-7.93629-2.97451I$	$-2.24011+2.11283I$
$u=-0.31257+1.99292I$ $a=-0.345671+0.172538I$ $b=-1.21980+1.39213I$	$-17.7841-0.7836I$	$-1.50922+0.14627I$
$u=-0.31257-1.99292I$ $a=-0.345671-0.172538I$ $b=-1.21980-1.39213I$	$-17.7841+0.7836I$	$-1.50922-0.14627I$
$u=\ \ 0.42977+2.01390I$ $a=-0.984072-0.475371I$ $b=-1.34381+1.14589I$	$-18.4994+10.2668I$	$-1.32790-4.15834I$
$u=\ \ 0.42977-2.01390I$ $a=-0.984072+0.475371I$ $b=-1.34381-1.14589I$	$-18.4994-10.2668I$	$-1.32790+4.15834I$
$u=-0.08976+2.09219I$ $a=-1.363250+0.356504I$ $b=-1.099090-0.439233I$	$-10.14110-4.18838I$	$-1.95156+4.03302I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.08976 - 2.09219I$ $a = -1.363250 - 0.356504I$ $b = -1.099090 + 0.439233I$	$-10.14110 + 4.18838I$	$-1.95156 - 4.03302I$

II. $\boldsymbol{I_2^u = \langle u^8+3u^6+u^5+2u^4+u^3+u^2+b+u-1,\ -u^2+a-2,\ u^9+4u^7+u^6+5u^5+2u^4+3u^3+2u^2+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^8-3u^7-8u^6-12u^5-15u^4-12u^3-14u^2-7u-4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^9 + 4u^7 + u^6 + 5u^5 + 2u^4 + 3u^3 + 2u^2 + 1$
c_2	$u^9 + 8u^8 + 26u^7 + 45u^6 + 45u^5 + 22u^4 - u^3 - 8u^2 - 4u - 1$
c_3	$u^9 + u^8 - 2u^7 - 3u^6 - u^5 + 4u^4 + 7u^3 + 6u^2 + 3u + 1$
c_4, c_5	$u^9 + u^8 + 5u^7 + 5u^6 + 9u^5 + 10u^4 + 7u^3 + 8u^2 + 2u + 1$
c_6	$u^9 + 4u^7 - u^6 + 5u^5 - 2u^4 + 3u^3 - 2u^2 - 1$
c_7	$u^9 - 2u^8 - u^7 + 4u^6 - 3u^5 + 4u^3 - 3u^2 + 1$
c_8	$u^9 - u^8 + 5u^7 - 5u^6 + 9u^5 - 10u^4 + 7u^3 - 8u^2 + 2u - 1$
c_9	$u^9 - 3u^8 - u^7 + 9u^6 - 2u^5 - 10u^4 + 7u^3 + 2u^2 - u - 1$
c_{10}	$u^9 + 2u^8 - u^7 - 4u^6 - 3u^5 + 4u^3 + 3u^2 - 1$
c_{11}	$u^9 - 3u^8 + 6u^7 - 7u^6 + 4u^5 + u^4 - 3u^3 + 2u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^9 + 8y^8 + 26y^7 + 45y^6 + 45y^5 + 22y^4 - y^3 - 8y^2 - 4y - 1$
c_2	$y^9 - 12y^8 + 46y^7 - 39y^6 + 113y^5 - 46y^4 + 83y^3 - 12y^2 - 1$
c_3	$y^9 - 5y^8 + 8y^7 + y^6 - 9y^5 - 8y^4 + y^3 - 2y^2 - 3y - 1$
c_4, c_5, c_8	$y^9 + 9y^8 + 33y^7 + 59y^6 + 39y^5 - 36y^4 - 85y^3 - 56y^2 - 12y - 1$
c_7, c_{10}	$y^9 - 6y^8 + 11y^7 - 2y^6 - 11y^5 + 4y^4 + 8y^3 - 9y^2 + 6y - 1$
c_9	$y^9 - 11y^8 + 51y^7 - 123y^6 + 180y^5 - 168y^4 + 111y^3 - 38y^2 + 5y - 1$
c_{11}	$y^9 + 3y^8 + 2y^7 - y^6 + 8y^5 + 9y^4 - y^3 - 8y^2 + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.338665 + 0.974837I$ $a = 1.164390 + 0.660286I$ $b = 0.35504 - 1.42610I$	$-1.24626 + 1.32727I$	$-0.553077 - 1.214568I$
$u = 0.338665 - 0.974837I$ $a = 1.164390 - 0.660286I$ $b = 0.35504 + 1.42610I$	$-1.24626 - 1.32727I$	$-0.553077 + 1.214568I$
$u = -0.447524 + 0.951550I$ $a = 1.29483 - 0.85168I$ $b = 0.362962 + 1.048500I$	$1.95197 - 1.71727I$	$4.44186 + 1.84082I$
$u = -0.447524 - 0.951550I$ $a = 1.29483 + 0.85168I$ $b = 0.362962 - 1.048500I$	$1.95197 + 1.71727I$	$4.44186 - 1.84082I$
$u = -0.738179$ $a = 2.54491$ $b = 0.647287$	0.518289	-4.57070
$u = 0.318685 + 0.594099I$ $a = 1.74861 + 0.37866I$ $b = 1.063670 - 0.538027I$	$-4.97869 + 4.28681I$	$0.36640 - 5.34247I$
$u = 0.318685 - 0.594099I$ $a = 1.74861 - 0.37866I$ $b = 1.063670 + 0.538027I$	$-4.97869 - 4.28681I$	$0.36640 + 5.34247I$
$u = 0.15926 + 1.58292I$ $a = -0.480277 + 0.504206I$ $b = -0.605320 - 0.206182I$	$-9.14564 - 1.83774I$	$-3.46986 + 2.95801I$
$u = 0.15926 - 1.58292I$ $a = -0.480277 - 0.504206I$ $b = -0.605320 + 0.206182I$	$-9.14564 + 1.83774I$	$-3.46986 - 2.95801I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^9+4u^7+\cdots+2u^2+1)(u^{21}+u^{20}+\cdots-18u-28)$
c_2	$(u^9+8u^8+26u^7+45u^6+45u^5+22u^4-u^3-8u^2-4u-1)$ $\cdot(u^{21}+33u^{20}+\cdots-1972u-784)$
c_3	$(u^9+u^8-2u^7-3u^6-u^5+4u^4+7u^3+6u^2+3u+1)$ $\cdot(u^{21}-24u^{19}+\cdots+1851u-281)$
c_4, c_5	$(u^9+u^8+5u^7+5u^6+9u^5+10u^4+7u^3+8u^2+2u+1)$ $\cdot(u^{21}+2u^{20}+\cdots-12u-11)$
c_6	$(u^9+4u^7+\cdots-2u^2-1)(u^{21}+u^{20}+\cdots-18u-28)$
c_7	$(u^9-2u^8+\cdots-3u^2+1)(u^{21}-3u^{20}+\cdots-10u-47)$
c_8	$(u^9-u^8+5u^7-5u^6+9u^5-10u^4+7u^3-8u^2+2u-1)$ $\cdot(u^{21}+2u^{20}+\cdots-12u-11)$
c_9	$(u^9-3u^8-u^7+9u^6-2u^5-10u^4+7u^3+2u^2-u-1)$ $\cdot(u^{21}-17u^{19}+\cdots+73u-13)$
c_{10}	$(u^9+2u^8+\cdots+3u^2-1)(u^{21}-3u^{20}+\cdots-10u-47)$
c_{11}	$(u^9-3u^8+6u^7-7u^6+4u^5+u^4-3u^3+2u^2+u-1)$ $\cdot(u^{21}-4u^{20}+\cdots+19u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^9 + 8y^8 + 26y^7 + 45y^6 + 45y^5 + 22y^4 - y^3 - 8y^2 - 4y - 1)$ $\cdot (y^{21} + 33y^{20} + \cdots - 1972y - 784)$
c_2	$(y^9 - 12y^8 + 46y^7 - 39y^6 + 113y^5 - 46y^4 + 83y^3 - 12y^2 - 1)$ $\cdot (y^{21} - 87y^{20} + \cdots + 22145008y - 614656)$
c_3	$(y^9 - 5y^8 + 8y^7 + y^6 - 9y^5 - 8y^4 + y^3 - 2y^2 - 3y - 1)$ $\cdot (y^{21} - 48y^{20} + \cdots + 982063y - 78961)$
c_4, c_5, c_8	$(y^9 + 9y^8 + 33y^7 + 59y^6 + 39y^5 - 36y^4 - 85y^3 - 56y^2 - 12y - 1)$ $\cdot (y^{21} + 26y^{20} + \cdots - 846y - 121)$
c_7, c_{10}	$(y^9 - 6y^8 + 11y^7 - 2y^6 - 11y^5 + 4y^4 + 8y^3 - 9y^2 + 6y - 1)$ $\cdot (y^{21} + 7y^{20} + \cdots - 7232y - 2209)$
c_9	$(y^9 - 11y^8 + 51y^7 - 123y^6 + 180y^5 - 168y^4 + 111y^3 - 38y^2 + 5y - 1)$ $\cdot (y^{21} - 34y^{20} + \cdots + 2495y - 169)$
c_{11}	$(y^9 + 3y^8 + 2y^7 - y^6 + 8y^5 + 9y^4 - y^3 - 8y^2 + 5y - 1)$ $\cdot (y^{21} - 4y^{20} + \cdots + 319y - 1)$