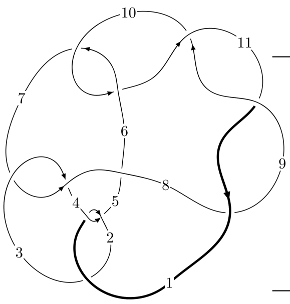
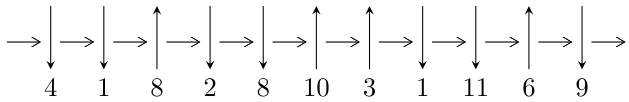
$11n_{28}$ $(K11n_{28})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -611u^{13} - 377u^{12} + \cdots + 3054b + 169,\ -3787u^{13} - 7405u^{12} + \cdots + 3054a - 21955,\ u^{14} + 2u^{13} + \cdots + 7u + 1\rangle$$

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

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 18 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. $\boldsymbol{I_1^u = \langle -611u^{13} - 377u^{12} + \cdots + 3054b + 169,\ -3787u^{13} - 7405u^{12} + \cdots + 3054a - 21955,\ u^{14} + 2u^{13} + \cdots + 7u + 1\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.24001u^{13} + 2.42469u^{12} + \cdots + 26.9705u + 7.18893 \\ 0.200065u^{13} + 0.123445u^{12} + \cdots + 1.85265u - 0.0553373 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.03995u^{13} + 2.30124u^{12} + \cdots + 25.1179u + 7.24427 \\ 0.200065u^{13} + 0.123445u^{12} + \cdots + 1.85265u - 0.0553373 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.03995u^{13} + 2.30124u^{12} + \cdots + 25.1179u + 7.24427 \\ 0.399804u^{13} + 0.629666u^{12} + \cdots + 4.44204u + 0.166012 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.599869u^{13} + 0.753111u^{12} + \cdots + 5.29470u + 0.110675 \\ -0.400458u^{13} - 0.864113u^{12} + \cdots - 4.96857u - 0.612639 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.612639u^{13} + 0.824820u^{12} + \cdots + 2.56189u - 0.680092 \\ -0.446627u^{13} - 0.892600u^{12} + \cdots - 4.08841u - 0.599869 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.00033u^{13} + 1.61722u^{12} + \cdots + 10.2633u + 0.723314 \\ -0.400458u^{13} - 0.864113u^{12} + \cdots - 4.96857u - 0.612639 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.00033u^{13} + 1.61722u^{12} + \cdots + 10.2633u + 0.723314 \\ -0.400458u^{13} - 0.864113u^{12} + \cdots - 4.96857u - 0.612639 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1595}{509}u^{13} + \frac{2457}{509}u^{12} + \cdots + \frac{11407}{509}u - \frac{1470}{509}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{14} - 5u^{13} + \cdots - 3u + 1$
c_2	$u^{14} - u^{13} + \cdots - 5u + 1$
c_3, c_7	$u^{14} + u^{13} + \cdots + 72u + 16$
c_5	$u^{14} - 2u^{13} + \cdots + 540u + 200$
c_6, c_{10}	$u^{14} - 2u^{13} + \cdots - u + 1$
c_8, c_9, c_{11}	$u^{14} + 2u^{13} + \cdots + 7u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{14} + y^{13} + \cdots + 5y + 1$
c_2	$y^{14} + 37y^{13} + \cdots + 73y + 1$
c_3, c_7	$y^{14} - 27y^{13} + \cdots - 832y + 256$
c_5	$y^{14} + 82y^{13} + \cdots + 531600y + 40000$
c_6, c_{10}	$y^{14} + 2y^{13} + \cdots + 7y + 1$
c_8, c_9, c_{11}	$y^{14} + 22y^{13} + \cdots + 7y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.571781 + 0.561972I$ $a = -0.501422 + 0.063559I$ $b = -0.607051 + 0.239027I$	$-0.35154 + 1.84409I$	$-0.79789 - 4.83996I$
$u = -0.571781 - 0.561972I$ $a = -0.501422 - 0.063559I$ $b = -0.607051 - 0.239027I$	$-0.35154 - 1.84409I$	$-0.79789 + 4.83996I$
$u = 0.191932 + 1.332820I$ $a = 0.818040 - 0.252861I$ $b = 1.48559 + 0.47442I$	$7.00688 + 0.55948I$	$2.27714 - 0.75874I$
$u = 0.191932 - 1.332820I$ $a = 0.818040 + 0.252861I$ $b = 1.48559 - 0.47442I$	$7.00688 - 0.55948I$	$2.27714 + 0.75874I$
$u = -0.004664 + 0.621250I$ $a = 0.877799 + 0.498919I$ $b = 0.331213 + 0.818885I$	$0.65784 + 1.53044I$	$1.45925 - 4.48215I$
$u = -0.004664 - 0.621250I$ $a = 0.877799 - 0.498919I$ $b = 0.331213 - 0.818885I$	$0.65784 - 1.53044I$	$1.45925 + 4.48215I$
$u = -0.38042 + 1.43966I$ $a = -0.689794 - 0.282260I$ $b = -1.401110 + 0.139917I$	$6.27413 + 5.41755I$	$1.11952 - 5.07443I$
$u = -0.38042 - 1.43966I$ $a = -0.689794 + 0.282260I$ $b = -1.401110 - 0.139917I$	$6.27413 - 5.41755I$	$1.11952 + 5.07443I$
$u = -0.206958 + 0.197769I$ $a = 2.96034 + 2.05739I$ $b = -0.386385 + 0.432449I$	$-1.89748 + 0.70166I$	$-5.60702 + 2.76477I$
$u = -0.206958 - 0.197769I$ $a = 2.96034 - 2.05739I$ $b = -0.386385 - 0.432449I$	$-1.89748 - 0.70166I$	$-5.60702 - 2.76477I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.07913 + 1.85059I$ $a = 0.707024 - 0.611419I$ $b = 2.31698 - 0.44656I$	$18.9281 - 1.0022I$	$1.174737 - 0.209171I$
$u = 0.07913 - 1.85059I$ $a = 0.707024 + 0.611419I$ $b = 2.31698 + 0.44656I$	$18.9281 + 1.0022I$	$1.174737 + 0.209171I$
$u = -0.10723 + 1.88534I$ $a = -0.671987 - 0.615446I$ $b = -2.23924 - 0.56690I$	$18.7301 + 8.0616I$	$0.87427 - 4.09385I$
$u = -0.10723 - 1.88534I$ $a = -0.671987 + 0.615446I$ $b = -2.23924 + 0.56690I$	$18.7301 - 8.0616I$	$0.87427 + 4.09385I$

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

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 - u^2 + 3u - 2 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^3 - u^2 + 3u - 2 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^3 - u^2 + 2u - 1 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^3 - 6u^2 + 17u - 11$

(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_7	u^4
c_5, c_8, c_9	$u^4 - u^3 + 3u^2 - 2u + 1$
c_6	$u^4 - u^3 + u^2 + 1$
c_{10}	$u^4 + u^3 + u^2 + 1$
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_7	y^4
c_5, c_8, c_9 c_{11}	$y^4 + 5y^3 + 7y^2 + 2y + 1$
c_6, c_{10}	$y^4 + y^3 + 3y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.395123 + 0.506844I$ $a = -0.95668 + 1.22719I$ $b = 0$	$-1.85594 - 1.41510I$	$-5.13523 + 6.85627I$
$u = 0.395123 - 0.506844I$ $a = -0.95668 - 1.22719I$ $b = 0$	$-1.85594 + 1.41510I$	$-5.13523 - 6.85627I$
$u = 0.10488 + 1.55249I$ $a = -0.043315 + 0.641200I$ $b = 0$	$5.14581 - 3.16396I$	$0.63523 + 2.29471I$
$u = 0.10488 - 1.55249I$ $a = -0.043315 - 0.641200I$ $b = 0$	$5.14581 + 3.16396I$	$0.63523 - 2.29471I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{14}-5u^{13}+\cdots-3u+1)$
c_2	$((u+1)^4)(u^{14}-u^{13}+\cdots-5u+1)$
c_3, c_7	$u^4(u^{14}+u^{13}+\cdots+72u+16)$
c_4	$((u+1)^4)(u^{14}-5u^{13}+\cdots-3u+1)$
c_5	$(u^4-u^3+3u^2-2u+1)(u^{14}-2u^{13}+\cdots+540u+200)$
c_6	$(u^4-u^3+u^2+1)(u^{14}-2u^{13}+\cdots-u+1)$
c_8, c_9	$(u^4-u^3+3u^2-2u+1)(u^{14}+2u^{13}+\cdots+7u+1)$
c_{10}	$(u^4+u^3+u^2+1)(u^{14}-2u^{13}+\cdots-u+1)$
c_{11}	$(u^4+u^3+3u^2+2u+1)(u^{14}+2u^{13}+\cdots+7u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y-1)^4)(y^{14}+y^{13}+\cdots+5y+1)$
c_2	$((y-1)^4)(y^{14}+37y^{13}+\cdots+73y+1)$
c_3, c_7	$y^4(y^{14}-27y^{13}+\cdots-832y+256)$
c_5	$(y^4+5y^3+7y^2+2y+1)(y^{14}+82y^{13}+\cdots+531600y+40000)$
c_6, c_{10}	$(y^4+y^3+3y^2+2y+1)(y^{14}+2y^{13}+\cdots+7y+1)$
c_8, c_9, c_{11}	$(y^4+5y^3+7y^2+2y+1)(y^{14}+22y^{13}+\cdots+7y+1)$