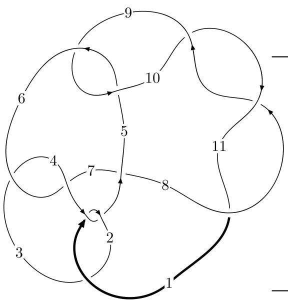
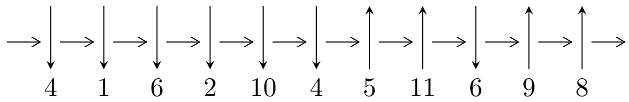
$11n_{29}$ $(K11n_{29})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{27} - u^{26} + \cdots + b + 2u,\ u^{25} - u^{24} + \cdots + a - 2,\ u^{29} - 2u^{28} + \cdots + 3u - 1\rangle$$
$$I_2^u = \langle b + 1,\ -u^2 + a - u,\ u^4 + u^3 + u^2 + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 33 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.

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$$I_1^u = \langle u^{27} - u^{26} + \cdots + b + 2u,\ u^{25} - u^{24} + \cdots + a - 2,\ u^{29} - 2u^{28} + \cdots + 3u - 1\rangle$$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{25} + u^{24} + \cdots - 3u + 2 \\ -u^{27} + u^{26} + \cdots + 2u^2 - 2u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{27} + u^{26} + \cdots - 4u + 3 \\ -u^{27} + u^{26} + \cdots + u^2 - u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^7 - 2u^3 \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^7 - 2u^3 \\ -u^9 - u^7 - 3u^5 - 2u^3 - u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{28} - 3u^{27} + \cdots - 8u + 4 \\ -u^{28} - u^{27} + \cdots - 6u^3 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 + u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 + u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{28} + 4u^{27} - 19u^{26} + 14u^{25} - 67u^{24} + 43u^{23} - 162u^{22} + 82u^{21} - 317u^{20} + 116u^{19} - 481u^{18} + 100u^{17} - 607u^{16} + 2u^{15} - 600u^{14} - 158u^{13} - 488u^{12} - 304u^{11} - 310u^{10} - 342u^9 - 172u^8 - 265u^7 - 92u^6 - 122u^5 - 65u^4 - 24u^3 - 29u^2 + 4u - 7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{29} - 5u^{28} + \cdots - 5u + 1$
c_2	$u^{29} + 9u^{28} + \cdots + 13u + 1$
c_3, c_6	$u^{29} - u^{28} + \cdots + 8u + 16$
c_5, c_9	$u^{29} + 2u^{28} + \cdots + 3u + 1$
c_7	$u^{29} + 2u^{28} + \cdots + 3u + 1$
c_8, c_{10}, c_{11}	$u^{29} - 8u^{28} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{29} - 9y^{28} + \cdots + 13y - 1$
c_2	$y^{29} + 27y^{28} + \cdots - 111y - 1$
c_3, c_6	$y^{29} + 27y^{28} + \cdots - 2752y - 256$
c_5, c_9	$y^{29} + 8y^{28} + \cdots + 3y - 1$
c_7	$y^{29} - 32y^{28} + \cdots + 3y - 1$
c_8, c_{10}, c_{11}	$y^{29} + 28y^{28} + \cdots + 123y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.231265+1.046420I$ $a=-1.57334-1.28254I$ $b=\ \ 0.858634+0.959440I$	$7.61033-0.10509I$	$1.75140-0.82130I$
$u=-0.231265-1.046420I$ $a=-1.57334+1.28254I$ $b=\ \ 0.858634-0.959440I$	$7.61033+0.10509I$	$1.75140+0.82130I$
$u=-0.312663+1.045390I$ $a=-0.10596+2.52791I$ $b=\ \ 1.014760-0.890779I$	$7.11886+6.67995I$	$0.53493-6.07824I$
$u=-0.312663-1.045390I$ $a=-0.10596-2.52791I$ $b=\ \ 1.014760+0.890779I$	$7.11886-6.67995I$	$0.53493+6.07824I$
$u=\ \ 0.822501+0.730493I$ $a=\ \ 0.512567-0.480050I$ $b=\ \ 0.633017+0.915825I$	$0.636180-0.689036I$	$-3.76307+1.94423I$
$u=\ \ 0.822501-0.730493I$ $a=\ \ 0.512567+0.480050I$ $b=\ \ 0.633017-0.915825I$	$0.636180+0.689036I$	$-3.76307-1.94423I$
$u=\ \ 0.194951+0.848946I$ $a=\ \ 0.90551+1.74398I$ $b=-0.405971-0.466803I$	$1.06975-1.85093I$	$1.30743+5.79968I$
$u=\ \ 0.194951-0.848946I$ $a=\ \ 0.90551-1.74398I$ $b=-0.405971+0.466803I$	$1.06975+1.85093I$	$1.30743-5.79968I$
$u=\ \ 0.450225+0.741417I$ $a=\ \ 0.877674-0.501097I$ $b=\ \ 0.282831+0.220896I$	$-0.03811-1.72919I$	$-0.45461+4.60784I$
$u=\ \ 0.450225-0.741417I$ $a=\ \ 0.877674+0.501097I$ $b=\ \ 0.282831-0.220896I$	$-0.03811+1.72919I$	$-0.45461-4.60784I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.788076 + 0.837379I$ $a = 0.263911 + 0.556243I$ $b = -0.840182 - 0.602881I$	$-4.79824 + 0.50805I$	$-6.89911 - 0.01309I$
$u = -0.788076 - 0.837379I$ $a = 0.263911 - 0.556243I$ $b = -0.840182 + 0.602881I$	$-4.79824 - 0.50805I$	$-6.89911 + 0.01309I$
$u = 0.882629 + 0.776302I$ $a = 0.523074 + 0.300180I$ $b = 1.103310 - 0.772041I$	$-0.78075 + 5.57785I$	$-5.50657 - 2.77090I$
$u = 0.882629 - 0.776302I$ $a = 0.523074 - 0.300180I$ $b = 1.103310 + 0.772041I$	$-0.78075 - 5.57785I$	$-5.50657 + 2.77090I$
$u = 0.784724 + 0.886082I$ $a = -1.19979 + 1.01167I$ $b = -1.337190 - 0.029086I$	$-6.30586 - 2.95151I$	$-5.76823 + 2.64939I$
$u = 0.784724 - 0.886082I$ $a = -1.19979 - 1.01167I$ $b = -1.337190 + 0.029086I$	$-6.30586 + 2.95151I$	$-5.76823 - 2.64939I$
$u = -0.767855 + 0.926785I$ $a = -0.44228 - 1.68632I$ $b = -0.771267 + 0.660663I$	$-4.52351 + 5.35315I$	$-5.93805 - 5.66710I$
$u = -0.767855 - 0.926785I$ $a = -0.44228 + 1.68632I$ $b = -0.771267 - 0.660663I$	$-4.52351 - 5.35315I$	$-5.93805 + 5.66710I$
$u = 0.750471 + 0.994480I$ $a = -0.996828 + 0.026809I$ $b = 0.648434 - 1.004480I$	$1.43095 - 5.20261I$	$-2.56531 + 3.25116I$
$u = 0.750471 - 0.994480I$ $a = -0.996828 - 0.026809I$ $b = 0.648434 + 1.004480I$	$1.43095 + 5.20261I$	$-2.56531 - 3.25116I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.866458+0.916553I$ $a=\ \ 0.906367+0.416512I$ $b=\ \ 0.675975-0.021605I$	$-7.73749+3.20954I$	$-0.41591-2.86957I$
$u=-0.866458-0.916553I$ $a=\ \ 0.906367-0.416512I$ $b=\ \ 0.675975+0.021605I$	$-7.73749-3.20954I$	$-0.41591+2.86957I$
$u=-0.719374+0.070912I$ $a=\ \ 0.523981-0.369051I$ $b=\ \ 0.914734+0.838366I$	$3.96205-3.12839I$	$-4.70122+2.58517I$
$u=-0.719374-0.070912I$ $a=\ \ 0.523981+0.369051I$ $b=\ \ 0.914734-0.838366I$	$3.96205+3.12839I$	$-4.70122-2.58517I$
$u=\ \ 0.793942+1.004110I$ $a=\ \ 1.14222-1.86384I$ $b=\ \ 1.130840+0.799307I$	$-0.06814-11.79740I$	$-4.44971+7.37898I$
$u=\ \ 0.793942-1.004110I$ $a=\ \ 1.14222+1.86384I$ $b=\ \ 1.130840-0.799307I$	$-0.06814+11.79740I$	$-4.44971-7.37898I$
$u=-0.146225+0.649247I$ $a=\ \ 0.11069-2.17375I$ $b=-1.073810+0.142900I$	$-1.181700+0.773921I$	$-1.52981+2.72477I$
$u=-0.146225-0.649247I$ $a=\ \ 0.11069+2.17375I$ $b=-1.073810-0.142900I$	$-1.181700-0.773921I$	$-1.52981-2.72477I$
$u=\ \ 0.304949$ $a=\ \ 1.10441$ $b=-0.668226$	-1.01334	-10.2040

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

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

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

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

$$a_9 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 \\ u^3+u^2+1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 5u^2 + 6u - 7$

(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_6	u^4
c_5	$u^4+u^3+u^2+1$
c_7, c_{10}, c_{11}	$u^4-u^3+3u^2-2u+1$
c_8	$u^4+u^3+3u^2+2u+1$
c_9	$u^4-u^3+u^2+1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.351808 + 0.720342I$ $a = -0.043315 + 1.227190I$ $b = -1.00000$	$-1.43393 - 1.41510I$	$-6.86477 + 6.85627I$
$u = 0.351808 - 0.720342I$ $a = -0.043315 - 1.227190I$ $b = -1.00000$	$-1.43393 + 1.41510I$	$-6.86477 - 6.85627I$
$u = -0.851808 + 0.911292I$ $a = -0.956685 - 0.641200I$ $b = -1.00000$	$-8.43568 + 3.16396I$	$-12.63523 - 2.29471I$
$u = -0.851808 - 0.911292I$ $a = -0.956685 + 0.641200I$ $b = -1.00000$	$-8.43568 - 3.16396I$	$-12.63523 + 2.29471I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{29}-5u^{28}+\cdots-5u+1)$
c_2	$((u+1)^4)(u^{29}+9u^{28}+\cdots+13u+1)$
c_3, c_6	$u^4(u^{29}-u^{28}+\cdots+8u+16)$
c_4	$((u+1)^4)(u^{29}-5u^{28}+\cdots-5u+1)$
c_5	$(u^4+u^3+u^2+1)(u^{29}+2u^{28}+\cdots+3u+1)$
c_7	$(u^4-u^3+3u^2-2u+1)(u^{29}+2u^{28}+\cdots+3u+1)$
c_8	$(u^4+u^3+3u^2+2u+1)(u^{29}-8u^{28}+\cdots+3u+1)$
c_9	$(u^4-u^3+u^2+1)(u^{29}+2u^{28}+\cdots+3u+1)$
c_{10}, c_{11}	$(u^4-u^3+3u^2-2u+1)(u^{29}-8u^{28}+\cdots+3u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y-1)^4)(y^{29} - 9y^{28} + \cdots + 13y - 1)$
c_2	$((y-1)^4)(y^{29} + 27y^{28} + \cdots - 111y - 1)$
c_3, c_6	$y^4(y^{29} + 27y^{28} + \cdots - 2752y - 256)$
c_5, c_9	$(y^4 + y^3 + 3y^2 + 2y + 1)(y^{29} + 8y^{28} + \cdots + 3y - 1)$
c_7	$(y^4 + 5y^3 + 7y^2 + 2y + 1)(y^{29} - 32y^{28} + \cdots + 3y - 1)$
c_8, c_{10}, c_{11}	$(y^4 + 5y^3 + 7y^2 + 2y + 1)(y^{29} + 28y^{28} + \cdots + 123y - 1)$