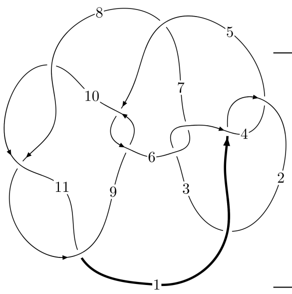
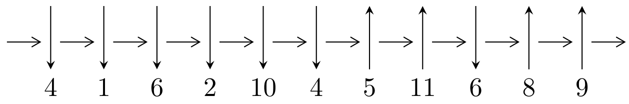
$11n_{26}$ ($K11n_{26}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 6.49349 \times 10^{26} u^{27} + 1.90286 \times 10^{27} u^{26} + \cdots + 6.31630 \times 10^{27} b - 6.60130 \times 10^{27}, \\ & -1.10262 \times 10^{28} u^{27} - 1.96649 \times 10^{28} u^{26} + \cdots + 1.26326 \times 10^{28} a - 2.28561 \times 10^{29}, \\ & u^{28} + 2u^{27} + \cdots + 20u + 8 \rangle \end{aligned}$$

$$I_2^u = \langle b + 1,\ u^4 + u^2 + a - u + 1,\ u^5 + u^4 + 2u^3 + u^2 + u + 1 \rangle$$

$$I_1^v = \langle a,\ -v^2 + b + 3v + 1,\ v^3 - 2v^2 - 3v - 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 36 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. $I_1^u = \langle 6.49 \times 10^{26}u^{27} + 1.90 \times 10^{27}u^{26} + \cdots + 6.32 \times 10^{27}b - 6.60 \times 10^{27},\ -1.10 \times 10^{28}u^{27} - 1.97 \times 10^{28}u^{26} + \cdots + 1.26 \times 10^{28}a - 2.29 \times 10^{29},\ u^{28} + 2u^{27} + \cdots + 20u + 8\rangle$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 0.872833u^{27} + 1.55668u^{26} + \cdots - 6.74875u + 18.0929 \\ -0.102805u^{27} - 0.301262u^{26} + \cdots + 5.99581u + 1.04512 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.748842u^{27} + 1.32169u^{26} + \cdots - 4.76990u + 17.3225 \\ 0.236809u^{27} + 0.571914u^{26} + \cdots - 10.8084u - 2.70142 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.212982u^{27} + 0.380557u^{26} + \cdots - 3.15104u + 3.02347 \\ -0.0259598u^{27} - 0.0939752u^{26} + \cdots + 1.35732u + 1.55242 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.187022u^{27} + 0.286582u^{26} + \cdots - 1.79372u + 4.57588 \\ -0.0259598u^{27} - 0.0939752u^{26} + \cdots + 1.35732u + 1.55242 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.212982u^{27} + 0.380557u^{26} + \cdots - 3.15104u + 3.02347 \\ 0.0387264u^{27} + 0.130165u^{26} + \cdots - 2.15306u - 1.18917 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.902672u^{27} + 1.78001u^{26} + \cdots - 13.1074u + 13.2132 \\ 0.300350u^{27} + 0.747310u^{26} + \cdots - 15.0523u - 3.90671 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0.216279u^{27} + 0.376927u^{26} + \cdots - 2.89799u + 3.72316 \\ 0.0537576u^{27} + 0.145064u^{26} + \cdots - 1.72187u - 0.407669 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.216279u^{27} + 0.376927u^{26} + \cdots - 2.89799u + 3.72316 \\ 0.0537576u^{27} + 0.145064u^{26} + \cdots - 1.72187u - 0.407669 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1005488711917452383990074 6713}{6316300717618506105858780668}u^{27} + \frac{3421814896803148511487522420}{1579075179404626526464695167}u^{26} + \cdots + \frac{3846222222480339714084108 1069}{3158150358809253052929390334}u + \frac{7386754582319186896538163 9557}{1579075179404626526464695167}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{28} - 7u^{27} + \cdots - 5u + 1$
c_2	$u^{28} + 5u^{27} + \cdots - 3u + 1$
c_3, c_6	$u^{28} - 2u^{27} + \cdots - 24u^2 - 32$
c_5, c_9	$u^{28} + 2u^{27} + \cdots + 20u + 8$
c_7	$u^{28} + 3u^{27} + \cdots - u - 1$
c_8, c_{10}, c_{11}	$u^{28} + 5u^{27} + \cdots - 8u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{28} - 5y^{27} + \cdots + 3y + 1$
c_2	$y^{28} + 43y^{27} + \cdots + 3y + 1$
c_3, c_6	$y^{28} + 36y^{27} + \cdots + 1536y + 1024$
c_5, c_9	$y^{28} + 24y^{27} + \cdots - 848y + 64$
c_7	$y^{28} - 37y^{27} + \cdots - 35y + 1$
c_8, c_{10}, c_{11}	$y^{28} - 31y^{27} + \cdots - 128y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.502386 + 0.824854I$ $a = 0.823470 + 0.487809I$ $b = 0.414733 - 0.266521I$	$-0.04395 + 1.99045I$	$-0.01306 - 4.61620I$
$u = -0.502386 - 0.824854I$ $a = 0.823470 - 0.487809I$ $b = 0.414733 + 0.266521I$	$-0.04395 - 1.99045I$	$-0.01306 + 4.61620I$
$u = -0.011679 + 0.922740I$ $a = 0.91458 - 1.21166I$ $b = -0.220238 + 0.502777I$	$1.30841 + 1.56433I$	$2.39227 - 4.63205I$
$u = -0.011679 - 0.922740I$ $a = 0.91458 + 1.21166I$ $b = -0.220238 - 0.502777I$	$1.30841 - 1.56433I$	$2.39227 + 4.63205I$
$u = 0.841010 + 0.306823I$ $a = 0.495652 - 0.321293I$ $b = 0.136281 - 0.404052I$	$2.62794 + 0.46347I$	$2.20728 + 0.53901I$
$u = 0.841010 - 0.306823I$ $a = 0.495652 + 0.321293I$ $b = 0.136281 + 0.404052I$	$2.62794 - 0.46347I$	$2.20728 - 0.53901I$
$u = 0.456033 + 1.080380I$ $a = 0.760375 - 0.367537I$ $b = 0.744635 + 0.318856I$	$4.82268 - 5.10002I$	$4.96882 + 7.61668I$
$u = 0.456033 - 1.080380I$ $a = 0.760375 + 0.367537I$ $b = 0.744635 - 0.318856I$	$4.82268 + 5.10002I$	$4.96882 - 7.61668I$
$u = 0.639311 + 0.009558I$ $a = 0.530838 + 0.374755I$ $b = 0.894453 - 0.824309I$	$3.90340 + 3.06304I$	$-6.04954 - 3.66902I$
$u = 0.639311 - 0.009558I$ $a = 0.530838 - 0.374755I$ $b = 0.894453 + 0.824309I$	$3.90340 - 3.06304I$	$-6.04954 + 3.66902I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.100025 + 0.630262I$ $a = 0.34419 + 2.12537I$ $b = -1.051400 - 0.149533I$	$-1.169040 - 0.736496I$	$-2.56323 - 2.93619I$
$u = 0.100025 - 0.630262I$ $a = 0.34419 - 2.12537I$ $b = -1.051400 + 0.149533I$	$-1.169040 + 0.736496I$	$-2.56323 + 2.93619I$
$u = -0.09653 + 1.44384I$ $a = -0.313167 - 0.868043I$ $b = -1.322620 + 0.396919I$	$5.47968 + 1.56446I$	$1.30115 - 0.62804I$
$u = -0.09653 - 1.44384I$ $a = -0.313167 + 0.868043I$ $b = -1.322620 - 0.396919I$	$5.47968 - 1.56446I$	$1.30115 + 0.62804I$
$u = 0.11027 + 1.45639I$ $a = -0.590568 + 1.231490I$ $b = 0.95494 - 1.07229I$	$9.13873 + 0.66915I$	$1.241168 + 0.226691I$
$u = 0.11027 - 1.45639I$ $a = -0.590568 - 1.231490I$ $b = 0.95494 + 1.07229I$	$9.13873 - 0.66915I$	$1.241168 - 0.226691I$
$u = 0.33116 + 1.43263I$ $a = -0.03375 - 1.59565I$ $b = 1.08042 + 0.99381I$	$8.71794 - 6.87707I$	$0.35894 + 4.81213I$
$u = 0.33116 - 1.43263I$ $a = -0.03375 + 1.59565I$ $b = 1.08042 - 0.99381I$	$8.71794 + 6.87707I$	$0.35894 - 4.81213I$
$u = -1.51203 + 0.11931I$ $a = 0.447872 - 0.348583I$ $b = 1.03272 + 1.05137I$	$11.20710 - 3.83748I$	$1.59779 + 2.22620I$
$u = -1.51203 - 0.11931I$ $a = 0.447872 + 0.348583I$ $b = 1.03272 - 1.05137I$	$11.20710 + 3.83748I$	$1.59779 - 2.22620I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.29853 + 1.54812I$ $a = 0.139401 + 1.066540I$ $b = -0.423937 - 0.981765I$	$8.83250 - 3.91759I$	$2.90293 + 3.10234I$
$u = 0.29853 - 1.54812I$ $a = 0.139401 - 1.066540I$ $b = -0.423937 + 0.981765I$	$8.83250 + 3.91759I$	$2.90293 - 3.10234I$
$u = -0.349253$ $a = -12.0202$ $b = -0.917213$	0.303143	-47.2620
$u = -0.304533$ $a = 1.10498$ $b = -0.668462$	-1.01341	-10.2410
$u = -0.72992 + 1.54911I$ $a = 0.43631 + 1.34583I$ $b = 1.21166 - 0.95824I$	$15.7181 + 11.7289I$	$1.85525 - 5.52053I$
$u = -0.72992 - 1.54911I$ $a = 0.43631 - 1.34583I$ $b = 1.21166 + 0.95824I$	$15.7181 - 11.7289I$	$1.85525 + 5.52053I$
$u = -0.59689 + 1.68228I$ $a = -0.497600 - 0.677471I$ $b = 0.84120 + 1.23310I$	$16.9931 + 3.8383I$	0
$u = -0.59689 - 1.68228I$ $a = -0.497600 + 0.677471I$ $b = 0.84120 - 1.23310I$	$16.9931 - 3.8383I$	0

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

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} -u^4-u^2+u-1 \\ -1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^4-u^2+u \\ -1 \end{pmatrix}$$

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

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

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

$$a_3 = \begin{pmatrix} -u^4-u^2+u \\ -1 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u^4-u^2-1 \\ -u^4-u^3-u^2-1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^4-u^2-1 \\ -u^4-u^3-u^2-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^4+5u^3+7u^2+5u$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^5$
c_3, c_6	y^5
c_5, c_9	$y^5+3y^4+4y^3+y^2-y-1$
c_7	$y^5-y^4+8y^3-3y^2+3y-1$
c_8, c_{10}, c_{11}	$y^5-5y^4+8y^3-3y^2-y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.339110 + 0.822375I$ $a = -0.103562 + 0.890762I$ $b = -1.00000$	$-1.31583 - 1.53058I$	$-5.47076 + 5.40154I$
$u = 0.339110 - 0.822375I$ $a = -0.103562 - 0.890762I$ $b = -1.00000$	$-1.31583 + 1.53058I$	$-5.47076 - 5.40154I$
$u = -0.766826$ $a = -2.70062$ $b = -1.00000$	0.756147	-1.28100
$u = -0.455697 + 1.200150I$ $a = -0.546130 - 0.402731I$ $b = -1.00000$	$4.22763 + 4.40083I$	$-0.88874 - 1.16747I$
$u = -0.455697 - 1.200150I$ $a = -0.546130 + 0.402731I$ $b = -1.00000$	$4.22763 - 4.40083I$	$-0.88874 + 1.16747I$

III. $\boldsymbol{I_1^v = \langle a,\ -v^2 + b + 3v + 1,\ v^3 - 2v^2 - 3v - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.539798 + 0.182582I$ $a = 0$ $b = 0.877439 - 0.744862I$	$4.66906 + 2.82812I$	$4.21508 - 1.30714I$
$v = -0.539798 - 0.182582I$ $a = 0$ $b = 0.877439 + 0.744862I$	$4.66906 - 2.82812I$	$4.21508 + 1.30714I$
$v = 3.07960$ $a = 0$ $b = -0.754878$	0.531480	4.56980

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^5)(u^3+u^2-1)(u^{28}-7u^{27}+\cdots-5u+1)$
c_2	$((u+1)^5)(u^3+u^2+2u+1)(u^{28}+5u^{27}+\cdots-3u+1)$
c_3	$u^5(u^3-u^2+2u-1)(u^{28}-2u^{27}+\cdots-24u^2-32)$
c_4	$((u+1)^5)(u^3-u^2+1)(u^{28}-7u^{27}+\cdots-5u+1)$
c_5	$u^3(u^5+u^4+\cdots+u+1)(u^{28}+2u^{27}+\cdots+20u+8)$
c_6	$u^5(u^3+u^2+2u+1)(u^{28}-2u^{27}+\cdots-24u^2-32)$
c_7	$(u^3-3u^2+2u+1)(u^5-3u^4+\cdots-u+1)(u^{28}+3u^{27}+\cdots-u-1)$
c_8	$((u+1)^3)(u^5-u^4+\cdots+u+1)(u^{28}+5u^{27}+\cdots-8u-1)$
c_9	$u^3(u^5-u^4+\cdots+u-1)(u^{28}+2u^{27}+\cdots+20u+8)$
c_{10}, c_{11}	$((u-1)^3)(u^5+u^4+\cdots+u-1)(u^{28}+5u^{27}+\cdots-8u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y-1)^5)(y^3 - y^2 + 2y - 1)(y^{28} - 5y^{27} + \cdots + 3y + 1)$
c_2	$((y-1)^5)(y^3 + 3y^2 + 2y - 1)(y^{28} + 43y^{27} + \cdots + 3y + 1)$
c_3, c_6	$y^5(y^3 + 3y^2 + 2y - 1)(y^{28} + 36y^{27} + \cdots + 1536y + 1024)$
c_5, c_9	$y^3(y^5 + 3y^4 + \cdots - y - 1)(y^{28} + 24y^{27} + \cdots - 848y + 64)$
c_7	$(y^3 - 5y^2 + 10y - 1)(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)$ $\cdot (y^{28} - 37y^{27} + \cdots - 35y + 1)$
c_8, c_{10}, c_{11}	$((y-1)^3)(y^5 - 5y^4 + \cdots - y - 1)(y^{28} - 31y^{27} + \cdots - 128y + 1)$