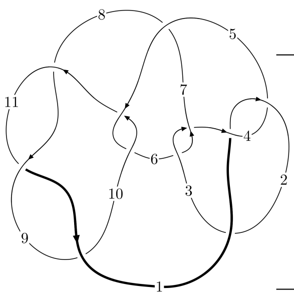
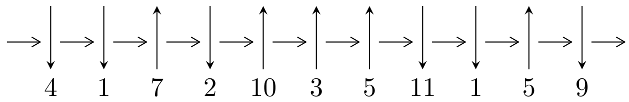
$11n_{24}$ ($K11n_{24}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -44u^{16} + 153u^{15} + \cdots + 4229b + 2570,\ -15u^{16} + 2455u^{15} + \cdots + 4229a - 4314,$$
$$u^{17} + 2u^{16} + \cdots + u - 1\rangle$$
$$I_2^u = \langle b + 1,\ -u^4 - u^3 + a + u + 1,\ u^6 + u^5 - u^4 - 2u^3 + u + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 23 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. $\boldsymbol{I^u_1 = \langle -44u^{16} + 153u^{15} + \cdots + 4229b + 2570,\ -15u^{16} + 2455u^{15} + \cdots + 4229a - 4314,\ u^{17} + 2u^{16} + \cdots + u - 1\rangle}$

(i) Arc colorings

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

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00354694u^{16} - 0.580515u^{15} + \cdots + 1.76046u + 1.02010 \\ 0.0104044u^{16} - 0.0361788u^{15} + \cdots - 1.16931u - 0.607709 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00685741u^{16} - 0.544337u^{15} + \cdots + 2.92977u + 1.62781 \\ 0.0104044u^{16} - 0.0361788u^{15} + \cdots - 1.16931u - 0.607709 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0245921u^{16} - 0.641759u^{15} + \cdots + 3.12745u + 1.52731 \\ -0.0416174u^{16} + 0.144715u^{15} + \cdots - 1.32277u - 0.569165 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.933318u^{16} + 0.913691u^{15} + \cdots - 2.09671u - 0.377867 \\ 0.895956u^{16} + 0.361788u^{15} + \cdots + 1.69307u - 0.922913 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0134784u^{16} + 0.205959u^{15} + \cdots - 2.68976u - 0.0763774 \\ 0.0520218u^{16} - 0.180894u^{15} + \cdots + 0.153464u - 0.0385434 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.0300307u^{16} + 0.581698u^{15} + \cdots - 3.23859u + 0.163159 \\ 0.301490u^{16} - 0.343817u^{15} + \cdots + 0.639395u - 0.291558 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0300307u^{16} + 0.581698u^{15} + \cdots - 3.23859u + 0.163159 \\ 0.301490u^{16} - 0.343817u^{15} + \cdots + 0.639395u - 0.291558 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{7665}{4229}u^{16} + \frac{5737}{4229}u^{15} + \cdots - \frac{1705}{4229}u - \frac{11542}{4229}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{17} - 2u^{16} + \cdots + u + 1$
c_2	$u^{17} + 12u^{16} + \cdots - u + 1$
c_3, c_6	$u^{17} - 2u^{16} + \cdots + u - 1$
c_5, c_{10}	$u^{17} + 3u^{16} + \cdots + 128u - 64$
c_7	$u^{17} + 6u^{16} + \cdots + 3897u + 1609$
c_8, c_9, c_{11}	$u^{17} - 7u^{16} + \cdots + 18u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{17} - 12y^{16} + \cdots - y - 1$
c_2	$y^{17} - 12y^{16} + \cdots - 77y - 1$
c_3, c_6	$y^{17} + 18y^{15} + \cdots - y - 1$
c_5, c_{10}	$y^{17} + 39y^{16} + \cdots + 8192y - 4096$
c_7	$y^{17} + 68y^{16} + \cdots - 35776857y - 2588881$
c_8, c_9, c_{11}	$y^{17} - 31y^{16} + \cdots - 36y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.977894 + 0.194640I$ $a = 0.644273 + 0.271764I$ $b = -0.074423 - 0.157594I$	$-1.75571 - 0.69092I$	$-4.20927 - 0.03881I$
$u = 0.977894 - 0.194640I$ $a = 0.644273 - 0.271764I$ $b = -0.074423 + 0.157594I$	$-1.75571 + 0.69092I$	$-4.20927 + 0.03881I$
$u = 0.007198 + 1.101270I$ $a = 0.0948459 - 0.0860640I$ $b = 2.00423 + 0.17609I$	$-14.0076 - 4.0781I$	$-2.81048 + 2.03189I$
$u = 0.007198 - 1.101270I$ $a = 0.0948459 + 0.0860640I$ $b = 2.00423 - 0.17609I$	$-14.0076 + 4.0781I$	$-2.81048 - 2.03189I$
$u = 1.11899$ $a = -3.55652$ $b = -1.14890$	-3.74765	10.6760
$u = -1.094410 + 0.448256I$ $a = 0.297387 + 0.400102I$ $b = 0.394810 + 0.688088I$	$-0.57451 + 4.58866I$	$-0.38155 - 5.05474I$
$u = -1.094410 - 0.448256I$ $a = 0.297387 - 0.400102I$ $b = 0.394810 - 0.688088I$	$-0.57451 - 4.58866I$	$-0.38155 + 5.05474I$
$u = -1.279610 + 0.127778I$ $a = -1.75394 + 0.15484I$ $b = -1.65978 + 0.99674I$	$-6.36531 + 2.55518I$	$-9.15621 - 3.45666I$
$u = -1.279610 - 0.127778I$ $a = -1.75394 - 0.15484I$ $b = -1.65978 - 0.99674I$	$-6.36531 - 2.55518I$	$-9.15621 + 3.45666I$
$u = -0.397422 + 0.534657I$ $a = 0.841166 + 0.259861I$ $b = 0.289585 - 0.225601I$	$1.46199 - 0.53067I$	$6.34861 + 0.44801I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.397422 - 0.534657I$ $a = 0.841166 - 0.259861I$ $b = 0.289585 + 0.225601I$	$1.46199 + 0.53067I$	$6.34861 - 0.44801I$
$u = -1.38093 + 0.53931I$ $a = 1.72060 + 1.08326I$ $b = 2.05747 - 0.40594I$	$-18.3559 + 9.9055I$	$-5.27294 - 4.68483I$
$u = -1.38093 - 0.53931I$ $a = 1.72060 - 1.08326I$ $b = 2.05747 + 0.40594I$	$-18.3559 - 9.9055I$	$-5.27294 + 4.68483I$
$u = 1.38223 + 0.54918I$ $a = 1.50860 - 1.17337I$ $b = 2.09111 + 0.05760I$	$-18.3031 - 1.7986I$	$-5.37966 + 0.73401I$
$u = 1.38223 - 0.54918I$ $a = 1.50860 + 1.17337I$ $b = 2.09111 - 0.05760I$	$-18.3031 + 1.7986I$	$-5.37966 - 0.73401I$
$u = 0.225548 + 0.312459I$ $a = 1.92533 + 0.42540I$ $b = -1.028560 - 0.314868I$	$-1.91105 - 0.93427I$	$-3.47646 + 1.18545I$
$u = 0.225548 - 0.312459I$ $a = 1.92533 - 0.42540I$ $b = -1.028560 + 0.314868I$	$-1.91105 + 0.93427I$	$-3.47646 - 1.18545I$

II. $I_2^u = \langle b+1,\ -u^4-u^3+a+u+1,\ u^6+u^5-u^4-2u^3+u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^4-2u^3-3u^2-2u-1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^6 + u^5 - u^4 - 2u^3 + u + 1$
c_2	$u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1$
c_3, c_4	$u^6 - u^5 - u^4 + 2u^3 - u + 1$
c_5, c_{10}	u^6
c_7	$u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1$
c_8, c_9	$(u-1)^6$
c_{11}	$(u+1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_6	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_2, c_7	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$
c_5, c_{10}	y^6
c_8, c_9, c_{11}	$(y-1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.002190 + 0.295542I$ $a = -0.76815 + 1.65564I$ $b = -1.00000$	$-3.53554 - 0.92430I$	$-5.77331 - 0.83820I$
$u = 1.002190 - 0.295542I$ $a = -0.76815 - 1.65564I$ $b = -1.00000$	$-3.53554 + 0.92430I$	$-5.77331 + 0.83820I$
$u = -0.428243 + 0.664531I$ $a = -0.340228 - 0.298454I$ $b = -1.00000$	$0.245672 - 0.924305I$	$-1.11831 + 1.11590I$
$u = -0.428243 - 0.664531I$ $a = -0.340228 + 0.298454I$ $b = -1.00000$	$0.245672 + 0.924305I$	$-1.11831 - 1.11590I$
$u = -1.073950 + 0.558752I$ $a = -0.891622 - 0.818891I$ $b = -1.00000$	$-1.64493 + 5.69302I$	$-3.10838 - 7.09196I$
$u = -1.073950 - 0.558752I$ $a = -0.891622 + 0.818891I$ $b = -1.00000$	$-1.64493 - 5.69302I$	$-3.10838 + 7.09196I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^6+u^5-u^4-2u^3+u+1)(u^{17}-2u^{16}+\cdots+u+1)$
c_2	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)(u^{17}+12u^{16}+\cdots-u+1)$
c_3	$(u^6-u^5-u^4+2u^3-u+1)(u^{17}-2u^{16}+\cdots+u-1)$
c_4	$(u^6-u^5-u^4+2u^3-u+1)(u^{17}-2u^{16}+\cdots+u+1)$
c_5, c_{10}	$u^6(u^{17}+3u^{16}+\cdots+128u-64)$
c_6	$(u^6+u^5-u^4-2u^3+u+1)(u^{17}-2u^{16}+\cdots+u-1)$
c_7	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)(u^{17}+6u^{16}+\cdots+3897u+1609)$
c_8, c_9	$((u-1)^6)(u^{17}-7u^{16}+\cdots+18u^2+1)$
c_{11}	$((u+1)^6)(u^{17}-7u^{16}+\cdots+18u^2+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1)(y^{17} - 12y^{16} + \cdots - y - 1)$
c_2	$(y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1)(y^{17} - 12y^{16} + \cdots - 77y - 1)$
c_3, c_6	$(y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1)(y^{17} + 18y^{15} + \cdots - y - 1)$
c_5, c_{10}	$y^6(y^{17} + 39y^{16} + \cdots + 8192y - 4096)$
c_7	$(y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1)$ $\cdot (y^{17} + 68y^{16} + \cdots - 35776857y - 2588881)$
c_8, c_9, c_{11}	$((y-1)^6)(y^{17} - 31y^{16} + \cdots - 36y - 1)$