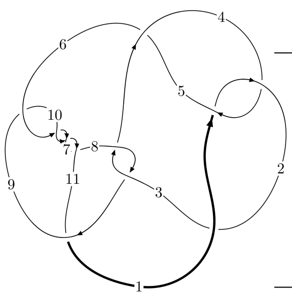
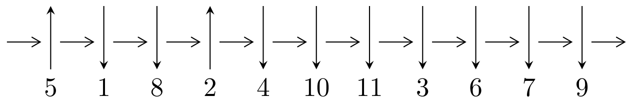
$11a_{60}$ ($K11a_{60}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$6{,}9 \underset{c_9}{\longrightarrow} 10 \underset{c_6}{\longrightarrow} 7 \underset{c_{10}}{\longrightarrow} 11 \underset{c_{11}}{\longrightarrow} 1{,}3 \underset{c_2}{\longrightarrow} 2 \underset{c_8}{\longrightarrow} 8 \underset{c_3}{\longrightarrow} 4 \underset{c_5}{\longrightarrow} 5 \longrightarrow\!\!\!\!\rightarrow c_1, c_4, c_7$$

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

$$I_1^u = \langle -u^{44} - u^{43} + \cdots + 3u^2 + b,\ -8u^{45} - 5u^{44} + \cdots + 2a + 11,\ u^{46} + 3u^{45} + \cdots + 3u - 1\rangle$$
$$I_2^u = \langle b,\ a^2 - au + a - u + 2,\ u^2 - u - 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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. $I_1^u =$
$\langle -u^{44}-u^{43}+\cdots+3u^2+b,\ -8u^{45}-5u^{44}+\cdots+2a+11,\ u^{46}+3u^{45}+\cdots+3u-1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_1 = \begin{pmatrix} u^4-3u^2+1 \\ -u^4+2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 4u^{45}+\frac{5}{2}u^{44}+\cdots+18u-\frac{11}{2} \\ u^{44}+u^{43}+\cdots-7u^3-3u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2u^{45}+\frac{1}{2}u^{44}+\cdots+12u-\frac{7}{2} \\ -\frac{3}{2}u^{45}-\frac{3}{2}u^{44}+\cdots-\frac{9}{2}u+\frac{3}{2} \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^{45}-\frac{1}{2}u^{44}+\cdots+11u-\frac{7}{2} \\ -5u^{45}-7u^{44}+\cdots-14u+4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{2}u^{44}+u^{43}+\cdots-5u-\frac{1}{2} \\ -u^{14}+8u^{12}+\cdots+u^2+2u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{2}u^{44}+u^{43}+\cdots-5u-\frac{1}{2} \\ -u^{14}+8u^{12}+\cdots+u^2+2u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{21}{2}u^{45}-16u^{44}+\cdots-\frac{31}{2}u+3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{46} + 3u^{45} + \cdots + 7u + 1$
c_2, c_5	$u^{46} + 15u^{45} + \cdots - 45u + 1$
c_3, c_8	$u^{46} + u^{45} + \cdots - 48u - 16$
c_6, c_7, c_9 c_{10}	$u^{46} + 3u^{45} + \cdots + 3u - 1$
c_{11}	$u^{46} - 11u^{45} + \cdots + 5u - 73$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{46} + 15y^{45} + \cdots - 45y + 1$
c_2, c_5	$y^{46} + 35y^{45} + \cdots - 2249y + 1$
c_3, c_8	$y^{46} + 25y^{45} + \cdots + 2176y + 256$
c_6, c_7, c_9 c_{10}	$y^{46} - 53y^{45} + \cdots - 9y + 1$
c_{11}	$y^{46} + 7y^{45} + \cdots + 31219y + 5329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.683033 + 0.585511I$ $a = -1.17131 + 1.61239I$ $b = -0.586768 - 1.279220I$	$4.58631 - 10.20080I$	$-5.76564 + 8.71859I$
$u = 0.683033 - 0.585511I$ $a = -1.17131 - 1.61239I$ $b = -0.586768 + 1.279220I$	$4.58631 + 10.20080I$	$-5.76564 - 8.71859I$
$u = -1.107400 + 0.146429I$ $a = 0.192350 + 0.087991I$ $b = -0.167779 - 1.185070I$	$1.38563 - 2.89669I$	$-7.00000 + 0.I$
$u = -1.107400 - 0.146429I$ $a = 0.192350 - 0.087991I$ $b = -0.167779 + 1.185070I$	$1.38563 + 2.89669I$	$-7.00000 + 0.I$
$u = 0.644087 + 0.591749I$ $a = 1.12925 - 1.65187I$ $b = 0.490901 + 1.297460I$	$5.48925 - 4.23240I$	$-3.97125 + 3.86585I$
$u = 0.644087 - 0.591749I$ $a = 1.12925 + 1.65187I$ $b = 0.490901 - 1.297460I$	$5.48925 + 4.23240I$	$-3.97125 - 3.86585I$
$u = -0.721560 + 0.271962I$ $a = 0.078758 - 0.314563I$ $b = -0.586991 - 0.576410I$	$-2.76000 + 0.49175I$	$-14.4049 - 1.3153I$
$u = -0.721560 - 0.271962I$ $a = 0.078758 + 0.314563I$ $b = -0.586991 + 0.576410I$	$-2.76000 - 0.49175I$	$-14.4049 + 1.3153I$
$u = 0.625541 + 0.443656I$ $a = -1.32103 + 1.86857I$ $b = -0.437369 - 0.962184I$	$-1.57427 - 4.58885I$	$-10.12217 + 8.09100I$
$u = 0.625541 - 0.443656I$ $a = -1.32103 - 1.86857I$ $b = -0.437369 + 0.962184I$	$-1.57427 + 4.58885I$	$-10.12217 - 8.09100I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.307520 + 0.663659I$ $a = 0.67086 - 1.68681I$ $b = -0.327075 + 1.311180I$	$6.48322 + 0.00049I$	$-1.75811 + 1.98241I$
$u = 0.307520 - 0.663659I$ $a = 0.67086 + 1.68681I$ $b = -0.327075 - 1.311180I$	$6.48322 - 0.00049I$	$-1.75811 - 1.98241I$
$u = 0.259302 + 0.676556I$ $a = -0.61524 + 1.65084I$ $b = 0.443673 - 1.290370I$	$5.83960 + 5.95442I$	$-2.89350 - 3.47222I$
$u = 0.259302 - 0.676556I$ $a = -0.61524 - 1.65084I$ $b = 0.443673 + 1.290370I$	$5.83960 - 5.95442I$	$-2.89350 + 3.47222I$
$u = -1.280730 + 0.112519I$ $a = -0.245265 - 0.380738I$ $b = 0.020723 + 1.301980I$	$1.51797 + 2.92543I$	0
$u = -1.280730 - 0.112519I$ $a = -0.245265 + 0.380738I$ $b = 0.020723 - 1.301980I$	$1.51797 - 2.92543I$	0
$u = -0.529027 + 0.472674I$ $a = 0.104077 - 0.663139I$ $b = -1.023760 - 0.238308I$	$1.28884 + 4.36080I$	$-6.58604 - 6.72191I$
$u = -0.529027 - 0.472674I$ $a = 0.104077 + 0.663139I$ $b = -1.023760 + 0.238308I$	$1.28884 - 4.36080I$	$-6.58604 + 6.72191I$
$u = 0.480914 + 0.492416I$ $a = 0.97784 - 1.95842I$ $b = 0.137372 + 1.054990I$	$2.15360 - 1.72767I$	$-2.05511 + 4.46443I$
$u = 0.480914 - 0.492416I$ $a = 0.97784 + 1.95842I$ $b = 0.137372 - 1.054990I$	$2.15360 + 1.72767I$	$-2.05511 - 4.46443I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.438186 + 0.463380I$ $a = -0.026707 + 0.771502I$ $b = 0.986397 + 0.062419I$	$1.56190 - 1.05001I$	$-5.35085 - 0.93346I$
$u = -0.438186 - 0.463380I$ $a = -0.026707 - 0.771502I$ $b = 0.986397 - 0.062419I$	$1.56190 + 1.05001I$	$-5.35085 + 0.93346I$
$u = -0.507626$ $a = 0.299451$ $b = 0.385891$	-0.763627	-13.0210
$u = 1.52489 + 0.10717I$ $a = -0.593194 + 0.302209I$ $b = -1.107570 + 0.332603I$	$-5.01225 - 0.84578I$	0
$u = 1.52489 - 0.10717I$ $a = -0.593194 - 0.302209I$ $b = -1.107570 - 0.332603I$	$-5.01225 + 0.84578I$	0
$u = -1.52977 + 0.12312I$ $a = -0.863933 - 0.983761I$ $b = -0.377563 + 1.143250I$	$-4.55511 + 3.84471I$	0
$u = -1.52977 - 0.12312I$ $a = -0.863933 + 0.983761I$ $b = -0.377563 - 1.143250I$	$-4.55511 - 3.84471I$	0
$u = -1.53985 + 0.07420I$ $a = 0.78183 + 1.34401I$ $b = 0.289274 - 0.982056I$	$-7.15725 - 0.57650I$	0
$u = -1.53985 - 0.07420I$ $a = 0.78183 - 1.34401I$ $b = 0.289274 + 0.982056I$	$-7.15725 + 0.57650I$	0
$u = 1.54840 + 0.12785I$ $a = 0.555669 - 0.368908I$ $b = 1.123810 - 0.444850I$	$-5.69586 - 6.48224I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.54840 - 0.12785I$ $a = 0.555669 + 0.368908I$ $b = 1.123810 + 0.444850I$	$-5.69586 + 6.48224I$	0
$u = 1.56614$ $a = -0.397337$ $b = -0.732082$	-7.96363	0
$u = 0.374900 + 0.216095I$ $a = -0.66143 + 2.89217I$ $b = -0.016090 - 0.601274I$	$-0.45061 + 1.71194I$	$-2.49876 + 0.88608I$
$u = 0.374900 - 0.216095I$ $a = -0.66143 - 2.89217I$ $b = -0.016090 + 0.601274I$	$-0.45061 - 1.71194I$	$-2.49876 - 0.88608I$
$u = -1.57913 + 0.12981I$ $a = 1.16947 + 0.97231I$ $b = 0.561226 - 1.073100I$	$-9.03771 + 6.69933I$	0
$u = -1.57913 - 0.12981I$ $a = 1.16947 - 0.97231I$ $b = 0.561226 + 1.073100I$	$-9.03771 - 6.69933I$	0
$u = -1.57933 + 0.18068I$ $a = -1.126920 - 0.715105I$ $b = -0.63333 + 1.27572I$	$-1.94737 + 7.08897I$	0
$u = -1.57933 - 0.18068I$ $a = -1.126920 + 0.715105I$ $b = -0.63333 - 1.27572I$	$-1.94737 - 7.08897I$	0
$u = -1.59661 + 0.17970I$ $a = 1.197120 + 0.701362I$ $b = 0.70332 - 1.25495I$	$-3.07316 + 13.05900I$	0
$u = -1.59661 - 0.17970I$ $a = 1.197120 - 0.701362I$ $b = 0.70332 + 1.25495I$	$-3.07316 - 13.05900I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.60828+0.06972I$ $a = 0.335640-0.307192I$ $b = 0.725228-0.531744I$	$-10.75540-1.74430I$	0
$u = 1.60828-0.06972I$ $a = 0.335640+0.307192I$ $b = 0.725228+0.531744I$	$-10.75540+1.74430I$	0
$u = 0.146575+0.355630I$ $a = -0.07132+2.11990I$ $b = 0.324197-0.645662I$	$-0.43858+1.61222I$	$-5.01416-3.15107I$
$u = 0.146575-0.355630I$ $a = -0.07132-2.11990I$ $b = 0.324197+0.645662I$	$-0.43858-1.61222I$	$-5.01416+3.15107I$
$u = 1.66888+0.01472I$ $a = 0.052432-0.383179I$ $b = 0.131270-0.825055I$	$-8.02868+2.53357I$	0
$u = 1.66888-0.01472I$ $a = 0.052432+0.383179I$ $b = 0.131270+0.825055I$	$-8.02868-2.53357I$	0

II. $\boldsymbol{I^u_2 = \langle b,\ a^2 - au + a - u + 2,\ u^2 - u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u-1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -au-a \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} a-u+1 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} a-u+1 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3au - 2a + u - 16$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = -0.80902 + 1.40126I$ $b = 0$	$-0.98696 + 2.02988I$	$-13.5000 - 5.4006I$
$u = -0.618034$ $a = -0.80902 - 1.40126I$ $b = 0$	$-0.98696 - 2.02988I$	$-13.5000 + 5.4006I$
$u = 1.61803$ $a = 0.309017 + 0.535233I$ $b = 0$	$-8.88264 - 2.02988I$	$-13.50000 + 1.52761I$
$u = 1.61803$ $a = 0.309017 - 0.535233I$ $b = 0$	$-8.88264 + 2.02988I$	$-13.50000 - 1.52761I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^2)(u^{46}+3u^{45}+\cdots+7u+1)$
c_2, c_5	$((u^2+u+1)^2)(u^{46}+15u^{45}+\cdots-45u+1)$
c_3, c_8	$u^4(u^{46}+u^{45}+\cdots-48u-16)$
c_4	$((u^2-u+1)^2)(u^{46}+3u^{45}+\cdots+7u+1)$
c_6, c_7	$((u^2+u-1)^2)(u^{46}+3u^{45}+\cdots+3u-1)$
c_9, c_{10}	$((u^2-u-1)^2)(u^{46}+3u^{45}+\cdots+3u-1)$
c_{11}	$((u^2-u-1)^2)(u^{46}-11u^{45}+\cdots+5u-73)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^2)(y^{46}+15y^{45}+\cdots-45y+1)$
c_2, c_5	$((y^2+y+1)^2)(y^{46}+35y^{45}+\cdots-2249y+1)$
c_3, c_8	$y^4(y^{46}+25y^{45}+\cdots+2176y+256)$
c_6, c_7, c_9 c_{10}	$((y^2-3y+1)^2)(y^{46}-53y^{45}+\cdots-9y+1)$
c_{11}	$((y^2-3y+1)^2)(y^{46}+7y^{45}+\cdots+31219y+5329)$