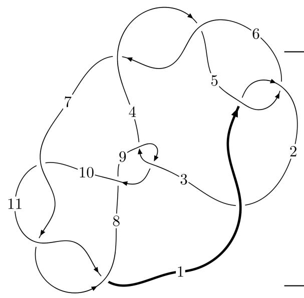
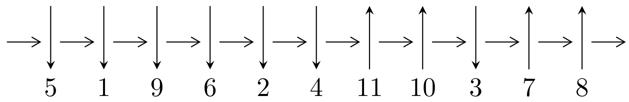
$11a_{153}$ ($K11a_{153}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{45} + u^{44} + \cdots + 5u^4 + b,\ -u^{43} + 6u^{41} + \cdots - 5u^3 + a,\ u^{47} - 2u^{46} + \cdots + 2u^2 - 1 \rangle$$
$$I_2^u = \langle b - 1,\ a - u,\ u^3 + u^2 - 1 \rangle$$

* 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. $I^u_1 = \langle -u^{45}+u^{44}+\cdots+5u^4+b,\ -u^{43}+6u^{41}+\cdots-5u^3+a,\ u^{47}-2u^{46}+\cdots+2u^2-1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^{43}-6u^{41}+\cdots-4u^5+5u^3\\u^{45}-u^{44}+\cdots+5u^5-5u^4\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2u^{46}-2u^{45}+\cdots-u+1\\-u^{46}+u^{45}+\cdots+u^2+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-u^5-u\\-u^7+u^5-2u^3+u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^{44}+u^{43}+\cdots+5u^3-u^2\\-u^{46}+u^{45}+\cdots-9u^4+u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u^{46}-u^{45}+\cdots-u+1\\-u^{46}+u^{45}+\cdots+u^2+u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u^{46}-u^{45}+\cdots-u+1\\-u^{46}+u^{45}+\cdots+u^2+u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^{46}+2u^{45}+\cdots-11u-3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{47} + 2u^{46} + \cdots - 2u^2 + 1$
c_2, c_4, c_6	$u^{47} + 12u^{46} + \cdots + 4u + 1$
c_3, c_9	$u^{47} + u^{46} + \cdots + 28u + 8$
c_7, c_{10}, c_{11}	$u^{47} + 4u^{46} + \cdots + 5u + 1$
c_8	$u^{47} - 21u^{46} + \cdots - 112u + 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{47} - 12y^{46} + \cdots + 4y - 1$
c_2, c_4, c_6	$y^{47} + 48y^{46} + \cdots - 20y - 1$
c_3, c_9	$y^{47} + 21y^{46} + \cdots - 112y - 64$
c_7, c_{10}, c_{11}	$y^{47} - 42y^{46} + \cdots + 53y - 1$
c_8	$y^{47} + 5y^{46} + \cdots + 249088y - 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_1	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.951038 + 0.332468I$ $a = -0.548939 - 0.454811I$ $b = -1.39671 - 0.26399I$	$-2.29859 + 5.08605I$	$-6.19055 - 7.78708I$
$u = -0.951038 - 0.332468I$ $a = -0.548939 + 0.454811I$ $b = -1.39671 + 0.26399I$	$-2.29859 - 5.08605I$	$-6.19055 + 7.78708I$
$u = 1.011380 + 0.139586I$ $a = 0.187121 - 1.081320I$ $b = 0.152878 + 0.035343I$	$1.25225 + 2.83779I$	$-2.68977 - 2.39473I$
$u = 1.011380 - 0.139586I$ $a = 0.187121 + 1.081320I$ $b = 0.152878 - 0.035343I$	$1.25225 - 2.83779I$	$-2.68977 + 2.39473I$
$u = 0.896160 + 0.336643I$ $a = 0.608816 - 1.251080I$ $b = 0.208048 + 0.420593I$	$0.73808 - 3.39872I$	$-3.20420 + 5.17325I$
$u = 0.896160 - 0.336643I$ $a = 0.608816 + 1.251080I$ $b = 0.208048 - 0.420593I$	$0.73808 + 3.39872I$	$-3.20420 - 5.17325I$
$u = 0.929490 + 0.212978I$ $a = -0.382863 + 1.063800I$ $b = -0.152157 - 0.188016I$	$-2.99267 - 0.24824I$	$-9.15885 + 0.73721I$
$u = 0.929490 - 0.212978I$ $a = -0.382863 - 1.063800I$ $b = -0.152157 + 0.188016I$	$-2.99267 + 0.24824I$	$-9.15885 - 0.73721I$
$u = -1.006120 + 0.373819I$ $a = 0.507879 + 0.365560I$ $b = 1.365760 + 0.114872I$	$2.62432 + 8.92326I$	$-1.23068 - 8.39839I$
$u = -1.006120 - 0.373819I$ $a = 0.507879 - 0.365560I$ $b = 1.365760 - 0.114872I$	$2.62432 - 8.92326I$	$-1.23068 + 8.39839I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.586342 + 0.704775I$ $a = 0.286240 - 0.496512I$ $b = -0.636220 - 0.653509I$	$6.94014 + 2.76747I$	$5.54266 - 3.60808I$
$u = -0.586342 - 0.704775I$ $a = 0.286240 + 0.496512I$ $b = -0.636220 + 0.653509I$	$6.94014 - 2.76747I$	$5.54266 + 3.60808I$
$u = -0.844254 + 0.267575I$ $a = 0.624042 + 0.701381I$ $b = 1.43152 + 0.59292I$	$0.239586 + 1.107160I$	$-2.87652 - 5.48870I$
$u = -0.844254 - 0.267575I$ $a = 0.624042 - 0.701381I$ $b = 1.43152 - 0.59292I$	$0.239586 - 1.107160I$	$-2.87652 + 5.48870I$
$u = -0.946938 + 0.664626I$ $a = -0.210609 - 0.192004I$ $b = -0.664543 + 0.135905I$	$5.98354 + 2.31808I$	$4.28165 - 1.64217I$
$u = -0.946938 - 0.664626I$ $a = -0.210609 + 0.192004I$ $b = -0.664543 - 0.135905I$	$5.98354 - 2.31808I$	$4.28165 + 1.64217I$
$u = -0.842514 + 0.793044I$ $a = -0.169363 + 0.125945I$ $b = 0.111786 + 0.476934I$	$3.10025 + 1.81367I$	$-3.66686 - 2.05384I$
$u = -0.842514 - 0.793044I$ $a = -0.169363 - 0.125945I$ $b = 0.111786 - 0.476934I$	$3.10025 - 1.81367I$	$-3.66686 + 2.05384I$
$u = 0.827943 + 0.860184I$ $a = 2.70969 + 0.79407I$ $b = -2.83895 + 0.82810I$	$5.30471 + 2.88795I$	$0.68944 - 2.66752I$
$u = 0.827943 - 0.860184I$ $a = 2.70969 - 0.79407I$ $b = -2.83895 - 0.82810I$	$5.30471 - 2.88795I$	$0.68944 + 2.66752I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.847216+0.855752I$ $a=\ \ 0.256476-0.116248I$ $b=-0.054478-0.688171I$	$8.19027-0.67694I$	$2.91715+0.I$
$u=-0.847216-0.855752I$ $a=\ \ 0.256476+0.116248I$ $b=-0.054478+0.688171I$	$8.19027+0.67694I$	$2.91715+0.I$
$u=\ \ 0.863506+0.840738I$ $a=-2.93690-1.29712I$ $b=\ \ 3.21491-0.72537I$	$7.05051-2.00460I$	$3.77294+2.26192I$
$u=\ \ 0.863506-0.840738I$ $a=-2.93690+1.29712I$ $b=\ \ 3.21491+0.72537I$	$7.05051+2.00460I$	$3.77294-2.26192I$
$u=\ \ 0.815670+0.889580I$ $a=-2.42001-0.70946I$ $b=\ \ 2.67739-0.69105I$	$10.89330+7.08520I$	$3.93867-3.32748I$
$u=\ \ 0.815670-0.889580I$ $a=-2.42001+0.70946I$ $b=\ \ 2.67739+0.69105I$	$10.89330-7.08520I$	$3.93867+3.32748I$
$u=-0.930838+0.775441I$ $a=\ \ 0.203539+0.027785I$ $b=\ \ 0.305087-0.418436I$	$2.82936+4.09126I$	$-3.95731-3.33683I$
$u=-0.930838-0.775441I$ $a=\ \ 0.203539-0.027785I$ $b=\ \ 0.305087+0.418436I$	$2.82936-4.09126I$	$-3.95731+3.33683I$
$u=\ \ 0.935935+0.814528I$ $a=-2.21964-2.45540I$ $b=\ \ 3.34946+0.19998I$	$6.82306-4.16721I$	$3.15551+3.14334I$
$u=\ \ 0.935935-0.814528I$ $a=-2.21964+2.45540I$ $b=\ \ 3.34946-0.19998I$	$6.82306+4.16721I$	$3.15551-3.14334I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.953997 + 0.816453I$ $a = -0.258063 - 0.008399I$ $b = -0.328975 + 0.602645I$	$7.85574 + 6.89913I$	$0. - 4.81630I$
$u = -0.953997 - 0.816453I$ $a = -0.258063 + 0.008399I$ $b = -0.328975 - 0.602645I$	$7.85574 - 6.89913I$	$0. + 4.81630I$
$u = 0.967508 + 0.809416I$ $a = 1.72066 + 2.45725I$ $b = -3.04108 - 0.38491I$	$4.86878 - 9.09918I$	$0. + 7.51593I$
$u = 0.967508 - 0.809416I$ $a = 1.72066 - 2.45725I$ $b = -3.04108 + 0.38491I$	$4.86878 + 9.09918I$	$0. - 7.51593I$
$u = 0.917330 + 0.873542I$ $a = 2.18776 + 1.62070I$ $b = -3.01700 + 0.23550I$	$15.4002 - 3.2295I$	$6.21908 + 0.I$
$u = 0.917330 - 0.873542I$ $a = 2.18776 - 1.62070I$ $b = -3.01700 - 0.23550I$	$15.4002 + 3.2295I$	$6.21908 + 0.I$
$u = -0.194123 + 0.690391I$ $a = -0.768909 + 0.672272I$ $b = 0.832582 + 0.572354I$	$5.21653 - 5.13195I$	$4.47363 + 3.77222I$
$u = -0.194123 - 0.690391I$ $a = -0.768909 - 0.672272I$ $b = 0.832582 - 0.572354I$	$5.21653 + 5.13195I$	$4.47363 - 3.77222I$
$u = 0.989025 + 0.818280I$ $a = -1.52457 - 2.27011I$ $b = 2.85418 + 0.32452I$	$10.3470 - 13.4113I$	$0. + 8.12644I$
$u = 0.989025 - 0.818280I$ $a = -1.52457 + 2.27011I$ $b = 2.85418 - 0.32452I$	$10.3470 + 13.4113I$	$0. - 8.12644I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.682080$ $a = 0.611660$ $b = -0.132637$	-0.926103	-11.4570
$u = -0.525813 + 0.373412I$ $a = -0.094058 + 1.038330I$ $b = 0.733120 + 0.760322I$	$1.13890 + 1.31315I$	$3.11319 - 5.85317I$
$u = -0.525813 - 0.373412I$ $a = -0.094058 - 1.038330I$ $b = 0.733120 - 0.760322I$	$1.13890 - 1.31315I$	$3.11319 + 5.85317I$
$u = -0.160803 + 0.538431I$ $a = 0.823656 - 0.894795I$ $b = -0.721771 - 0.493724I$	$0.05463 - 1.88803I$	$0.05102 + 3.76347I$
$u = -0.160803 - 0.538431I$ $a = 0.823656 + 0.894795I$ $b = -0.721771 + 0.493724I$	$0.05463 + 1.88803I$	$0.05102 - 3.76347I$
$u = 0.295011 + 0.434696I$ $a = -1.38778 + 0.73289I$ $b = 0.681477 - 0.043588I$	$2.53395 + 0.36100I$	$2.22031 + 1.00355I$
$u = 0.295011 - 0.434696I$ $a = -1.38778 - 0.73289I$ $b = 0.681477 + 0.043588I$	$2.53395 - 0.36100I$	$2.22031 - 1.00355I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^2-u-2$

(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, c_8, c_9	u^3
c_4	$u^3 - u^2 + 2u - 1$
c_5	$u^3 - u^2 + 1$
c_7	$(u + 1)^3$
c_{10}, c_{11}	$(u - 1)^3$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = -0.877439 + 0.744862I$ $b = \quad 1.00000$	$4.66906 + 2.82812I$	$-0.69240 - 3.35914I$
$u = -0.877439 - 0.744862I$ $a = -0.877439 - 0.744862I$ $b = \quad 1.00000$	$4.66906 - 2.82812I$	$-0.69240 + 3.35914I$
$u = \quad 0.754878$ $a = \quad 0.754878$ $b = \quad 1.00000$	0.531480	-1.61520

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2-1)(u^{47}+2u^{46}+\cdots-2u^2+1)$
c_2, c_6	$(u^3+u^2+2u+1)(u^{47}+12u^{46}+\cdots+4u+1)$
c_3, c_9	$u^3(u^{47}+u^{46}+\cdots+28u+8)$
c_4	$(u^3-u^2+2u-1)(u^{47}+12u^{46}+\cdots+4u+1)$
c_5	$(u^3-u^2+1)(u^{47}+2u^{46}+\cdots-2u^2+1)$
c_7	$((u+1)^3)(u^{47}+4u^{46}+\cdots+5u+1)$
c_8	$u^3(u^{47}-21u^{46}+\cdots-112u+64)$
c_{10}, c_{11}	$((u-1)^3)(u^{47}+4u^{46}+\cdots+5u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^3 - y^2 + 2y - 1)(y^{47} - 12y^{46} + \cdots + 4y - 1)$
c_2, c_4, c_6	$(y^3 + 3y^2 + 2y - 1)(y^{47} + 48y^{46} + \cdots - 20y - 1)$
c_3, c_9	$y^3(y^{47} + 21y^{46} + \cdots - 112y - 64)$
c_7, c_{10}, c_{11}	$((y-1)^3)(y^{47} - 42y^{46} + \cdots + 53y - 1)$
c_8	$y^3(y^{47} + 5y^{46} + \cdots + 249088y - 4096)$