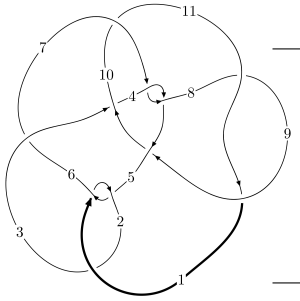
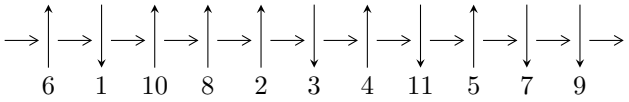
$11a_{76}$ ($K11a_{76}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3.57893 \times 10^{38} u^{71} - 8.42472 \times 10^{38} u^{70} + \cdots + 5.29862 \times 10^{37} b - 4.92590 \times 10^{38},$$
$$- 2.62436 \times 10^{38} u^{71} - 6.46971 \times 10^{38} u^{70} + \cdots + 5.29862 \times 10^{37} a - 4.29443 \times 10^{38},\ u^{72} + 3u^{71} + \cdots + 2u +$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 72 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.

$\boldsymbol{I_1^u = \langle -3.58\times10^{38}u^{71}-8.42\times10^{38}u^{70}+\cdots+5.30\times10^{37}b-4.93\times10^{38},\ -2.62\times10^{38}u^{71}-6.47\times10^{38}u^{70}+\cdots+5.30\times10^{37}a-4.29\times10^{38},\ u^{72}+3u^{71}+\cdots+2u+1\rangle}$

(i) Arc colorings

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

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

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

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

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

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

$$a_9 = \begin{pmatrix}4.95292u^{71}+12.2102u^{70}+\cdots+8.11867u+8.10480\\6.75445u^{71}+15.8998u^{70}+\cdots+4.44428u+9.29657\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}8.15457u^{71}+19.4489u^{70}+\cdots+9.45399u+14.7692\\0.407698u^{71}+1.93942u^{70}+\cdots+1.57818u+0.265920\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-0.885669u^{71}-1.56905u^{70}+\cdots+4.09193u+0.125580\\8.06115u^{71}+18.9971u^{70}+\cdots+5.31775u+11.5270\end{pmatrix}$$

$$a_8 = \begin{pmatrix}11.8663u^{71}+28.2113u^{70}+\cdots+8.42671u+17.4400\\-4.15633u^{71}-10.1011u^{70}+\cdots-2.88816u-7.11562\end{pmatrix}$$

$$a_4 = \begin{pmatrix}6.08306u^{71}+14.8577u^{70}+\cdots+4.98002u+8.22859\\1.62693u^{71}+3.25246u^{70}+\cdots+0.558537u+2.09582\end{pmatrix}$$

$$a_4 = \begin{pmatrix}6.08306u^{71}+14.8577u^{70}+\cdots+4.98002u+8.22859\\1.62693u^{71}+3.25246u^{70}+\cdots+0.558537u+2.09582\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 39.6069u^{71}+96.0017u^{70}+\cdots+38.2591u+62.1849$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{72} - 3u^{71} + \cdots - 2u + 1$
c_2	$u^{72} + 37u^{71} + \cdots - 6u^2 + 1$
c_3	$u^{72} - 3u^{71} + \cdots - 4u + 1$
c_4, c_7	$u^{72} - u^{71} + \cdots - 6u^3 + 1$
c_6	$u^{72} + 3u^{71} + \cdots + 2514u + 1697$
c_8, c_{11}	$u^{72} - u^{71} + \cdots - 4u + 1$
c_9	$u^{72} + 17u^{71} + \cdots + 2668u + 521$
c_{10}	$u^{72} - 11u^{71} + \cdots - 54u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{72} + 37y^{71} + \cdots - 6y^2 + 1$
c_2	$y^{72} - 3y^{71} + \cdots - 12y + 1$
c_3	$y^{72} - 3y^{71} + \cdots + 28y + 1$
c_4, c_7	$y^{72} - 43y^{71} + \cdots + 22y^2 + 1$
c_6	$y^{72} - 43y^{71} + \cdots + 43578392y + 2879809$
c_8, c_{11}	$y^{72} - 47y^{71} + \cdots - 140y + 1$
c_9	$y^{72} + 77y^{71} + \cdots + 10103952y + 271441$
c_{10}	$y^{72} + 73y^{71} + \cdots - 1756y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.703184 + 0.720104I$ $a = -1.191830 - 0.212487I$ $b = 1.060910 + 0.489250I$	$2.94327 - 4.66277I$	0
$u = 0.703184 - 0.720104I$ $a = -1.191830 + 0.212487I$ $b = 1.060910 - 0.489250I$	$2.94327 + 4.66277I$	0
$u = 0.554410 + 0.823817I$ $a = 0.98373 + 1.65695I$ $b = 0.445673 - 0.783754I$	$4.88813 + 0.08217I$	0
$u = 0.554410 - 0.823817I$ $a = 0.98373 - 1.65695I$ $b = 0.445673 + 0.783754I$	$4.88813 - 0.08217I$	0
$u = -0.837136 + 0.439497I$ $a = -0.529813 - 0.200502I$ $b = 0.857480 + 0.147319I$	$1.09133 - 1.71913I$	$10.13735 + 8.67707I$
$u = -0.837136 - 0.439497I$ $a = -0.529813 + 0.200502I$ $b = 0.857480 - 0.147319I$	$1.09133 + 1.71913I$	$10.13735 - 8.67707I$
$u = 0.666082 + 0.842814I$ $a = -0.43355 + 1.75696I$ $b = 1.154260 - 0.555136I$	$2.58371 + 9.84905I$	0
$u = 0.666082 - 0.842814I$ $a = -0.43355 - 1.75696I$ $b = 1.154260 + 0.555136I$	$2.58371 - 9.84905I$	0
$u = 0.573630 + 0.724680I$ $a = -0.50836 - 1.44827I$ $b = 0.336237 + 0.963611I$	$5.17342 + 4.41975I$	$7.07565 - 5.46641I$
$u = 0.573630 - 0.724680I$ $a = -0.50836 + 1.44827I$ $b = 0.336237 - 0.963611I$	$5.17342 - 4.41975I$	$7.07565 + 5.46641I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.902993$ $a=\ \ 0.122962$ $b=\ \ 0.817766$	1.62872	14.4780
$u=\ \ 0.870170+0.219257I$ $a=-0.577040-0.897959I$ $b=\ \ 1.265190+0.363737I$	$-4.55958-5.79532I$	$-1.85974+4.79370I$
$u=\ \ 0.870170-0.219257I$ $a=-0.577040+0.897959I$ $b=\ \ 1.265190-0.363737I$	$-4.55958+5.79532I$	$-1.85974-4.79370I$
$u=-0.353333+0.805104I$ $a=\ \ 0.92846+1.60423I$ $b=-0.783546-0.692525I$	$-0.13917-3.83716I$	$1.00000+8.28494I$
$u=-0.353333-0.805104I$ $a=\ \ 0.92846-1.60423I$ $b=-0.783546+0.692525I$	$-0.13917+3.83716I$	$1.00000-8.28494I$
$u=-0.847791+0.226071I$ $a=-0.60759+1.31018I$ $b=\ \ 1.34762-0.58716I$	$-0.87898+11.82610I$	$1.72108-6.69260I$
$u=-0.847791-0.226071I$ $a=-0.60759-1.31018I$ $b=\ \ 1.34762+0.58716I$	$-0.87898-11.82610I$	$1.72108+6.69260I$
$u=-0.669002+0.948123I$ $a=-0.111095-1.006420I$ $b=\ \ 0.863289+0.208347I$	$-0.37569-3.68901I$	0
$u=-0.669002-0.948123I$ $a=-0.111095+1.006420I$ $b=\ \ 0.863289-0.208347I$	$-0.37569+3.68901I$	0
$u=-0.414747+1.088110I$ $a=\ \ 1.064490-0.308621I$ $b=-0.164245-0.000885I$	$-0.99398-3.59877I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.414747-1.088110I$ $a=1.064490+0.308621I$ $b=-0.164245+0.000885I$	$-0.99398+3.59877I$	0
$u=0.375559+1.113330I$ $a=0.620105+0.228683I$ $b=-0.499431-0.701739I$	$-3.85692+1.17317I$	0
$u=0.375559-1.113330I$ $a=0.620105-0.228683I$ $b=-0.499431+0.701739I$	$-3.85692-1.17317I$	0
$u=-0.523901+1.061300I$ $a=0.247478-0.212453I$ $b=0.300963-0.117398I$	$-0.51681-3.31003I$	0
$u=-0.523901-1.061300I$ $a=0.247478+0.212453I$ $b=0.300963+0.117398I$	$-0.51681+3.31003I$	0
$u=0.086705+0.810295I$ $a=0.054377-0.634992I$ $b=-1.340240+0.233502I$	$-2.46132+1.37762I$	$-4.75486-3.44131I$
$u=0.086705-0.810295I$ $a=0.054377+0.634992I$ $b=-1.340240-0.233502I$	$-2.46132-1.37762I$	$-4.75486+3.44131I$
$u=-0.336341+1.136910I$ $a=0.882111-0.095962I$ $b=-0.111214+1.175180I$	$-0.89681+2.33659I$	0
$u=-0.336341-1.136910I$ $a=0.882111+0.095962I$ $b=-0.111214-1.175180I$	$-0.89681-2.33659I$	0
$u=0.461388+1.106090I$ $a=-3.24942-10.03350I$ $b=-0.988930+0.015219I$	$-2.44126+3.69610I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.461388 - 1.106090I$ $a = -3.24942 + 10.03350I$ $b = -0.988930 - 0.015219I$	$-2.44126 - 3.69610I$	0
$u = -0.534376 + 0.579633I$ $a = 0.158156 + 0.589487I$ $b = 0.203968 - 0.319447I$	$0.96165 - 1.08206I$	$5.49471 + 3.65986I$
$u = -0.534376 - 0.579633I$ $a = 0.158156 - 0.589487I$ $b = 0.203968 + 0.319447I$	$0.96165 + 1.08206I$	$5.49471 - 3.65986I$
$u = 0.410737 + 1.151630I$ $a = 0.008261 - 0.632747I$ $b = -1.42190 - 0.72250I$	$-5.42611 + 0.39495I$	0
$u = 0.410737 - 1.151630I$ $a = 0.008261 + 0.632747I$ $b = -1.42190 + 0.72250I$	$-5.42611 - 0.39495I$	0
$u = -0.734770 + 0.228880I$ $a = -0.13940 - 1.62166I$ $b = 0.099801 + 1.198770I$	$3.07611 + 5.61775I$	$4.77724 - 5.53521I$
$u = -0.734770 - 0.228880I$ $a = -0.13940 + 1.62166I$ $b = 0.099801 - 1.198770I$	$3.07611 - 5.61775I$	$4.77724 + 5.53521I$
$u = -0.437096 + 1.150220I$ $a = -0.761902 + 1.185660I$ $b = -1.58389 + 0.14802I$	$-6.25046 - 3.83055I$	0
$u = -0.437096 - 1.150220I$ $a = -0.761902 - 1.185660I$ $b = -1.58389 - 0.14802I$	$-6.25046 + 3.83055I$	0
$u = -0.457989 + 1.149910I$ $a = -1.06297 + 1.77278I$ $b = -1.49634 - 0.32588I$	$-6.10263 - 4.25285I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.457989-1.149910I$ $a=-1.06297-1.77278I$ $b=-1.49634+0.32588I$	$-6.10263+4.25285I$	0
$u=\ \ 0.510504+1.133840I$ $a=-0.655326-0.914374I$ $b=-0.208519+0.839334I$	$-2.88144+6.56829I$	0
$u=\ \ 0.510504-1.133840I$ $a=-0.655326+0.914374I$ $b=-0.208519-0.839334I$	$-2.88144-6.56829I$	0
$u=\ \ 0.213790+0.718682I$ $a=\ \ 0.31066-1.79444I$ $b=-0.981466+0.294623I$	$-2.07488+1.01631I$	$-5.73873-0.14540I$
$u=\ \ 0.213790-0.718682I$ $a=\ \ 0.31066+1.79444I$ $b=-0.981466-0.294623I$	$-2.07488-1.01631I$	$-5.73873+0.14540I$
$u=\ \ 0.478733+1.155820I$ $a=-1.07122-1.88937I$ $b=-1.30955+0.89704I$	$-4.94380+7.74825I$	0
$u=\ \ 0.478733-1.155820I$ $a=-1.07122+1.88937I$ $b=-1.30955-0.89704I$	$-4.94380-7.74825I$	0
$u=-0.524409+1.149510I$ $a=-1.282010+0.581428I$ $b=\ \ 0.089436-1.312110I$	$0.39914-10.36720I$	0
$u=-0.524409-1.149510I$ $a=-1.282010-0.581428I$ $b=\ \ 0.089436+1.312110I$	$0.39914+10.36720I$	0
$u=-0.301957+1.235170I$ $a=\ \ 0.695125-0.172739I$ $b=\ \ 1.37244-0.51422I$	$-5.50939+8.09445I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.301957-1.235170I$ $a=\ 0.695125+0.172739I$ $b=\ 1.37244+0.51422I$	$-5.50939-8.09445I$	0
$u=-0.218429+1.270380I$ $a=\ 0.739347-0.207359I$ $b=\ 1.140640+0.181011I$	$-4.51697-4.89443I$	0
$u=-0.218429-1.270380I$ $a=\ 0.739347+0.207359I$ $b=\ 1.140640-0.181011I$	$-4.51697+4.89443I$	0
$u=\ 0.299117+1.256120I$ $a=\ 0.707957+0.222610I$ $b=\ 1.312930+0.258586I$	$-9.29460-1.93916I$	0
$u=\ 0.299117-1.256120I$ $a=\ 0.707957-0.222610I$ $b=\ 1.312930-0.258586I$	$-9.29460+1.93916I$	0
$u=\ 0.665303+0.230468I$ $a=\ 0.405637+1.271800I$ $b=-0.184479-0.659604I$	$-0.29904-2.02628I$	$0.96838+3.48048I$
$u=\ 0.665303-0.230468I$ $a=\ 0.405637-1.271800I$ $b=-0.184479+0.659604I$	$-0.29904+2.02628I$	$0.96838-3.48048I$
$u=\ 0.682233+0.103764I$ $a=\ 0.81123+1.49379I$ $b=-1.25537-0.77052I$	$-1.97878-3.38165I$	$-1.14448+6.05551I$
$u=\ 0.682233-0.103764I$ $a=\ 0.81123-1.49379I$ $b=-1.25537+0.77052I$	$-1.97878+3.38165I$	$-1.14448-6.05551I$
$u=-0.554919+1.186620I$ $a=\ 0.89680-2.06063I$ $b=\ 1.38635+0.61330I$	$-3.7459-16.9805I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.554919-1.186620I$ $a=\ \ 0.89680+2.06063I$ $b=\ \ 1.38635-0.61330I$	$-3.7459+16.9805I$	0
$u=-0.377915+0.573931I$ $a=\ \ 3.41986+1.55094I$ $b=-0.787722+0.202785I$	$0.567632+0.583415I$	$2.34352+4.20477I$
$u=-0.377915-0.573931I$ $a=\ \ 3.41986-1.55094I$ $b=-0.787722-0.202785I$	$0.567632-0.583415I$	$2.34352-4.20477I$
$u=\ \ 0.557731+1.195530I$ $a=\ \ 0.67641+1.77118I$ $b=\ \ 1.319850-0.408500I$	$-7.48840+11.01550I$	0
$u=\ \ 0.557731-1.195530I$ $a=\ \ 0.67641-1.77118I$ $b=\ \ 1.319850+0.408500I$	$-7.48840-11.01550I$	0
$u=-0.646200+0.031395I$ $a=\ \ 0.381468-0.548179I$ $b=-1.42993+0.18760I$	$-3.04821+0.12497I$	$-2.91080+1.49101I$
$u=-0.646200-0.031395I$ $a=\ \ 0.381468+0.548179I$ $b=-1.42993-0.18760I$	$-3.04821-0.12497I$	$-2.91080-1.49101I$
$u=-0.537999+1.246180I$ $a=\ \ 0.703002-0.969373I$ $b=\ \ 0.982981+0.166252I$	$-2.00352-5.15126I$	0
$u=-0.537999-1.246180I$ $a=\ \ 0.703002+0.969373I$ $b=\ \ 0.982981-0.166252I$	$-2.00352+5.15126I$	0
$u=-0.628396$ $a=\ \ 1.10871$ $b=\ \ 0.154509$	1.97438	6.08460

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.464730 + 0.246535I$		
$a = 5.87102 + 4.17531I$	$-0.018901 + 0.220260I$	$-2.6373 + 28.8822I$
$b = -0.979390 + 0.061610I$		
$u = 0.464730 - 0.246535I$		
$a = 5.87102 - 4.17531I$	$-0.018901 - 0.220260I$	$-2.6373 - 28.8822I$
$b = -0.979390 - 0.061610I$		

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{72} - 3u^{71} + \cdots - 2u + 1$
c_2	$u^{72} + 37u^{71} + \cdots - 6u^2 + 1$
c_3	$u^{72} - 3u^{71} + \cdots - 4u + 1$
c_4, c_7	$u^{72} - u^{71} + \cdots - 6u^3 + 1$
c_6	$u^{72} + 3u^{71} + \cdots + 2514u + 1697$
c_8, c_{11}	$u^{72} - u^{71} + \cdots - 4u + 1$
c_9	$u^{72} + 17u^{71} + \cdots + 2668u + 521$
c_{10}	$u^{72} - 11u^{71} + \cdots - 54u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{72} + 37y^{71} + \cdots - 6y^2 + 1$
c_2	$y^{72} - 3y^{71} + \cdots - 12y + 1$
c_3	$y^{72} - 3y^{71} + \cdots + 28y + 1$
c_4, c_7	$y^{72} - 43y^{71} + \cdots + 22y^2 + 1$
c_6	$y^{72} - 43y^{71} + \cdots + 43578392y + 2879809$
c_8, c_{11}	$y^{72} - 47y^{71} + \cdots - 140y + 1$
c_9	$y^{72} + 77y^{71} + \cdots + 10103952y + 271441$
c_{10}	$y^{72} + 73y^{71} + \cdots - 1756y + 1$