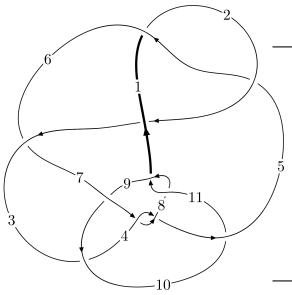
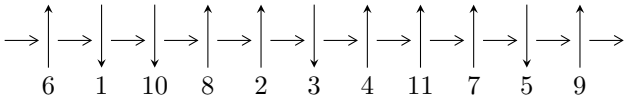
$11a_{79}$ ($K11a_{79}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.23376 \times 10^{38} u^{70} - 2.60156 \times 10^{38} u^{69} + \cdots + 3.74973 \times 10^{38} b - 3.48298 \times 10^{38},$$
$$6.34585 \times 10^{38} u^{70} + 1.49012 \times 10^{39} u^{69} + \cdots + 3.74973 \times 10^{38} a - 1.05045 \times 10^{39},\ u^{71} + 3u^{70} + \cdots - 2u - 1$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 71 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.

$\boldsymbol{I_1^u = \langle -1.23\times 10^{38}u^{70} - 2.60\times 10^{38}u^{69} + \cdots + 3.75\times 10^{38}b - 3.48\times 10^{38},\ 6.35\times 10^{38}u^{70} + 1.49\times 10^{39}u^{69} + \cdots + 3.75\times 10^{38}a - 1.05\times 10^{39},\ u^{71} + 3u^{70} + \cdots - 2u - 1\rangle}$

(i) Arc colorings

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

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

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

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

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

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

$$a_9 = \begin{pmatrix} -1.69235u^{70} - 3.97394u^{69} + \cdots + 7.85819u + 2.80141 \\ 0.329027u^{70} + 0.693799u^{69} + \cdots - 0.915774u + 0.928862 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.11052u^{70} - 2.65167u^{69} + \cdots + 6.64700u + 3.19447 \\ 0.150451u^{70} + 0.130614u^{69} + \cdots - 0.554244u + 1.09861 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.18217u^{70} - 2.67436u^{69} + \cdots + 2.39442u + 0.613804 \\ 0.532697u^{70} + 1.43786u^{69} + \cdots - 0.858566u - 0.377440 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.23342u^{70} - 2.50666u^{69} + \cdots + 1.45164u + 0.570833 \\ 0.583955u^{70} + 1.27017u^{69} + \cdots + 0.0842178u - 0.334469 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.85773u^{70} - 7.42029u^{69} + \cdots + 8.03318u + 5.13869 \\ 0.662094u^{70} + 2.56292u^{69} + \cdots - 1.13925u - 1.31864 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.85773u^{70} - 7.42029u^{69} + \cdots + 8.03318u + 5.13869 \\ 0.662094u^{70} + 2.56292u^{69} + \cdots - 1.13925u - 1.31864 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.81223u^{70} - 5.67213u^{69} + \cdots - 3.51925u + 3.56513$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{71} - 3u^{70} + \cdots - 2u + 1$
c_2	$u^{71} + 35u^{70} + \cdots - 6u^2 - 1$
c_3	$u^{71} + 3u^{70} + \cdots + 4u + 1$
c_4, c_7	$u^{71} - u^{70} + \cdots - 6u^3 - 1$
c_6	$u^{71} + 3u^{70} + \cdots + 6566u + 1721$
c_8, c_{11}	$u^{71} + u^{70} + \cdots + 20u - 1$
c_9	$u^{71} - 5u^{70} + \cdots + 2242u + 127$
c_{10}	$u^{71} + 15u^{70} + \cdots + 22856u + 7097$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{71} + 35y^{70} + \cdots - 6y^2 - 1$
c_2	$y^{71} + 3y^{70} + \cdots - 12y - 1$
c_3	$y^{71} + 3y^{70} + \cdots - 52y - 1$
c_4, c_7	$y^{71} - 53y^{70} + \cdots - 46y^2 - 1$
c_6	$y^{71} - 29y^{70} + \cdots + 37791024y - 2961841$
c_8, c_{11}	$y^{71} - 49y^{70} + \cdots - 76y - 1$
c_9	$y^{71} + 43y^{70} + \cdots + 525684y - 16129$
c_{10}	$y^{71} + 91y^{70} + \cdots - 2991356352y - 50367409$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.951977+0.256619I$ $a=\ \ 1.43488-0.20483I$ $b=-1.126820+0.034203I$	$4.89801-0.93678I$	$19.9883+4.7371I$
$u=-0.951977-0.256619I$ $a=\ \ 1.43488+0.20483I$ $b=-1.126820-0.034203I$	$4.89801+0.93678I$	$19.9883-4.7371I$
$u=\ \ 0.366345+0.963903I$ $a=\ \ 1.251290+0.322417I$ $b=\ \ 0.962476-0.815520I$	$2.67401-0.67928I$	0
$u=\ \ 0.366345-0.963903I$ $a=\ \ 1.251290-0.322417I$ $b=\ \ 0.962476+0.815520I$	$2.67401+0.67928I$	0
$u=\ \ 0.713273+0.766402I$ $a=\ \ 2.20075-0.64025I$ $b=-1.39436-0.36803I$	$8.84556+9.04187I$	0
$u=\ \ 0.713273-0.766402I$ $a=\ \ 2.20075+0.64025I$ $b=-1.39436+0.36803I$	$8.84556-9.04187I$	0
$u=-0.224116+1.050260I$ $a=\ \ 0.669798-0.252970I$ $b=-0.370664-0.446189I$	$-1.70053-2.56932I$	0
$u=-0.224116-1.050260I$ $a=\ \ 0.669798+0.252970I$ $b=-0.370664+0.446189I$	$-1.70053+2.56932I$	0
$u=\ \ 0.705586+0.829208I$ $a=\ \ 1.62621-1.10681I$ $b=-1.357000+0.278209I$	$8.66688-3.69608I$	0
$u=\ \ 0.705586-0.829208I$ $a=\ \ 1.62621+1.10681I$ $b=-1.357000-0.278209I$	$8.66688+3.69608I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.846818 + 0.313214I$ $a = 1.80160 + 0.13026I$ $b = -1.177360 + 0.405721I$	$1.20494 - 6.04817I$	$5.22565 + 5.84091I$
$u = 0.846818 - 0.313214I$ $a = 1.80160 - 0.13026I$ $b = -1.177360 - 0.405721I$	$1.20494 + 6.04817I$	$5.22565 - 5.84091I$
$u = -0.786218 + 0.782111I$ $a = 1.74704 + 0.57747I$ $b = -1.145380 + 0.086197I$	$3.75200 - 2.89679I$	0
$u = -0.786218 - 0.782111I$ $a = 1.74704 - 0.57747I$ $b = -1.145380 - 0.086197I$	$3.75200 + 2.89679I$	0
$u = -0.841330 + 0.286074I$ $a = 1.92284 - 0.21858I$ $b = -1.40306 - 0.54314I$	$6.14527 + 11.63860I$	$7.86088 - 6.21696I$
$u = -0.841330 - 0.286074I$ $a = 1.92284 + 0.21858I$ $b = -1.40306 + 0.54314I$	$6.14527 - 11.63860I$	$7.86088 + 6.21696I$
$u = -0.396737 + 1.050830I$ $a = 0.611889 + 0.451445I$ $b = 0.763773 + 0.472136I$	$-1.12945 - 1.48616I$	0
$u = -0.396737 - 1.050830I$ $a = 0.611889 - 0.451445I$ $b = 0.763773 - 0.472136I$	$-1.12945 + 1.48616I$	0
$u = -0.504241 + 1.025470I$ $a = -0.61602 - 1.87132I$ $b = 1.75797 + 0.25690I$	$5.06700 - 2.91128I$	0
$u = -0.504241 - 1.025470I$ $a = -0.61602 + 1.87132I$ $b = 1.75797 - 0.25690I$	$5.06700 + 2.91128I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.514985 + 0.680903I$ $a = -0.579773 - 0.461872I$ $b = 0.420336 + 1.009300I$	$3.23927 + 4.44956I$	$8.25775 - 7.58067I$
$u = 0.514985 - 0.680903I$ $a = -0.579773 + 0.461872I$ $b = 0.420336 - 1.009300I$	$3.23927 - 4.44956I$	$8.25775 + 7.58067I$
$u = 0.470433 + 1.061190I$ $a = -1.87151 + 0.91795I$ $b = 1.208490 - 0.064583I$	$0.50502 + 3.35540I$	0
$u = 0.470433 - 1.061190I$ $a = -1.87151 - 0.91795I$ $b = 1.208490 + 0.064583I$	$0.50502 - 3.35540I$	0
$u = -0.315619 + 1.134620I$ $a = 0.830681 + 0.958758I$ $b = -0.128589 + 1.134400I$	$-2.52331 + 2.41202I$	0
$u = -0.315619 - 1.134620I$ $a = 0.830681 - 0.958758I$ $b = -0.128589 - 1.134400I$	$-2.52331 - 2.41202I$	0
$u = 0.444751 + 1.090510I$ $a = -1.01329 - 6.86779I$ $b = 0.976673 - 0.016014I$	$0.78414 + 3.63001I$	0
$u = 0.444751 - 1.090510I$ $a = -1.01329 + 6.86779I$ $b = 0.976673 + 0.016014I$	$0.78414 - 3.63001I$	0
$u = -0.384067 + 0.705673I$ $a = 0.241639 - 0.229841I$ $b = 0.224870 - 0.394609I$	$0.01309 - 1.53015I$	$0.80636 + 5.17000I$
$u = -0.384067 - 0.705673I$ $a = 0.241639 + 0.229841I$ $b = 0.224870 + 0.394609I$	$0.01309 + 1.53015I$	$0.80636 - 5.17000I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.501403+1.092270I$ $a=-1.12867-2.17659I$ $b=\ \ 1.033040-0.441324I$	$-0.32050-5.52962I$	0
$u=-0.501403-1.092270I$ $a=-1.12867+2.17659I$ $b=\ \ 1.033040+0.441324I$	$-0.32050+5.52962I$	0
$u=\ \ 0.528068+1.083240I$ $a=-1.54121+1.95012I$ $b=\ \ 1.46024+0.88757I$	$4.03427+7.29529I$	0
$u=\ \ 0.528068-1.083240I$ $a=-1.54121-1.95012I$ $b=\ \ 1.46024-0.88757I$	$4.03427-7.29529I$	0
$u=\ \ 0.346372+1.161380I$ $a=\ \ 0.593679-0.777762I$ $b=-0.392677-0.759378I$	$-5.73112+1.67042I$	0
$u=\ \ 0.346372-1.161380I$ $a=\ \ 0.593679+0.777762I$ $b=-0.392677+0.759378I$	$-5.73112-1.67042I$	0
$u=-0.473510+1.118310I$ $a=\ \ 0.782398-0.360085I$ $b=\ \ 0.0538522-0.0763981I$	$-0.74430-3.76429I$	0
$u=-0.473510-1.118310I$ $a=\ \ 0.782398+0.360085I$ $b=\ \ 0.0538522+0.0763981I$	$-0.74430+3.76429I$	0
$u=\ \ 0.335026+0.710399I$ $a=\ \ 1.72207+1.23343I$ $b=\ \ 0.657840-0.399802I$	$2.84065-0.69325I$	$7.34055-2.28046I$
$u=\ \ 0.335026-0.710399I$ $a=\ \ 1.72207-1.23343I$ $b=\ \ 0.657840+0.399802I$	$2.84065+0.69325I$	$7.34055+2.28046I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.211142 + 1.205460I$ $a = 0.162294 + 0.244515I$ $b = -1.013050 + 0.457090I$	$-3.82831 - 2.87392I$	0
$u = 0.211142 - 1.205460I$ $a = 0.162294 - 0.244515I$ $b = -1.013050 - 0.457090I$	$-3.82831 + 2.87392I$	0
$u = -0.719893 + 0.254367I$ $a = -0.115852 - 0.661368I$ $b = 0.073358 + 1.223210I$	$1.50533 + 5.54441I$	$6.15324 - 5.81731I$
$u = -0.719893 - 0.254367I$ $a = -0.115852 + 0.661368I$ $b = 0.073358 - 1.223210I$	$1.50533 - 5.54441I$	$6.15324 + 5.81731I$
$u = -0.247127 + 1.219380I$ $a = -0.116676 - 0.268220I$ $b = -1.31519 - 0.54925I$	$1.27336 + 8.27174I$	0
$u = -0.247127 - 1.219380I$ $a = -0.116676 + 0.268220I$ $b = -1.31519 + 0.54925I$	$1.27336 - 8.27174I$	0
$u = -0.559742 + 0.499569I$ $a = -2.33180 - 0.07414I$ $b = 1.61703 - 0.42922I$	$6.60638 - 1.38759I$	$13.61185 + 2.69699I$
$u = -0.559742 - 0.499569I$ $a = -2.33180 + 0.07414I$ $b = 1.61703 + 0.42922I$	$6.60638 + 1.38759I$	$13.61185 - 2.69699I$
$u = -0.532609 + 1.135780I$ $a = -1.331490 - 0.302716I$ $b = 0.018216 - 1.337320I$	$-1.03978 - 10.29640I$	0
$u = -0.532609 - 1.135780I$ $a = -1.331490 + 0.302716I$ $b = 0.018216 + 1.337320I$	$-1.03978 + 10.29640I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.718324 + 0.192214I$ $a = 0.343599 + 0.323507I$ $b = -0.189188 - 0.732728I$	$-1.82969 - 1.80347I$	$-0.10246 + 1.52246I$
$u = 0.718324 - 0.192214I$ $a = 0.343599 - 0.323507I$ $b = -0.189188 + 0.732728I$	$-1.82969 + 1.80347I$	$-0.10246 - 1.52246I$
$u = 0.516306 + 1.147190I$ $a = -0.673430 + 0.126282I$ $b = -0.183109 + 0.870034I$	$-4.55999 + 6.45506I$	0
$u = 0.516306 - 1.147190I$ $a = -0.673430 - 0.126282I$ $b = -0.183109 - 0.870034I$	$-4.55999 - 6.45506I$	0
$u = 0.628529 + 0.365318I$ $a = -1.89811 + 0.16062I$ $b = 1.46936 - 0.72031I$	$6.10269 - 2.74373I$	$12.45226 + 3.77694I$
$u = 0.628529 - 0.365318I$ $a = -1.89811 - 0.16062I$ $b = 1.46936 + 0.72031I$	$6.10269 + 2.74373I$	$12.45226 - 3.77694I$
$u = 0.584181 + 1.160180I$ $a = 1.41110 - 1.54314I$ $b = -1.217140 - 0.473437I$	$-1.33313 + 11.33620I$	0
$u = 0.584181 - 1.160180I$ $a = 1.41110 + 1.54314I$ $b = -1.217140 + 0.473437I$	$-1.33313 - 11.33620I$	0
$u = -0.575118 + 1.166630I$ $a = 1.44257 + 1.87148I$ $b = -1.41933 + 0.58854I$	$3.5170 - 16.8714I$	0
$u = -0.575118 - 1.166630I$ $a = 1.44257 - 1.87148I$ $b = -1.41933 - 0.58854I$	$3.5170 + 16.8714I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.350099+1.280170I$ $a=\ \ 0.231862+0.485291I$ $b=-1.013310+0.202385I$	$-0.03586-5.23290I$	0
$u=-0.350099-1.280170I$ $a=\ \ 0.231862-0.485291I$ $b=-1.013310-0.202385I$	$-0.03586+5.23290I$	0
$u=-0.625953+1.188270I$ $a=\ \ 0.96793+1.10206I$ $b=-1.106350+0.106102I$	$2.12005-4.76886I$	0
$u=-0.625953-1.188270I$ $a=\ \ 0.96793-1.10206I$ $b=-1.106350-0.106102I$	$2.12005+4.76886I$	0
$u=-0.557121+0.298889I$ $a=-1.74606+1.17248I$ $b=\ \ 1.009520+0.310743I$	$1.90959+1.23782I$	$5.72103-1.19948I$
$u=-0.557121-0.298889I$ $a=-1.74606-1.17248I$ $b=\ \ 1.009520-0.310743I$	$1.90959-1.23782I$	$5.72103+1.19948I$
$u=\ \ 0.436090+0.450755I$ $a=-3.04281+1.18729I$ $b=\ \ 1.112600+0.136483I$	$2.35203+0.54203I$	$3.52424+2.42131I$
$u=\ \ 0.436090-0.450755I$ $a=-3.04281-1.18729I$ $b=\ \ 1.112600-0.136483I$	$2.35203-0.54203I$	$3.52424-2.42131I$
$u=-0.563914+0.238552I$ $a=\ \ 1.178280+0.450091I$ $b=\ \ 0.112264-0.124633I$	$1.74562-0.37740I$	$6.30964+0.12141I$
$u=-0.563914-0.238552I$ $a=\ \ 1.178280-0.450091I$ $b=\ \ 0.112264+0.124633I$	$1.74562+0.37740I$	$6.30964-0.12141I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u =$ 0.489141		
$a =$ 7.66462	3.44799	−43.6260
$b =$ 1.04131		

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{71} - 3u^{70} + \cdots - 2u + 1$
c_2	$u^{71} + 35u^{70} + \cdots - 6u^2 - 1$
c_3	$u^{71} + 3u^{70} + \cdots + 4u + 1$
c_4, c_7	$u^{71} - u^{70} + \cdots - 6u^3 - 1$
c_6	$u^{71} + 3u^{70} + \cdots + 6566u + 1721$
c_8, c_{11}	$u^{71} + u^{70} + \cdots + 20u - 1$
c_9	$u^{71} - 5u^{70} + \cdots + 2242u + 127$
c_{10}	$u^{71} + 15u^{70} + \cdots + 22856u + 7097$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{71} + 35y^{70} + \cdots - 6y^2 - 1$
c_2	$y^{71} + 3y^{70} + \cdots - 12y - 1$
c_3	$y^{71} + 3y^{70} + \cdots - 52y - 1$
c_4, c_7	$y^{71} - 53y^{70} + \cdots - 46y^2 - 1$
c_6	$y^{71} - 29y^{70} + \cdots + 37791024y - 2961841$
c_8, c_{11}	$y^{71} - 49y^{70} + \cdots - 76y - 1$
c_9	$y^{71} + 43y^{70} + \cdots + 525684y - 16129$
c_{10}	$y^{71} + 91y^{70} + \cdots - 2991356352y - 50367409$