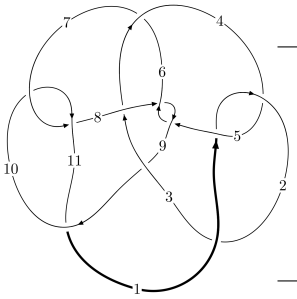
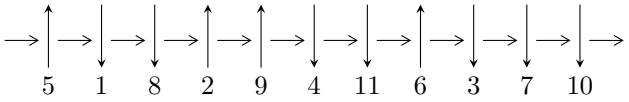
$11a_{70}$ ($K11a_{70}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.79690 \times 10^{82} u^{74} + 7.20239 \times 10^{82} u^{73} + \cdots + 6.04541 \times 10^{81} b - 1.44668 \times 10^{82},$$
$$- 3.67725 \times 10^{81} u^{74} + 1.14897 \times 10^{82} u^{73} + \cdots + 6.04541 \times 10^{81} a - 2.36959 \times 10^{81},\ u^{75} - 5u^{74} + \cdots - 5u^2$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 75 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. $\boldsymbol{I_1^u = \langle -1.80 \times 10^{82} u^{74} + 7.20 \times 10^{82} u^{73} + \cdots + 6.05 \times 10^{81} b - 1.45 \times 10^{82},\ -3.68 \times 10^{81} u^{74} + 1.15 \times 10^{82} u^{73} + \cdots + 6.05 \times 10^{81} a - 2.37 \times 10^{81},\ u^{75} - 5u^{74} + \cdots - 5u^2 - 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.608272u^{74} - 1.90056u^{73} + \cdots + 1.36502u + 0.391965 \\ 2.97234u^{74} - 11.9138u^{73} + \cdots + 0.909081u + 2.39302 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.754990u^{74} + 3.70568u^{73} + \cdots + 1.06421u - 0.860252 \\ 2.28904u^{74} - 8.56988u^{73} + \cdots - 0.454181u + 1.18295 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.735779u^{74} - 2.59000u^{73} + \cdots - 1.30849u + 3.10168 \\ 2.66733u^{74} - 13.8183u^{73} + \cdots - 1.11611u + 0.260040 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.780163u^{74} + 4.52362u^{73} + \cdots - 0.0143966u - 1.25921 \\ 2.96332u^{74} - 10.7355u^{73} + \cdots - 1.40070u + 1.40206 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.742503u^{74} + 5.31417u^{73} + \cdots + 6.61688u + 2.14994 \\ -0.526551u^{74} + 1.38417u^{73} + \cdots - 1.71851u + 1.60740 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.78437u^{74} - 6.22270u^{73} + \cdots + 5.32082u + 2.42275 \\ 2.41956u^{74} - 10.4227u^{73} + \cdots + 0.784371u + 2.69916 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.78437u^{74} - 6.22270u^{73} + \cdots + 5.32082u + 2.42275 \\ 2.41956u^{74} - 10.4227u^{73} + \cdots + 0.784371u + 2.69916 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3.56995u^{74} + 12.8202u^{73} + \cdots + 11.6536u - 1.36638$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{75} + u^{74} + \cdots + 16u + 1$
c_2	$u^{75} + 31u^{74} + \cdots + 54u - 1$
c_3	$u^{75} + u^{74} + \cdots - 10u + 1$
c_5, c_8	$u^{75} + 5u^{74} + \cdots + 5u^2 + 1$
c_6	$u^{75} + u^{74} + \cdots + 30u - 1$
c_7, c_{10}	$u^{75} + 5u^{74} + \cdots + 5u^2 + 1$
c_9	$u^{75} + 11u^{74} + \cdots - 828u + 297$
c_{11}	$u^{75} + 29u^{74} + \cdots - 10u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{75} + 31y^{74} + \cdots + 54y - 1$
c_2	$y^{75} + 27y^{74} + \cdots - 1370y - 1$
c_3	$y^{75} - 5y^{74} + \cdots - 18y - 1$
c_5, c_8	$y^{75} + 47y^{74} + \cdots - 10y - 1$
c_6	$y^{75} - 121y^{74} + \cdots + 18y - 1$
c_7, c_{10}	$y^{75} - 29y^{74} + \cdots - 10y - 1$
c_9	$y^{75} + 111y^{74} + \cdots - 4790502y - 88209$
c_{11}	$y^{75} + 35y^{74} + \cdots + 118y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.791299 + 0.626157I$ $a = -1.136250 - 0.194648I$ $b = -1.55325 - 0.23650I$	$2.07598 + 0.79958I$	0
$u = \quad 0.791299 - 0.626157I$ $a = -1.136250 + 0.194648I$ $b = -1.55325 + 0.23650I$	$2.07598 - 0.79958I$	0
$u = \quad 0.944435 + 0.356346I$ $a = -0.956319 - 0.093515I$ $b = -0.272280 - 1.297540I$	$-2.28865 - 1.17947I$	0
$u = \quad 0.944435 - 0.356346I$ $a = -0.956319 + 0.093515I$ $b = -0.272280 + 1.297540I$	$-2.28865 + 1.17947I$	0
$u = -0.868230 + 0.530776I$ $a = -2.18646 + 8.50420I$ $b = \quad 6.91289 + 6.22470I$	$-1.67548 + 0.05018I$	$33.6456 + 61.6621I$
$u = -0.868230 - 0.530776I$ $a = -2.18646 - 8.50420I$ $b = \quad 6.91289 - 6.22470I$	$-1.67548 - 0.05018I$	$33.6456 - 61.6621I$
$u = -0.901384 + 0.490863I$ $a = -4.06027 - 6.10797I$ $b = -7.63991 - 0.14270I$	$-1.69112 + 4.00680I$	$36.1919 - 36.8000I$
$u = -0.901384 - 0.490863I$ $a = -4.06027 + 6.10797I$ $b = -7.63991 + 0.14270I$	$-1.69112 - 4.00680I$	$36.1919 + 36.8000I$
$u = \quad 0.567539 + 0.856472I$ $a = -1.019940 + 0.924823I$ $b = -1.54560 - 0.33056I$	$1.74716 + 5.71342I$	0
$u = \quad 0.567539 - 0.856472I$ $a = -1.019940 - 0.924823I$ $b = -1.54560 + 0.33056I$	$1.74716 - 5.71342I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.964338$ $a = 0.506841$ $b = -0.214290$	-1.61136	-5.58450
$u = 0.765824 + 0.583007I$ $a = 0.303385 - 1.001710I$ $b = -0.196885 - 0.062255I$	$1.55349 + 0.61348I$	$-60.10 + 1.237316I$
$u = 0.765824 - 0.583007I$ $a = 0.303385 + 1.001710I$ $b = -0.196885 + 0.062255I$	$1.55349 - 0.61348I$	$-60.10 - 1.237316I$
$u = -0.829499 + 0.630475I$ $a = 1.18877 + 1.25117I$ $b = 1.88802 + 0.62955I$	$2.48636 + 2.32410I$	0
$u = -0.829499 - 0.630475I$ $a = 1.18877 - 1.25117I$ $b = 1.88802 - 0.62955I$	$2.48636 - 2.32410I$	0
$u = -0.850863 + 0.627859I$ $a = 0.87390 + 1.79384I$ $b = 1.54353 + 0.99983I$	$2.42103 + 2.60653I$	0
$u = -0.850863 - 0.627859I$ $a = 0.87390 - 1.79384I$ $b = 1.54353 - 0.99983I$	$2.42103 - 2.60653I$	0
$u = 0.526837 + 0.922838I$ $a = 0.942081 - 1.033130I$ $b = 1.51134 + 0.47807I$	$-0.14883 + 11.48980I$	0
$u = 0.526837 - 0.922838I$ $a = 0.942081 + 1.033130I$ $b = 1.51134 - 0.47807I$	$-0.14883 - 11.48980I$	0
$u = -0.607991 + 0.890820I$ $a = 0.599024 + 0.851155I$ $b = 1.207750 - 0.075419I$	$5.04527 - 0.07914I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.607991-0.890820I$ $a=\ 0.599024-0.851155I$ $b=\ 1.207750+0.075419I$	$5.04527+0.07914I$	0
$u=\ 0.263630+0.876603I$ $a=-0.375992-0.459802I$ $b=-0.020158-0.411851I$	$0.37773-1.86497I$	$0.+5.71221I$
$u=\ 0.263630-0.876603I$ $a=-0.375992+0.459802I$ $b=-0.020158+0.411851I$	$0.37773+1.86497I$	$0.-5.71221I$
$u=\ 0.886820+0.625610I$ $a=-0.02345+1.84145I$ $b=-0.251662+1.256830I$	$1.78310-5.71290I$	0
$u=\ 0.886820-0.625610I$ $a=-0.02345-1.84145I$ $b=-0.251662-1.256830I$	$1.78310+5.71290I$	0
$u=\ 0.914521+0.590451I$ $a=\ 0.119679+0.166270I$ $b=\ 0.970439-0.336294I$	$1.08449-5.28857I$	0
$u=\ 0.914521-0.590451I$ $a=\ 0.119679-0.166270I$ $b=\ 0.970439+0.336294I$	$1.08449+5.28857I$	0
$u=\ 0.932597+0.568367I$ $a=\ 0.013751+1.184380I$ $b=-0.884923+0.749244I$	$-1.83222-2.08698I$	0
$u=\ 0.932597-0.568367I$ $a=\ 0.013751-1.184380I$ $b=-0.884923-0.749244I$	$-1.83222+2.08698I$	0
$u=-0.685629+0.592250I$ $a=-0.46109-2.41463I$ $b=-0.744705-1.183340I$	$-0.17676-3.45478I$	$-1.78652+5.40342I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.685629-0.592250I$ $a=-0.46109+2.41463I$ $b=-0.744705+1.183340I$	$-0.17676+3.45478I$	$-1.78652-5.40342I$
$u=-0.515117+0.972701I$ $a=-0.527100-0.786396I$ $b=-0.995231+0.207120I$	$4.01125-5.34018I$	0
$u=-0.515117-0.972701I$ $a=-0.527100+0.786396I$ $b=-0.995231-0.207120I$	$4.01125+5.34018I$	0
$u=0.445298+1.029250I$ $a=0.435633+0.502400I$ $b=-0.295800+0.460901I$	$-0.63449-6.30730I$	0
$u=0.445298-1.029250I$ $a=0.435633-0.502400I$ $b=-0.295800-0.460901I$	$-0.63449+6.30730I$	0
$u=-0.955518+0.606406I$ $a=-1.62212-0.44289I$ $b=-2.45993-0.12029I$	$-0.99272+8.24278I$	0
$u=-0.955518-0.606406I$ $a=-1.62212+0.44289I$ $b=-2.45993+0.12029I$	$-0.99272-8.24278I$	0
$u=-1.128430+0.127839I$ $a=0.202502+0.566795I$ $b=-0.874006+0.102629I$	$-9.45607-1.38465I$	0
$u=-1.128430-0.127839I$ $a=0.202502-0.566795I$ $b=-0.874006-0.102629I$	$-9.45607+1.38465I$	0
$u=-1.145380+0.069325I$ $a=-0.679931+0.226099I$ $b=0.221937-0.116509I$	$-4.70899+4.40582I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.145380-0.069325I$ $a=-0.679931-0.226099I$ $b=\ \ 0.221937+0.116509I$	$-4.70899-4.40582I$	0
$u=-1.043790+0.518555I$ $a=-1.00385-1.21751I$ $b=-1.48625-0.73116I$	$-2.22532+5.04203I$	0
$u=-1.043790-0.518555I$ $a=-1.00385+1.21751I$ $b=-1.48625+0.73116I$	$-2.22532-5.04203I$	0
$u=-0.742052+0.333850I$ $a=-0.49225-1.85952I$ $b=-1.13591-1.35983I$	$-0.76010-1.33278I$	$-0.332802+0.983014I$
$u=-0.742052-0.333850I$ $a=-0.49225+1.85952I$ $b=-1.13591+1.35983I$	$-0.76010+1.33278I$	$-0.332802-0.983014I$
$u=\ \ 0.795402+0.062224I$ $a=\ \ 1.62950-0.64233I$ $b=\ \ 1.09692-1.47817I$	$-3.90324+3.60828I$	$-10.09775-4.41571I$
$u=\ \ 0.795402-0.062224I$ $a=\ \ 1.62950+0.64233I$ $b=\ \ 1.09692+1.47817I$	$-3.90324-3.60828I$	$-10.09775+4.41571I$
$u=\ \ 1.055580+0.589429I$ $a=\ \ 0.72557-1.95839I$ $b=\ \ 1.62317-1.88315I$	$-6.54687-8.38886I$	0
$u=\ \ 1.055580-0.589429I$ $a=\ \ 0.72557+1.95839I$ $b=\ \ 1.62317+1.88315I$	$-6.54687+8.38886I$	0
$u=\ \ 0.397886+0.666525I$ $a=\ \ 1.49281-1.20707I$ $b=\ \ 1.199140+0.038507I$	$-4.74813+3.53322I$	$-6.97223-3.25767I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.397886 - 0.666525I$ $a = 1.49281 + 1.20707I$ $b = 1.199140 - 0.038507I$	$-4.74813 - 3.53322I$	$-6.97223 + 3.25767I$
$u = 0.873447 + 0.870694I$ $a = 0.395339 + 0.623453I$ $b = -0.437516 + 0.908419I$	$-2.26517 - 1.56796I$	0
$u = 0.873447 - 0.870694I$ $a = 0.395339 - 0.623453I$ $b = -0.437516 - 0.908419I$	$-2.26517 + 1.56796I$	0
$u = -1.263390 + 0.059974I$ $a = 0.451522 - 0.021954I$ $b = -0.367243 + 0.519313I$	$-7.03947 + 9.35177I$	0
$u = -1.263390 - 0.059974I$ $a = 0.451522 + 0.021954I$ $b = -0.367243 - 0.519313I$	$-7.03947 - 9.35177I$	0
$u = 1.075430 + 0.686951I$ $a = -0.61564 + 1.81999I$ $b = -1.83957 + 1.40797I$	$0.20150 - 11.45470I$	0
$u = 1.075430 - 0.686951I$ $a = -0.61564 - 1.81999I$ $b = -1.83957 - 1.40797I$	$0.20150 + 11.45470I$	0
$u = -1.065960 + 0.707388I$ $a = 0.59448 + 1.33761I$ $b = 1.59308 + 0.92121I$	$3.62731 + 5.97807I$	0
$u = -1.065960 - 0.707388I$ $a = 0.59448 - 1.33761I$ $b = 1.59308 - 0.92121I$	$3.62731 - 5.97807I$	0
$u = 1.115700 + 0.695740I$ $a = 0.64039 - 1.78540I$ $b = 2.05325 - 1.45013I$	$-1.9580 - 17.4335I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.115700 - 0.695740I$ $a = 0.64039 + 1.78540I$ $b = 2.05325 + 1.45013I$	$-1.9580 + 17.4335I$	0
$u = 1.311660 + 0.204711I$ $a = -0.138053 + 0.165335I$ $b = 0.348061 + 0.219302I$	$-3.70859 - 2.85030I$	0
$u = 1.311660 - 0.204711I$ $a = -0.138053 - 0.165335I$ $b = 0.348061 - 0.219302I$	$-3.70859 + 2.85030I$	0
$u = -1.131880 + 0.708785I$ $a = -0.553642 - 1.238480I$ $b = -1.58959 - 1.00695I$	$2.10726 + 11.44930I$	0
$u = -1.131880 - 0.708785I$ $a = -0.553642 + 1.238480I$ $b = -1.58959 + 1.00695I$	$2.10726 - 11.44930I$	0
$u = 1.254070 + 0.541848I$ $a = 0.006977 - 0.440278I$ $b = -0.005491 - 0.633191I$	$-3.53974 + 0.15240I$	0
$u = 1.254070 - 0.541848I$ $a = 0.006977 + 0.440278I$ $b = -0.005491 + 0.633191I$	$-3.53974 - 0.15240I$	0
$u = 1.115880 + 0.819454I$ $a = -0.230622 - 0.569677I$ $b = 0.335742 - 0.951701I$	$-3.00033 - 5.17857I$	0
$u = 1.115880 - 0.819454I$ $a = -0.230622 + 0.569677I$ $b = 0.335742 + 0.951701I$	$-3.00033 + 5.17857I$	0
$u = 0.006554 + 0.393735I$ $a = 0.770227 - 0.359535I$ $b = -0.550817 - 0.498112I$	$-0.147876 - 1.356400I$	$-1.90597 + 4.54012I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.006554 - 0.393735I$ $a = 0.770227 + 0.359535I$ $b = -0.550817 + 0.498112I$	$-0.147876 + 1.356400I$	$-1.90597 - 4.54012I$
$u = -0.287824 + 0.229163I$ $a = -3.06974 + 2.15753I$ $b = 0.908382 + 0.915708I$	$-1.13072 + 3.27384I$	$-6.63565 - 1.70507I$
$u = -0.287824 - 0.229163I$ $a = -3.06974 - 2.15753I$ $b = 0.908382 - 0.915708I$	$-1.13072 - 3.27384I$	$-6.63565 + 1.70507I$
$u = 0.000354 + 0.340693I$ $a = 1.51373 - 0.61491I$ $b = -0.659750 - 0.404961I$	$-0.148374 - 1.372820I$	$-2.72639 + 4.45702I$
$u = 0.000354 - 0.340693I$ $a = 1.51373 + 0.61491I$ $b = -0.659750 + 0.404961I$	$-0.148374 + 1.372820I$	$-2.72639 - 4.45702I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{75} + u^{74} + \cdots + 16u + 1$
c_2	$u^{75} + 31u^{74} + \cdots + 54u - 1$
c_3	$u^{75} + u^{74} + \cdots - 10u + 1$
c_5, c_8	$u^{75} + 5u^{74} + \cdots + 5u^2 + 1$
c_6	$u^{75} + u^{74} + \cdots + 30u - 1$
c_7, c_{10}	$u^{75} + 5u^{74} + \cdots + 5u^2 + 1$
c_9	$u^{75} + 11u^{74} + \cdots - 828u + 297$
c_{11}	$u^{75} + 29u^{74} + \cdots - 10u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{75} + 31y^{74} + \cdots + 54y - 1$
c_2	$y^{75} + 27y^{74} + \cdots - 1370y - 1$
c_3	$y^{75} - 5y^{74} + \cdots - 18y - 1$
c_5, c_8	$y^{75} + 47y^{74} + \cdots - 10y - 1$
c_6	$y^{75} - 121y^{74} + \cdots + 18y - 1$
c_7, c_{10}	$y^{75} - 29y^{74} + \cdots - 10y - 1$
c_9	$y^{75} + 111y^{74} + \cdots - 4790502y - 88209$
c_{11}	$y^{75} + 35y^{74} + \cdots + 118y - 1$