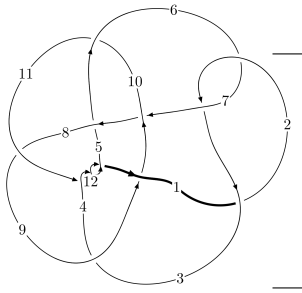
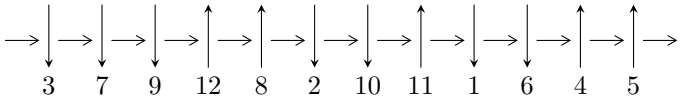
$12a_{0602}$ $(K12a_{0602})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$\underset{c_{11}}{4,11} \to \underset{c_4}{12} \to \underset{c_{12}}{5} \to \underset{c_3}{1,9} \to \underset{c_1}{3} \to \underset{c_8}{2} \to \underset{c_5}{8} \to \underset{c_{10}}{6} \to \underset{c_7}{10} \to 7 \longrightarrow\!\!\!\!\rightarrow c_2, c_6, c_9$$

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

$$I_1^u = \langle 4.66581 \times 10^{374} u^{143} - 1.28668 \times 10^{375} u^{142} + \cdots + 1.64873 \times 10^{373} b - 4.11352 \times 10^{374},$$
$$- 7.48886 \times 10^{372} u^{143} + 1.93957 \times 10^{373} u^{142} + \cdots + 1.49885 \times 10^{372} a + 3.95483 \times 10^{372},$$
$$u^{144} - 4u^{143} + \cdots + 15u + 1 \rangle$$
$$I_2^u = \langle -20959u^{29} - 11090u^{28} + \cdots + 149b + 20698,\ -3u^{29} + u^{28} + \cdots + a + 11,\ u^{30} - u^{29} + \cdots - 4u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 174 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. $\boldsymbol{I_1^u = \langle 4.67 \times 10^{374} u^{143} - 1.29 \times 10^{375} u^{142} + \cdots + 1.65 \times 10^{373} b - 4.11 \times 10^{374},\ -7.49 \times 10^{372} u^{143} + 1.94 \times 10^{373} u^{142} + \cdots + 1.50 \times 10^{372} a + 3.95 \times 10^{372},\ u^{144} - 4u^{143} + \cdots + 15u + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} 4.99642u^{143} - 12.9404u^{142} + \cdots - 214.068u - 2.63858 \\ -28.2994u^{143} + 78.0404u^{142} + \cdots + 375.005u + 24.9496 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 19.6393u^{143} - 58.9874u^{142} + \cdots + 30.6121u + 2.17158 \\ -34.0052u^{143} + 94.0370u^{142} + \cdots + 484.569u + 29.7387 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 18.4548u^{143} - 50.7937u^{142} + \cdots - 206.122u - 23.9926 \\ 20.1291u^{143} - 56.0029u^{142} + \cdots - 273.396u - 18.6684 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 33.2958u^{143} - 90.9809u^{142} + \cdots - 589.073u - 27.5882 \\ -28.2994u^{143} + 78.0404u^{142} + \cdots + 375.005u + 24.9496 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 20.9047u^{143} - 60.8386u^{142} + \cdots - 85.9031u - 3.42492 \\ -7.44544u^{143} + 21.2506u^{142} + \cdots + 128.326u + 7.67264 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 14.8061u^{143} - 39.8561u^{142} + \cdots - 366.170u - 13.3050 \\ -12.0229u^{143} + 32.9768u^{142} + \cdots + 161.382u + 11.4844 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -16.2278u^{143} + 46.8176u^{142} + \cdots + 183.885u + 25.5784 \\ -15.2646u^{143} + 42.8316u^{142} + \cdots + 229.429u + 16.3077 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -34.9261u^{143} + 102.204u^{142} + \cdots + 484.487u + 41.1578$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{144} + 58u^{143} + \cdots + 11398u + 361$
c_2, c_6	$u^{144} - 2u^{143} + \cdots + 32u + 19$
c_3	$u^{144} - 2u^{143} + \cdots - 340955512u + 126824923$
c_4, c_{11}, c_{12}	$u^{144} - 4u^{143} + \cdots + 15u + 1$
c_5	$u^{144} + 15u^{143} + \cdots + 45u - 1$
c_7	$u^{144} + 2u^{143} + \cdots - 74u + 7$
c_8	$u^{144} - 14u^{143} + \cdots - 235130u + 65317$
c_9	$u^{144} - u^{143} + \cdots - 2778440u + 233557$
c_{10}	$u^{144} + 5u^{143} + \cdots - 140899u + 14783$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{144}+70y^{143}+\cdots+11864014y+130321$
c_2, c_6	$y^{144}-58y^{143}+\cdots-11398y+361$
c_3	$y^{144}+50y^{143}+\cdots+928165311949487672y+16084561093955929$
c_4, c_{11}, c_{12}	$y^{144}-142y^{143}+\cdots+159y+1$
c_5	$y^{144}+5y^{143}+\cdots-3139y+1$
c_7	$y^{144}+12y^{143}+\cdots+1734y+49$
c_8	$y^{144}-44y^{143}+\cdots+923597554320y+4266310489$
c_9	$y^{144}+29y^{143}+\cdots+159556190882y+54548872249$
c_{10}	$y^{144}+25y^{143}+\cdots+5445649265y+218537089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.641440+0.771294I$ $a=\ 0.243379-0.887983I$ $b=\ 0.406077-0.706504I$	$-1.32437-6.15069I$	0
$u=-0.641440-0.771294I$ $a=\ 0.243379+0.887983I$ $b=\ 0.406077+0.706504I$	$-1.32437+6.15069I$	0
$u=\ 0.436258+0.919189I$ $a=-0.572363-0.544707I$ $b=-1.079820-0.266336I$	$2.33630+3.72932I$	0
$u=\ 0.436258-0.919189I$ $a=-0.572363+0.544707I$ $b=-1.079820+0.266336I$	$2.33630-3.72932I$	0
$u=\ 0.708847+0.732712I$ $a=-0.955680-0.457394I$ $b=-0.973986+0.386429I$	$4.03243-3.94384I$	0
$u=\ 0.708847-0.732712I$ $a=-0.955680+0.457394I$ $b=-0.973986-0.386429I$	$4.03243+3.94384I$	0
$u=-0.704071+0.749730I$ $a=-1.075930+0.332157I$ $b=-0.991888-0.473815I$	$2.28410+9.91942I$	0
$u=-0.704071-0.749730I$ $a=-1.075930-0.332157I$ $b=-0.991888+0.473815I$	$2.28410-9.91942I$	0
$u=\ 0.940999+0.434490I$ $a=\ 0.359772+0.263997I$ $b=-0.053654-0.152778I$	$1.59960+1.70116I$	0
$u=\ 0.940999-0.434490I$ $a=\ 0.359772-0.263997I$ $b=-0.053654+0.152778I$	$1.59960-1.70116I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.464501+0.837838I$ $a=-0.407758+1.133410I$ $b=-0.976569+0.678738I$	$-3.88117-7.32238I$	0
$u=-0.464501-0.837838I$ $a=-0.407758-1.133410I$ $b=-0.976569-0.678738I$	$-3.88117+7.32238I$	0
$u=-0.463367+0.837097I$ $a=-0.77191+1.38289I$ $b=-1.24742+0.82437I$	$1.5784-15.2624I$	0
$u=-0.463367-0.837097I$ $a=-0.77191-1.38289I$ $b=-1.24742-0.82437I$	$1.5784+15.2624I$	0
$u=0.459927+0.835725I$ $a=-0.78045-1.24759I$ $b=-1.24228-0.73144I$	$3.29096+9.25039I$	0
$u=0.459927-0.835725I$ $a=-0.78045+1.24759I$ $b=-1.24228+0.73144I$	$3.29096-9.25039I$	0
$u=-0.371568+0.988700I$ $a=0.544420-0.388172I$ $b=0.451860-0.236766I$	$-2.71360+0.49612I$	0
$u=-0.371568-0.988700I$ $a=0.544420+0.388172I$ $b=0.451860+0.236766I$	$-2.71360-0.49612I$	0
$u=-0.752384+0.751617I$ $a=-0.525272+0.180553I$ $b=-0.699403-0.333217I$	$-3.10082+1.92208I$	0
$u=-0.752384-0.751617I$ $a=-0.525272-0.180553I$ $b=-0.699403+0.333217I$	$-3.10082-1.92208I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.724474 + 0.503590I$ $a = -0.123746 - 1.223240I$ $b = -0.864459 + 0.063741I$	$3.89536 + 1.41739I$	0
$u = 0.724474 - 0.503590I$ $a = -0.123746 + 1.223240I$ $b = -0.864459 - 0.063741I$	$3.89536 - 1.41739I$	0
$u = 0.616552 + 0.598068I$ $a = 0.435778 + 1.109760I$ $b = 0.730539 + 0.818723I$	$0.10188 + 2.22655I$	0
$u = 0.616552 - 0.598068I$ $a = 0.435778 - 1.109760I$ $b = 0.730539 - 0.818723I$	$0.10188 - 2.22655I$	0
$u = -1.148590 + 0.085619I$ $a = 0.862771 - 0.704486I$ $b = 0.401690 - 0.881219I$	$2.40569 - 1.29967I$	0
$u = -1.148590 - 0.085619I$ $a = 0.862771 + 0.704486I$ $b = 0.401690 + 0.881219I$	$2.40569 + 1.29967I$	0
$u = 0.753275 + 0.380915I$ $a = 0.686476 + 0.925921I$ $b = 0.903434 + 0.867411I$	$1.80300 + 6.03304I$	0
$u = 0.753275 - 0.380915I$ $a = 0.686476 - 0.925921I$ $b = 0.903434 - 0.867411I$	$1.80300 - 6.03304I$	0
$u = 0.460385 + 0.689496I$ $a = 0.678854 + 0.951544I$ $b = 0.745760 + 0.518700I$	$0.46793 + 2.15742I$	0
$u = 0.460385 - 0.689496I$ $a = 0.678854 - 0.951544I$ $b = 0.745760 - 0.518700I$	$0.46793 - 2.15742I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.177910 + 0.025403I$ $a = 0.790502 - 1.020010I$ $b = 0.365064 - 1.132200I$	$1.72067 - 5.51367I$	0
$u = 1.177910 - 0.025403I$ $a = 0.790502 + 1.020010I$ $b = 0.365064 + 1.132200I$	$1.72067 + 5.51367I$	0
$u = -0.183903 + 0.780009I$ $a = -0.824077 - 0.031941I$ $b = -1.206750 - 0.054712I$	$0.70996 + 3.48348I$	0
$u = -0.183903 - 0.780009I$ $a = -0.824077 + 0.031941I$ $b = -1.206750 + 0.054712I$	$0.70996 - 3.48348I$	0
$u = 1.211750 + 0.000729I$ $a = 0.771860 + 0.326502I$ $b = -0.841770 - 0.766189I$	$3.67045 - 0.65197I$	0
$u = 1.211750 - 0.000729I$ $a = 0.771860 - 0.326502I$ $b = -0.841770 + 0.766189I$	$3.67045 + 0.65197I$	0
$u = -0.420892 + 0.635724I$ $a = 0.622376 + 0.623430I$ $b = -0.210982 + 0.432938I$	$-2.01335 + 1.40917I$	0
$u = -0.420892 - 0.635724I$ $a = 0.622376 - 0.623430I$ $b = -0.210982 - 0.432938I$	$-2.01335 - 1.40917I$	0
$u = -1.033270 + 0.685139I$ $a = 0.129460 - 0.303563I$ $b = 0.0254407 - 0.1005390I$	$-0.88369 - 6.44136I$	0
$u = -1.033270 - 0.685139I$ $a = 0.129460 + 0.303563I$ $b = 0.0254407 + 0.1005390I$	$-0.88369 + 6.44136I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.594458+0.471215I$ $a=-0.10005+1.82899I$ $b=-0.850397+0.092402I$	$2.24619-7.45474I$	0
$u=-0.594458-0.471215I$ $a=-0.10005-1.82899I$ $b=-0.850397-0.092402I$	$2.24619+7.45474I$	0
$u=-0.712997+0.244476I$ $a=\ \ 0.695977-0.637100I$ $b=\ \ 0.908432-0.844981I$	$2.18454-1.39541I$	0
$u=-0.712997-0.244476I$ $a=\ \ 0.695977+0.637100I$ $b=\ \ 0.908432+0.844981I$	$2.18454+1.39541I$	0
$u=\ \ 0.026738+0.749032I$ $a=\ \ 1.73714-0.12287I$ $b=\ \ 0.537774-0.089173I$	$-0.77627-2.15652I$	0
$u=\ \ 0.026738-0.749032I$ $a=\ \ 1.73714+0.12287I$ $b=\ \ 0.537774+0.089173I$	$-0.77627+2.15652I$	0
$u=-1.251690+0.018135I$ $a=\ \ 0.947540-0.308619I$ $b=-1.28552+0.93185I$	$2.56527+6.04434I$	0
$u=-1.251690-0.018135I$ $a=\ \ 0.947540+0.308619I$ $b=-1.28552-0.93185I$	$2.56527-6.04434I$	0
$u=-1.27165$ $a=\ \ 0.974017$ $b=-1.53369$	-1.61073	0
$u=-1.277810+0.176299I$ $a=\ \ 0.860025-0.120417I$ $b=-0.060909-0.274790I$	$2.95543-4.81131I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.277810-0.176299I$ $a=\ \ 0.860025+0.120417I$ $b=-0.060909+0.274790I$	$2.95543+4.81131I$	0
$u=\ \ 0.383418+0.595687I$ $a=\ \ 1.01919+1.97315I$ $b=\ \ 1.26345+0.79706I$	$2.99110+1.22715I$	0
$u=\ \ 0.383418-0.595687I$ $a=\ \ 1.01919-1.97315I$ $b=\ \ 1.26345-0.79706I$	$2.99110-1.22715I$	0
$u=-0.358887+0.592436I$ $a=\ \ 0.79562-2.24481I$ $b=\ \ 1.21593-0.95696I$	$2.65144-6.14201I$	0
$u=-0.358887-0.592436I$ $a=\ \ 0.79562+2.24481I$ $b=\ \ 1.21593+0.95696I$	$2.65144+6.14201I$	0
$u=\ \ 1.317590+0.046842I$ $a=\ \ 0.239324-1.329470I$ $b=\ \ 0.274809-1.056690I$	$0.356643+0.438281I$	0
$u=\ \ 1.317590-0.046842I$ $a=\ \ 0.239324+1.329470I$ $b=\ \ 0.274809+1.056690I$	$0.356643-0.438281I$	0
$u=\ \ 1.316210+0.092721I$ $a=\ \ 0.703686-0.065750I$ $b=-0.577824+0.200718I$	$3.44128+0.54013I$	0
$u=\ \ 1.316210-0.092721I$ $a=\ \ 0.703686+0.065750I$ $b=-0.577824-0.200718I$	$3.44128-0.54013I$	0
$u=\ \ 0.158197+0.659478I$ $a=\ \ 1.284820-0.499093I$ $b=\ \ 0.214700-0.361745I$	$-1.36302+1.81030I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.158197 - 0.659478I$ $a = 1.284820 + 0.499093I$ $b = 0.214700 + 0.361745I$	$-1.36302 - 1.81030I$	0
$u = -1.324880 + 0.039870I$ $a = 0.092450 - 0.828047I$ $b = 0.263353 - 1.356990I$	$3.13305 - 2.51061I$	0
$u = -1.324880 - 0.039870I$ $a = 0.092450 + 0.828047I$ $b = 0.263353 + 1.356990I$	$3.13305 + 2.51061I$	0
$u = 1.346830 + 0.132641I$ $a = -0.097924 + 0.283615I$ $b = -0.64680 + 1.59529I$	$0.00235 + 3.62550I$	0
$u = 1.346830 - 0.132641I$ $a = -0.097924 - 0.283615I$ $b = -0.64680 - 1.59529I$	$0.00235 - 3.62550I$	0
$u = -1.366230 + 0.122055I$ $a = -1.65725 - 0.20424I$ $b = 0.642919 - 0.627803I$	$3.40258 - 9.43112I$	0
$u = -1.366230 - 0.122055I$ $a = -1.65725 + 0.20424I$ $b = 0.642919 + 0.627803I$	$3.40258 + 9.43112I$	0
$u = -1.380940 + 0.066830I$ $a = -1.55526 + 0.69714I$ $b = 0.635219 - 0.068320I$	$0.92344 - 1.84671I$	0
$u = -1.380940 - 0.066830I$ $a = -1.55526 - 0.69714I$ $b = 0.635219 + 0.068320I$	$0.92344 + 1.84671I$	0
$u = -1.380640 + 0.086866I$ $a = -0.278846 - 0.622492I$ $b = 0.01193 - 2.25313I$	$5.07760 - 3.63086I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.380640-0.086866I$ $a=-0.278846+0.622492I$ $b=\ 0.01193+2.25313I$	$5.07760+3.63086I$	0
$u=\ 1.387440+0.099796I$ $a=-0.353573+0.543311I$ $b=-0.28559+2.42402I$	$4.10363+8.97467I$	0
$u=\ 1.387440-0.099796I$ $a=-0.353573-0.543311I$ $b=-0.28559-2.42402I$	$4.10363-8.97467I$	0
$u=\ 0.349062+0.494454I$ $a=\ 1.79417+0.83597I$ $b=\ 1.205760-0.102822I$	$3.16414+2.27061I$	$4.01809-4.02071I$
$u=\ 0.349062-0.494454I$ $a=\ 1.79417-0.83597I$ $b=\ 1.205760+0.102822I$	$3.16414-2.27061I$	$4.01809+4.02071I$
$u=\ 1.401340+0.109685I$ $a=-1.232000+0.031838I$ $b=\ 0.943807+0.474541I$	$5.46591+4.63535I$	0
$u=\ 1.401340-0.109685I$ $a=-1.232000-0.031838I$ $b=\ 0.943807-0.474541I$	$5.46591-4.63535I$	0
$u=\ 1.391600+0.244412I$ $a=\ 0.183397+1.015130I$ $b=\ 1.53413-0.10609I$	$8.18467-0.17211I$	0
$u=\ 1.391600-0.244412I$ $a=\ 0.183397-1.015130I$ $b=\ 1.53413+0.10609I$	$8.18467+0.17211I$	0
$u=-1.42228+0.00767I$ $a=-0.320798+0.819505I$ $b=\ 1.43995+0.85577I$	$7.99617+2.84496I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.42228-0.00767I$ $a=-0.320798-0.819505I$ $b=\ \ 1.43995-0.85577I$	$7.99617-2.84496I$	0
$u=\ \ 1.43384+0.02775I$ $a=-0.405993-0.669689I$ $b=\ \ 1.49554-0.47830I$	$8.32395+2.78861I$	0
$u=\ \ 1.43384-0.02775I$ $a=-0.405993+0.669689I$ $b=\ \ 1.49554+0.47830I$	$8.32395-2.78861I$	0
$u=-1.41977+0.24211I$ $a=\ \ 0.073239-1.074640I$ $b=\ \ 1.65755-0.20478I$	$8.66957-5.16976I$	0
$u=-1.41977-0.24211I$ $a=\ \ 0.073239+1.074640I$ $b=\ \ 1.65755+0.20478I$	$8.66957+5.16976I$	0
$u=\ \ 1.43812+0.17407I$ $a=-0.838696+0.740090I$ $b=\ \ 1.28583+0.95507I$	$5.94443+5.16851I$	0
$u=\ \ 1.43812-0.17407I$ $a=-0.838696-0.740090I$ $b=\ \ 1.28583-0.95507I$	$5.94443-5.16851I$	0
$u=\ \ 1.44168+0.21965I$ $a=-0.66086+1.29649I$ $b=\ \ 1.57551+1.23441I$	$8.45181+9.12090I$	0
$u=\ \ 1.44168-0.21965I$ $a=-0.66086-1.29649I$ $b=\ \ 1.57551-1.23441I$	$8.45181-9.12090I$	0
$u=-1.44933+0.22158I$ $a=-0.487413-1.286080I$ $b=\ \ 1.68724-1.11854I$	$8.89547-4.23059I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.44933-0.22158I$ $a=-0.487413+1.286080I$ $b=\ \ 1.68724+1.11854I$	$8.89547+4.23059I$	0
$u=-0.533510$ $a=\ \ 2.33177$ $b=-0.436133$	-2.85776	6.75220
$u=-0.325488+0.391392I$ $a=\ \ 1.98386-0.72191I$ $b=\ \ 1.158970+0.349891I$	$3.01433+2.87174I$	$3.55427-2.46583I$
$u=-0.325488-0.391392I$ $a=\ \ 1.98386+0.72191I$ $b=\ \ 1.158970-0.349891I$	$3.01433-2.87174I$	$3.55427+2.46583I$
$u=-0.289257+0.416032I$ $a=-0.75694-1.77359I$ $b=\ \ 0.761542-0.902459I$	$0.26656-2.87950I$	$-6.70559+5.60000I$
$u=-0.289257-0.416032I$ $a=-0.75694+1.77359I$ $b=\ \ 0.761542+0.902459I$	$0.26656+2.87950I$	$-6.70559-5.60000I$
$u=-1.49464+0.23285I$ $a=-0.246812-0.881273I$ $b=\ \ 1.37737-0.89989I$	$6.87883-5.51549I$	0
$u=-1.49464-0.23285I$ $a=-0.246812+0.881273I$ $b=\ \ 1.37737+0.89989I$	$6.87883+5.51549I$	0
$u=\ \ 1.47664+0.34374I$ $a=-0.068664+0.763053I$ $b=\ \ 0.862487+0.538216I$	$3.19164+4.21071I$	0
$u=\ \ 1.47664-0.34374I$ $a=-0.068664-0.763053I$ $b=\ \ 0.862487-0.538216I$	$3.19164-4.21071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.128408+0.465642I$ $a=-0.20469-1.52269I$ $b=-0.810179-0.909025I$	$-4.63023-1.49733I$	$-13.3947+4.9805I$
$u=-0.128408-0.465642I$ $a=-0.20469+1.52269I$ $b=-0.810179+0.909025I$	$-4.63023+1.49733I$	$-13.3947-4.9805I$
$u=1.50790+0.16860I$ $a=0.410811-1.257570I$ $b=-0.827171-0.556892I$	$9.06057+9.85279I$	0
$u=1.50790-0.16860I$ $a=0.410811+1.257570I$ $b=-0.827171+0.556892I$	$9.06057-9.85279I$	0
$u=0.109365+0.457330I$ $a=-1.50065+3.18021I$ $b=0.397005+1.040360I$	$-1.29083+7.43577I$	$-8.63012-9.65322I$
$u=0.109365-0.457330I$ $a=-1.50065-3.18021I$ $b=0.397005-1.040360I$	$-1.29083-7.43577I$	$-8.63012+9.65322I$
$u=1.52545+0.12979I$ $a=-0.166772+0.433217I$ $b=1.77897+0.91016I$	$9.38535+3.05395I$	0
$u=1.52545-0.12979I$ $a=-0.166772-0.433217I$ $b=1.77897-0.91016I$	$9.38535-3.05395I$	0
$u=-1.52833+0.16659I$ $a=0.350778+1.088610I$ $b=-0.884289+0.462831I$	$11.13110-3.86984I$	0
$u=-1.52833-0.16659I$ $a=0.350778-1.088610I$ $b=-0.884289-0.462831I$	$11.13110+3.86984I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.231250+0.397713I$ $a=-1.24199-1.97974I$ $b=\ \ 0.665345-0.896355I$	$0.25198-2.88385I$	$-5.51656+5.49434I$
$u=-0.231250-0.397713I$ $a=-1.24199+1.97974I$ $b=\ \ 0.665345+0.896355I$	$0.25198+2.88385I$	$-5.51656-5.49434I$
$u=\ \ 1.51223+0.30225I$ $a=\ \ 0.466834-0.929279I$ $b=-1.30353-0.78911I$	$2.51792+11.46210I$	0
$u=\ \ 1.51223-0.30225I$ $a=\ \ 0.466834+0.929279I$ $b=-1.30353+0.78911I$	$2.51792-11.46210I$	0
$u=-1.51304+0.30521I$ $a=\ \ 0.344809+1.061220I$ $b=-1.56695+0.87945I$	$9.6789-13.4051I$	0
$u=-1.51304-0.30521I$ $a=\ \ 0.344809-1.061220I$ $b=-1.56695-0.87945I$	$9.6789+13.4051I$	0
$u=\ \ 1.51351+0.30628I$ $a=\ \ 0.379247-1.117870I$ $b=-1.55929-0.98372I$	$7.9755+19.4268I$	0
$u=\ \ 1.51351-0.30628I$ $a=\ \ 0.379247+1.117870I$ $b=-1.55929+0.98372I$	$7.9755-19.4268I$	0
$u=-0.023845+0.452101I$ $a=\ \ 1.156290+0.759567I$ $b=\ \ 0.036750+0.559764I$	$-0.635616+1.087530I$	$-3.94776-5.35435I$
$u=-0.023845-0.452101I$ $a=\ \ 1.156290-0.759567I$ $b=\ \ 0.036750-0.559764I$	$-0.635616-1.087530I$	$-3.94776+5.35435I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.54041+0.14921I$ $a=-0.130031-0.567698I$ $b=\ \ 1.72265-1.06462I$	$9.22190-8.09553I$	0
$u=-1.54041-0.14921I$ $a=-0.130031+0.567698I$ $b=\ \ 1.72265+1.06462I$	$9.22190+8.09553I$	0
$u=-1.51948+0.31449I$ $a=\ \ 0.298065+0.765752I$ $b=-1.39453+0.44248I$	$8.71922-8.13066I$	0
$u=-1.51948-0.31449I$ $a=\ \ 0.298065-0.765752I$ $b=-1.39453-0.44248I$	$8.71922+8.13066I$	0
$u=\ \ 1.54884+0.14411I$ $a=\ \ 0.468054-0.626055I$ $b=-0.832687-0.264002I$	$4.83591+0.87026I$	0
$u=\ \ 1.54884-0.14411I$ $a=\ \ 0.468054+0.626055I$ $b=-0.832687+0.264002I$	$4.83591-0.87026I$	0
$u=-1.53578+0.25373I$ $a=-0.193599-0.827712I$ $b=\ \ 1.17843-1.03007I$	$7.05732-5.53568I$	0
$u=-1.53578-0.25373I$ $a=-0.193599+0.827712I$ $b=\ \ 1.17843+1.03007I$	$7.05732+5.53568I$	0
$u=-1.57780+0.16380I$ $a=\ \ 0.052763+0.740268I$ $b=-1.020950+0.252354I$	$11.81140+0.81060I$	0
$u=-1.57780-0.16380I$ $a=\ \ 0.052763-0.740268I$ $b=-1.020950-0.252354I$	$11.81140-0.81060I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.56012 + 0.29113I$ $a = -0.200976 + 0.805479I$ $b = 0.917171 + 1.054230I$	$5.81920 + 10.18580I$	0
$u = 1.56012 - 0.29113I$ $a = -0.200976 - 0.805479I$ $b = 0.917171 - 1.054230I$	$5.81920 - 10.18580I$	0
$u = 1.59501 + 0.15988I$ $a = -0.032210 - 0.648807I$ $b = -1.042720 - 0.186279I$	$10.16760 - 6.65989I$	0
$u = 1.59501 - 0.15988I$ $a = -0.032210 + 0.648807I$ $b = -1.042720 + 0.186279I$	$10.16760 + 6.65989I$	0
$u = 1.56990 + 0.39862I$ $a = 0.245656 - 0.490032I$ $b = -1.184710 - 0.105747I$	$5.93236 + 1.49216I$	0
$u = 1.56990 - 0.39862I$ $a = 0.245656 + 0.490032I$ $b = -1.184710 + 0.105747I$	$5.93236 - 1.49216I$	0
$u = -0.112253 + 0.360658I$ $a = 0.44017 - 2.82581I$ $b = -0.51459 - 1.61779I$	$-0.77237 - 7.39066I$	$-10.9087 + 10.0706I$
$u = -0.112253 - 0.360658I$ $a = 0.44017 + 2.82581I$ $b = -0.51459 + 1.61779I$	$-0.77237 + 7.39066I$	$-10.9087 - 10.0706I$
$u = 0.073808 + 0.368283I$ $a = 0.99790 + 2.40982I$ $b = -0.21298 + 1.43466I$	$0.36557 + 2.14878I$	$-7.49982 - 3.52573I$
$u = 0.073808 - 0.368283I$ $a = 0.99790 - 2.40982I$ $b = -0.21298 - 1.43466I$	$0.36557 - 2.14878I$	$-7.49982 + 3.52573I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.021455 + 0.280287I$ $a = -4.13861 + 3.95494I$ $b = 0.274660 + 0.553015I$	$-3.71476 + 0.73551I$	$-15.9361 - 9.3145I$
$u = 0.021455 - 0.280287I$ $a = -4.13861 - 3.95494I$ $b = 0.274660 - 0.553015I$	$-3.71476 - 0.73551I$	$-15.9361 + 9.3145I$
$u = -0.0502015 + 0.0929244I$ $a = 8.60742 - 4.06389I$ $b = 1.280440 + 0.207870I$	$2.95961 + 2.70177I$	$5.84628 - 2.47923I$
$u = -0.0502015 - 0.0929244I$ $a = 8.60742 + 4.06389I$ $b = 1.280440 - 0.207870I$	$2.95961 - 2.70177I$	$5.84628 + 2.47923I$

II. $I_2^u = \langle -20959u^{29} - 11090u^{28} + \cdots + 149b + 20698,\ -3u^{29} + u^{28} + \cdots + a + 11,\ u^{30} - u^{29} + \cdots - 4u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} 3u^{29} - u^{28} + \cdots + 10u - 11 \\ 140.664u^{29} + 74.4295u^{28} + \cdots + 459.054u - 138.913 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 4u^{29} + 7u^{28} + \cdots + 6u + 10 \\ 225.584u^{29} + 25.8926u^{28} + \cdots + 457.987u - 147.772 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -187.732u^{29} - 68.5436u^{28} + \cdots - 534.443u + 169.530 \\ 81.0067u^{29} - 3.28859u^{28} + \cdots + 129.839u - 49.2617 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -137.664u^{29} - 75.4295u^{28} + \cdots - 449.054u + 127.913 \\ 140.664u^{29} + 74.4295u^{28} + \cdots + 459.054u - 138.913 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -7.73826u^{29} - 9.25503u^{28} + \cdots - 9.28188u + 9.79195 \\ -81.4430u^{29} + 1.04698u^{28} + \cdots - 156.369u + 55.2752 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -57.2685u^{29} - 28.4564u^{28} + \cdots - 178.557u + 47.4698 \\ 90.5638u^{29} + 44.7584u^{28} + \cdots + 300.470u - 92.9866 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 190.893u^{29} + 80.6174u^{28} + \cdots + 517.577u - 156.812 \\ 6.97987u^{29} + 26.8658u^{28} + \cdots + 81.4832u - 24.2148 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{125590}{149}u^{29} - \frac{43196}{149}u^{28} + \cdots - \frac{358604}{149}u + \frac{112726}{149}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 15u^{29} + \cdots - 11u + 1$
c_2	$u^{30} + u^{29} + \cdots + 3u + 1$
c_3	$u^{30} + u^{29} + \cdots + u + 1$
c_4	$u^{30} + u^{29} + \cdots + 4u + 1$
c_5	$u^{30} - 4u^{29} + \cdots - 4u + 1$
c_6	$u^{30} - u^{29} + \cdots - 3u + 1$
c_7	$u^{30} - 15u^{29} + \cdots - 3u + 1$
c_8	$u^{30} + 15u^{29} + \cdots + 17u + 1$
c_9	$u^{30} + 4u^{29} + \cdots + 3u + 1$
c_{10}	$u^{30} - 4u^{29} + \cdots - 4u + 1$
c_{11}, c_{12}	$u^{30} - u^{29} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 13y^{29} + \cdots + 5y + 1$
c_2, c_6	$y^{30} - 15y^{29} + \cdots - 11y + 1$
c_3	$y^{30} - 3y^{29} + \cdots + 7y + 1$
c_4, c_{11}, c_{12}	$y^{30} - 31y^{29} + \cdots - 26y + 1$
c_5	$y^{30} + 8y^{29} + \cdots + 26y^2 + 1$
c_7	$y^{30} + 7y^{29} + \cdots - 11y + 1$
c_8	$y^{30} + 7y^{29} + \cdots + 3y + 1$
c_9	$y^{30} + 12y^{29} + \cdots + 17y + 1$
c_{10}	$y^{30} + 26y^{28} + \cdots + 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.327349 + 0.893526I$ $a = 0.598882 + 0.395257I$ $b = 0.327878 + 0.011372I$	$-2.70069 - 0.81328I$	$-7.40030 + 8.91898I$
$u = 0.327349 - 0.893526I$ $a = 0.598882 - 0.395257I$ $b = 0.327878 - 0.011372I$	$-2.70069 + 0.81328I$	$-7.40030 - 8.91898I$
$u = -0.801518 + 0.216726I$ $a = -0.290976 - 0.448473I$ $b = 0.436718 - 0.764145I$	$1.33449 - 2.54062I$	$1.03057 + 4.88703I$
$u = -0.801518 - 0.216726I$ $a = -0.290976 + 0.448473I$ $b = 0.436718 + 0.764145I$	$1.33449 + 2.54062I$	$1.03057 - 4.88703I$
$u = 0.958078 + 0.729315I$ $a = 0.085231 + 0.485726I$ $b = 0.355354 + 0.414395I$	$-0.94944 + 6.72558I$	$0. - 20.6147I$
$u = 0.958078 - 0.729315I$ $a = 0.085231 - 0.485726I$ $b = 0.355354 - 0.414395I$	$-0.94944 - 6.72558I$	$0. + 20.6147I$
$u = -0.312463 + 0.690769I$ $a = 0.777797 - 0.690194I$ $b = 1.185260 - 0.400087I$	$1.88491 - 3.46509I$	$-2.14376 + 6.83813I$
$u = -0.312463 - 0.690769I$ $a = 0.777797 + 0.690194I$ $b = 1.185260 + 0.400087I$	$1.88491 + 3.46509I$	$-2.14376 - 6.83813I$
$u = -1.255070 + 0.002063I$ $a = 0.859450 - 0.015388I$ $b = -0.08966 - 1.50947I$	$3.98721 - 1.94951I$	$3.21657 + 3.19754I$
$u = -1.255070 - 0.002063I$ $a = 0.859450 + 0.015388I$ $b = -0.08966 + 1.50947I$	$3.98721 + 1.94951I$	$3.21657 - 3.19754I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.254710+0.182258I$ $a=\ \ 0.248425-0.633247I$ $b=\ \ 0.125104-0.798236I$	$1.83156-2.87020I$	0
$u=-1.254710-0.182258I$ $a=\ \ 0.248425+0.633247I$ $b=\ \ 0.125104+0.798236I$	$1.83156+2.87020I$	0
$u=\ \ 1.280780+0.004774I$ $a=\ \ 1.083980+0.049501I$ $b=-0.46316+1.50919I$	$3.04881+7.06770I$	$0.-8.76611I$
$u=\ \ 1.280780-0.004774I$ $a=\ \ 1.083980-0.049501I$ $b=-0.46316-1.50919I$	$3.04881-7.06770I$	$0.+8.76611I$
$u=\ \ 1.317370+0.055154I$ $a=\ \ 1.156380+0.807658I$ $b=-0.312580+0.738819I$	$0.174176+1.325610I$	0
$u=\ \ 1.317370-0.055154I$ $a=\ \ 1.156380-0.807658I$ $b=-0.312580-0.738819I$	$0.174176-1.325610I$	0
$u=-0.464193+0.262049I$ $a=-0.64391-1.54143I$ $b=\ \ 0.565220-1.120930I$	$1.25835-2.38271I$	$2.45793+5.11355I$
$u=-0.464193-0.262049I$ $a=-0.64391+1.54143I$ $b=\ \ 0.565220+1.120930I$	$1.25835+2.38271I$	$2.45793-5.11355I$
$u=\ \ 1.46139+0.21985I$ $a=-0.322648+0.831374I$ $b=\ \ 1.67410+0.66657I$	$7.76094+6.57222I$	0
$u=\ \ 1.46139-0.21985I$ $a=-0.322648-0.831374I$ $b=\ \ 1.67410-0.66657I$	$7.76094-6.57222I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.48350 + 0.18552I$ $a = -0.468341 + 0.887423I$ $b = 1.35769 + 1.27889I$	$7.71494 + 4.54423I$	0
$u = 1.48350 - 0.18552I$ $a = -0.468341 - 0.887423I$ $b = 1.35769 - 1.27889I$	$7.71494 - 4.54423I$	0
$u = -1.49732 + 0.18467I$ $a = -0.510856 - 0.845568I$ $b = 0.95474 - 1.23796I$	$6.71438 - 9.10022I$	0
$u = -1.49732 - 0.18467I$ $a = -0.510856 + 0.845568I$ $b = 0.95474 + 1.23796I$	$6.71438 + 9.10022I$	0
$u = 0.413515 + 0.116671I$ $a = -2.03843 + 1.42982I$ $b = 0.058338 + 1.172860I$	$-0.04836 + 7.25262I$	$0.71388 - 8.17902I$
$u = 0.413515 - 0.116671I$ $a = -2.03843 - 1.42982I$ $b = 0.058338 - 1.172860I$	$-0.04836 - 7.25262I$	$0.71388 + 8.17902I$
$u = 0.378726 + 0.201122I$ $a = -1.26094 + 2.27371I$ $b = 0.114119 - 0.328078I$	$-3.31479 - 0.51345I$	$-1.99868 + 1.47801I$
$u = 0.378726 - 0.201122I$ $a = -1.26094 - 2.27371I$ $b = 0.114119 + 0.328078I$	$-3.31479 + 0.51345I$	$-1.99868 - 1.47801I$
$u = -1.53543 + 0.35505I$ $a = -0.274047 - 0.527185I$ $b = 1.210880 - 0.133092I$	$5.84712 - 1.43785I$	0
$u = -1.53543 - 0.35505I$ $a = -0.274047 + 0.527185I$ $b = 1.210880 + 0.133092I$	$5.84712 + 1.43785I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-15u^{29}+\cdots-11u+1)(u^{144}+58u^{143}+\cdots+11398u+361)$
c_2	$(u^{30}+u^{29}+\cdots+3u+1)(u^{144}-2u^{143}+\cdots+32u+19)$
c_3	$(u^{30}+u^{29}+\cdots+u+1)$ $\cdot(u^{144}-2u^{143}+\cdots-340955512u+126824923)$
c_4	$(u^{30}+u^{29}+\cdots+4u+1)(u^{144}-4u^{143}+\cdots+15u+1)$
c_5	$(u^{30}-4u^{29}+\cdots-4u+1)(u^{144}+15u^{143}+\cdots+45u-1)$
c_6	$(u^{30}-u^{29}+\cdots-3u+1)(u^{144}-2u^{143}+\cdots+32u+19)$
c_7	$(u^{30}-15u^{29}+\cdots-3u+1)(u^{144}+2u^{143}+\cdots-74u+7)$
c_8	$(u^{30}+15u^{29}+\cdots+17u+1)(u^{144}-14u^{143}+\cdots-235130u+65317)$
c_9	$(u^{30}+4u^{29}+\cdots+3u+1)(u^{144}-u^{143}+\cdots-2778440u+233557)$
c_{10}	$(u^{30}-4u^{29}+\cdots-4u+1)(u^{144}+5u^{143}+\cdots-140899u+14783)$
c_{11}, c_{12}	$(u^{30}-u^{29}+\cdots-4u+1)(u^{144}-4u^{143}+\cdots+15u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}+13y^{29}+\cdots+5y+1)$ $\cdot(y^{144}+70y^{143}+\cdots+11864014y+130321)$
c_2, c_6	$(y^{30}-15y^{29}+\cdots-11y+1)(y^{144}-58y^{143}+\cdots-11398y+361)$
c_3	$(y^{30}-3y^{29}+\cdots+7y+1)$ $\cdot(y^{144}+50y^{143}+\cdots+92816531194948767 2y+16084561093955929)$
c_4, c_{11}, c_{12}	$(y^{30}-31y^{29}+\cdots-26y+1)(y^{144}-142y^{143}+\cdots+159y+1)$
c_5	$(y^{30}+8y^{29}+\cdots+26y^2+1)(y^{144}+5y^{143}+\cdots-3139y+1)$
c_7	$(y^{30}+7y^{29}+\cdots-11y+1)(y^{144}+12y^{143}+\cdots+1734y+49)$
c_8	$(y^{30}+7y^{29}+\cdots+3y+1)$ $\cdot(y^{144}-44y^{143}+\cdots+923597554320y+4266310489)$
c_9	$(y^{30}+12y^{29}+\cdots+17y+1)$ $\cdot(y^{144}+29y^{143}+\cdots+159556190882y+54548872249)$
c_{10}	$(y^{30}+26y^{28}+\cdots+8y+1)$ $\cdot(y^{144}+25y^{143}+\cdots+5445649265y+218537089)$