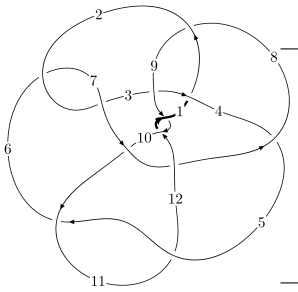
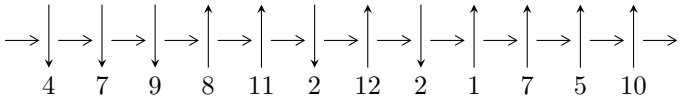
$12n_{0763}$ $(K12n_{0763})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3.59010 \times 10^{543} u^{113} - 8.27251 \times 10^{543} u^{112} + \cdots + 3.57252 \times 10^{542} b - 1.07356 \times 10^{547},$$
$$- 8.06333 \times 10^{546} u^{113} - 1.86629 \times 10^{547} u^{112} + \cdots + 7.43442 \times 10^{545} a - 2.44436 \times 10^{550},$$
$$u^{114} + 3u^{113} + \cdots + 2274u + 2081 \rangle$$
$$I_2^u = \langle -4.10551 \times 10^{56} u^{39} + 4.77048 \times 10^{57} u^{38} + \cdots + 1.95140 \times 10^{54} b + 9.86101 \times 10^{56},$$
$$1.94943 \times 10^{56} u^{39} - 2.22118 \times 10^{57} u^{38} + \cdots + 1.95140 \times 10^{54} a - 2.61580 \times 10^{56},\ u^{40} - 12u^{39} + \cdots - 13u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 154 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. $\boldsymbol{I_1^u = \langle -3.59 \times 10^{543} u^{113} - 8.27 \times 10^{543} u^{112} + \cdots + 3.57 \times 10^{542} b - 1.07 \times 10^{547},\ -8.06 \times 10^{546} u^{113} - 1.87 \times 10^{547} u^{112} + \cdots + 7.43 \times 10^{545} a - 2.44 \times 10^{550},\ u^{114} + 3u^{113} + \cdots + 2274u + 2081 \rangle}$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} 10.8459u^{113} + 25.1033u^{112} + \cdots - 11515.0u + 32879.0 \\ 10.0492u^{113} + 23.1559u^{112} + \cdots - 10227.3u + 30050.4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 20.8951u^{113} + 48.2593u^{112} + \cdots - 21742.3u + 62929.3 \\ 10.0492u^{113} + 23.1559u^{112} + \cdots - 10227.3u + 30050.4 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 8.27906u^{113} + 18.6578u^{112} + \cdots - 5511.22u + 22301.8 \\ 1.74357u^{113} + 3.90062u^{112} + \cdots - 1096.27u + 4622.46 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 15.8478u^{113} + 36.5289u^{112} + \cdots - 16078.0u + 47458.1 \\ 12.6154u^{113} + 29.0145u^{112} + \cdots - 12495.6u + 37500.0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.97516u^{113} + 4.35136u^{112} + \cdots - 598.296u + 4503.78 \\ -2.04245u^{113} - 4.70649u^{112} + \cdots + 2303.73u - 6285.34 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.754139u^{113} - 1.46500u^{112} + \cdots - 1218.31u - 1437.16 \\ 1.46713u^{113} + 3.45524u^{112} + \cdots - 2212.82u + 4710.28 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2.40049u^{113} - 5.98805u^{112} + \cdots + 5272.15u - 8510.38 \\ 1.09194u^{113} + 2.32750u^{112} + \cdots + 159.454u + 2526.66 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.774473u^{113} - 2.15650u^{112} + \cdots + 3195.50u - 3458.59 \\ 1.76349u^{113} + 3.93022u^{112} + \cdots - 844.537u + 4704.44 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 13.2757u^{113} + 30.6061u^{112} + \cdots - 13426.7u + 39886.1 \\ 7.22451u^{113} + 16.5415u^{112} + \cdots - 6672.28u + 21112.1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -27.2813u^{113} - 61.6278u^{112} + \cdots + 18528.3u - 75934.0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{114} - 3u^{113} + \cdots - 2274u + 2081$
c_2, c_6	$u^{114} + 31u^{112} + \cdots - 8992u + 727$
c_3	$u^{114} - u^{113} + \cdots + 7575u + 971$
c_4	$u^{114} - 3u^{113} + \cdots + 677580u + 100759$
c_5, c_{11}	$u^{114} + u^{113} + \cdots - 32148u + 2295$
c_7	$u^{114} + 2u^{113} + \cdots + 32727u + 2699$
c_8	$u^{114} + u^{113} + \cdots - 789311u + 110833$
c_9, c_{12}	$u^{114} + 5u^{113} + \cdots + 925855u + 133141$
c_{10}	$u^{114} + 2u^{113} + \cdots - 346643u + 24343$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{114} - 45y^{113} + \cdots - 156805222y + 4330561$
c_2, c_6	$y^{114} + 62y^{113} + \cdots + 1324016y + 528529$
c_3	$y^{114} - 19y^{113} + \cdots + 62600019y + 942841$
c_4	$y^{114} + 9y^{113} + \cdots + 511689441808y + 10152376081$
c_5, c_{11}	$y^{114} + 69y^{113} + \cdots - 334253304y + 5267025$
c_7	$y^{114} + 56y^{113} + \cdots + 301217633y + 7284601$
c_8	$y^{114} + 9y^{113} + \cdots + 275716760661y + 12283953889$
c_9, c_{12}	$y^{114} + 81y^{113} + \cdots + 550591102597y + 17726525881$
c_{10}	$y^{114} + 26y^{113} + \cdots - 56765332723y + 592581649$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.851994+0.504017I$ $a=-1.116210+0.442124I$ $b=\ \ 1.023420-0.292356I$	$2.97109+4.63822I$	0
$u=-0.851994-0.504017I$ $a=-1.116210-0.442124I$ $b=\ \ 1.023420+0.292356I$	$2.97109-4.63822I$	0
$u=\ \ 0.845009+0.555915I$ $a=\ \ 1.61592-0.39524I$ $b=\ \ 0.135190+0.811390I$	$-0.707674-0.324986I$	0
$u=\ \ 0.845009-0.555915I$ $a=\ \ 1.61592+0.39524I$ $b=\ \ 0.135190-0.811390I$	$-0.707674+0.324986I$	0
$u=\ \ 0.686101+0.703250I$ $a=-0.99168+1.43135I$ $b=-0.236260-0.560884I$	$-1.24550-5.40870I$	0
$u=\ \ 0.686101-0.703250I$ $a=-0.99168-1.43135I$ $b=-0.236260+0.560884I$	$-1.24550+5.40870I$	0
$u=\ \ 0.954109+0.193392I$ $a=\ \ 1.347910-0.160318I$ $b=-0.76852+1.32150I$	$-4.58285-8.24512I$	0
$u=\ \ 0.954109-0.193392I$ $a=\ \ 1.347910+0.160318I$ $b=-0.76852-1.32150I$	$-4.58285+8.24512I$	0
$u=\ \ 0.062925+0.969586I$ $a=\ \ 0.607613-0.122925I$ $b=-0.457266-0.769234I$	$-2.51153+3.39313I$	0
$u=\ \ 0.062925-0.969586I$ $a=\ \ 0.607613+0.122925I$ $b=-0.457266+0.769234I$	$-2.51153-3.39313I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.650000+0.817817I$ $a=\ \ 0.018921+0.762542I$ $b=\ \ 0.355619-1.093280I$	$0.97619-4.48047I$	0
$u=-0.650000-0.817817I$ $a=\ \ 0.018921-0.762542I$ $b=\ \ 0.355619+1.093280I$	$0.97619+4.48047I$	0
$u=\ \ 0.830348+0.471871I$ $a=\ \ 1.090420-0.323446I$ $b=-1.144080+0.552948I$	$-2.07241+1.05209I$	0
$u=\ \ 0.830348-0.471871I$ $a=\ \ 1.090420+0.323446I$ $b=-1.144080-0.552948I$	$-2.07241-1.05209I$	0
$u=\ \ 0.874285+0.599901I$ $a=\ \ 1.025960+0.854483I$ $b=-0.124087+1.281480I$	$-6.79033-2.25683I$	0
$u=\ \ 0.874285-0.599901I$ $a=\ \ 1.025960-0.854483I$ $b=-0.124087-1.281480I$	$-6.79033+2.25683I$	0
$u=\ \ 0.605140+0.898454I$ $a=\ \ 0.783412+0.027219I$ $b=-0.523509+0.449968I$	$-1.66461-0.52335I$	0
$u=\ \ 0.605140-0.898454I$ $a=\ \ 0.783412-0.027219I$ $b=-0.523509-0.449968I$	$-1.66461+0.52335I$	0
$u=-0.804394+0.730472I$ $a=\ \ 1.004850-0.401851I$ $b=-0.772496+0.481845I$	$4.39806+1.29863I$	0
$u=-0.804394-0.730472I$ $a=\ \ 1.004850+0.401851I$ $b=-0.772496-0.481845I$	$4.39806-1.29863I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.881876+0.232164I$ $a=\ \ 1.82621+0.27664I$ $b=-0.408434-1.014710I$	$-9.56989+1.70883I$	0
$u=-0.881876-0.232164I$ $a=\ \ 1.82621-0.27664I$ $b=-0.408434+1.014710I$	$-9.56989-1.70883I$	0
$u=-0.555970+0.718502I$ $a=\ \ 1.69591-0.23484I$ $b=-0.561858-0.042991I$	$4.64834+3.47610I$	0
$u=-0.555970-0.718502I$ $a=\ \ 1.69591+0.23484I$ $b=-0.561858+0.042991I$	$4.64834-3.47610I$	0
$u=\ \ 0.814307+0.742788I$ $a=-1.192640+0.293662I$ $b=\ \ 0.594065-0.885387I$	$-0.65946-4.33596I$	0
$u=\ \ 0.814307-0.742788I$ $a=-1.192640-0.293662I$ $b=\ \ 0.594065+0.885387I$	$-0.65946+4.33596I$	0
$u=-0.552983+0.704808I$ $a=-2.25277-0.05257I$ $b=\ \ 0.356913+1.299850I$	$0.03202+3.45021I$	0
$u=-0.552983-0.704808I$ $a=-2.25277+0.05257I$ $b=\ \ 0.356913-1.299850I$	$0.03202-3.45021I$	0
$u=\ \ 0.732040+0.480323I$ $a=\ \ 0.901573-0.238380I$ $b=-0.181207+0.465934I$	$-1.35935-0.64842I$	0
$u=\ \ 0.732040-0.480323I$ $a=\ \ 0.901573+0.238380I$ $b=-0.181207-0.465934I$	$-1.35935+0.64842I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.633869 + 0.580808I$ $a = -1.48982 + 0.59117I$ $b = 0.559874 - 1.179820I$	$-1.07085 - 4.48507I$	0
$u = 0.633869 - 0.580808I$ $a = -1.48982 - 0.59117I$ $b = 0.559874 + 1.179820I$	$-1.07085 + 4.48507I$	0
$u = 0.680786 + 0.918688I$ $a = -0.781507 + 0.341837I$ $b = 1.05356 - 1.19760I$	$0.75649 - 4.61916I$	0
$u = 0.680786 - 0.918688I$ $a = -0.781507 - 0.341837I$ $b = 1.05356 + 1.19760I$	$0.75649 + 4.61916I$	0
$u = -0.799529 + 0.881465I$ $a = 0.298072 - 0.355219I$ $b = -0.365456 + 0.864107I$	$2.87362 + 0.48507I$	0
$u = -0.799529 - 0.881465I$ $a = 0.298072 + 0.355219I$ $b = -0.365456 - 0.864107I$	$2.87362 - 0.48507I$	0
$u = -0.835827 + 0.856527I$ $a = -0.814840 + 0.295511I$ $b = 1.41261 - 0.08915I$	$4.67756 + 4.79347I$	0
$u = -0.835827 - 0.856527I$ $a = -0.814840 - 0.295511I$ $b = 1.41261 + 0.08915I$	$4.67756 - 4.79347I$	0
$u = -0.549499 + 0.577126I$ $a = 0.497295 - 0.143096I$ $b = -1.174470 + 0.344613I$	$-3.34286 - 0.61178I$	0
$u = -0.549499 - 0.577126I$ $a = 0.497295 + 0.143096I$ $b = -1.174470 - 0.344613I$	$-3.34286 + 0.61178I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.426395+0.668131I$ $a=-1.57885+0.75109I$ $b=\ \ 0.770846+0.036048I$	$4.19234-0.66025I$	0
$u=-0.426395-0.668131I$ $a=-1.57885-0.75109I$ $b=\ \ 0.770846-0.036048I$	$4.19234+0.66025I$	0
$u=-0.773797+0.117900I$ $a=\ \ 0.413312-1.267150I$ $b=-0.20900-1.53489I$	$-10.59860+5.39876I$	0
$u=-0.773797-0.117900I$ $a=\ \ 0.413312+1.267150I$ $b=-0.20900+1.53489I$	$-10.59860-5.39876I$	0
$u=\ \ 1.191510+0.309364I$ $a=-0.940437-0.130867I$ $b=\ \ 0.038517-0.978434I$	$-8.04970-0.15755I$	0
$u=\ \ 1.191510-0.309364I$ $a=-0.940437+0.130867I$ $b=\ \ 0.038517+0.978434I$	$-8.04970+0.15755I$	0
$u=-1.198750+0.296502I$ $a=\ \ 0.67081-1.27885I$ $b=-0.108857-0.790326I$	$3.74798+3.02797I$	0
$u=-1.198750-0.296502I$ $a=\ \ 0.67081+1.27885I$ $b=-0.108857+0.790326I$	$3.74798-3.02797I$	0
$u=-0.893846+0.856961I$ $a=\ \ 0.577707-0.885988I$ $b=-0.789125-0.307620I$	$1.85532-5.76158I$	0
$u=-0.893846-0.856961I$ $a=\ \ 0.577707+0.885988I$ $b=-0.789125+0.307620I$	$1.85532+5.76158I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.945663+0.813917I$ $a=\ \ 0.977446-0.228322I$ $b=-1.326200-0.014852I$	$1.63745+11.99730I$	0
$u=-0.945663-0.813917I$ $a=\ \ 0.977446+0.228322I$ $b=-1.326200+0.014852I$	$1.63745-11.99730I$	0
$u=-0.749415+0.034593I$ $a=-0.39589-2.91919I$ $b=-0.04248-1.41497I$	$-4.22141-3.19068I$	0
$u=-0.749415-0.034593I$ $a=-0.39589+2.91919I$ $b=-0.04248+1.41497I$	$-4.22141+3.19068I$	0
$u=-1.022960+0.742897I$ $a=-1.44413+0.06721I$ $b=\ \ 0.565108+1.243700I$	$-0.09060+10.32880I$	0
$u=-1.022960-0.742897I$ $a=-1.44413-0.06721I$ $b=\ \ 0.565108-1.243700I$	$-0.09060-10.32880I$	0
$u=-0.603626+1.114650I$ $a=\ \ 1.42649+0.65030I$ $b=-0.299112-1.290190I$	$0.52527+6.81095I$	0
$u=-0.603626-1.114650I$ $a=\ \ 1.42649-0.65030I$ $b=-0.299112+1.290190I$	$0.52527-6.81095I$	0
$u=\ \ 0.698395+0.206123I$ $a=\ \ 2.78597+0.02436I$ $b=\ \ 0.182028+1.008330I$	$-1.43242+1.82610I$	0
$u=\ \ 0.698395-0.206123I$ $a=\ \ 2.78597-0.02436I$ $b=\ \ 0.182028-1.008330I$	$-1.43242-1.82610I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.006890 + 0.787806I$ $a = 0.653808 + 0.227823I$ $b = -0.739466 - 0.116270I$	$-2.66998 - 5.67068I$	0
$u = 1.006890 - 0.787806I$ $a = 0.653808 - 0.227823I$ $b = -0.739466 + 0.116270I$	$-2.66998 + 5.67068I$	0
$u = 1.165500 + 0.547377I$ $a = -0.229038 - 0.291769I$ $b = -0.006873 - 1.328220I$	$-7.45621 - 3.48307I$	0
$u = 1.165500 - 0.547377I$ $a = -0.229038 + 0.291769I$ $b = -0.006873 + 1.328220I$	$-7.45621 + 3.48307I$	0
$u = -0.984604 + 0.835022I$ $a = 1.42040 - 0.11434I$ $b = -0.457453 - 1.120430I$	$2.34033 + 5.86991I$	0
$u = -0.984604 - 0.835022I$ $a = 1.42040 + 0.11434I$ $b = -0.457453 + 1.120430I$	$2.34033 - 5.86991I$	0
$u = -0.438413 + 1.220390I$ $a = -0.334115 + 0.378012I$ $b = 0.693527 - 1.042910I$	$2.94904 - 4.52164I$	0
$u = -0.438413 - 1.220390I$ $a = -0.334115 - 0.378012I$ $b = 0.693527 + 1.042910I$	$2.94904 + 4.52164I$	0
$u = -0.702841 + 0.016621I$ $a = 0.08703 + 1.42314I$ $b = 0.090578 + 1.409070I$	$-4.29084 + 2.06705I$	0
$u = -0.702841 - 0.016621I$ $a = 0.08703 - 1.42314I$ $b = 0.090578 - 1.409070I$	$-4.29084 - 2.06705I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.655407+0.243830I$ $a=-3.48658-0.47355I$ $b=\ \ 0.070042+1.003510I$	$-8.64108+0.28935I$	0
$u=-0.655407-0.243830I$ $a=-3.48658+0.47355I$ $b=\ \ 0.070042-1.003510I$	$-8.64108-0.28935I$	0
$u=-1.015380+0.813444I$ $a=-0.634195+0.680441I$ $b=\ \ 0.914618+0.682727I$	$4.15941+1.44751I$	0
$u=-1.015380-0.813444I$ $a=-0.634195-0.680441I$ $b=\ \ 0.914618-0.682727I$	$4.15941-1.44751I$	0
$u=-1.304250+0.091024I$ $a=-0.152669-0.148266I$ $b=\ \ 0.09799+1.48182I$	$-3.66881-0.67893I$	0
$u=-1.304250-0.091024I$ $a=-0.152669+0.148266I$ $b=\ \ 0.09799-1.48182I$	$-3.66881+0.67893I$	0
$u=-0.657083+0.164319I$ $a=\ \ 0.358525-0.160160I$ $b=-0.54340+2.06760I$	$-3.81606+4.01380I$	0
$u=-0.657083-0.164319I$ $a=\ \ 0.358525+0.160160I$ $b=-0.54340-2.06760I$	$-3.81606-4.01380I$	0
$u=\ \ 0.793701+1.083360I$ $a=\ \ 0.762700-0.565096I$ $b=-0.280882+1.061990I$	$-5.22173-6.26301I$	0
$u=\ \ 0.793701-1.083360I$ $a=\ \ 0.762700+0.565096I$ $b=-0.280882-1.061990I$	$-5.22173+6.26301I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.836742+1.067160I$ $a=-0.238760-0.139086I$ $b=\ \ 0.129261-0.688816I$	$-2.49544+3.97876I$	0
$u=-0.836742-1.067160I$ $a=-0.238760+0.139086I$ $b=\ \ 0.129261+0.688816I$	$-2.49544-3.97876I$	0
$u=\ \ 1.080580+0.854882I$ $a=-0.0220968-0.1061530I$ $b=\ \ 0.328157+0.372151I$	$-1.51118-1.39194I$	0
$u=\ \ 1.080580-0.854882I$ $a=-0.0220968+0.1061530I$ $b=\ \ 0.328157-0.372151I$	$-1.51118+1.39194I$	0
$u=\ \ 0.593718+0.179752I$ $a=-1.39408-0.39089I$ $b=\ \ 1.051980+0.633173I$	$0.84341+1.47086I$	0
$u=\ \ 0.593718-0.179752I$ $a=-1.39408+0.39089I$ $b=\ \ 1.051980-0.633173I$	$0.84341-1.47086I$	0
$u=\ \ 0.493980+0.317625I$ $a=\ \ 0.937414-0.739185I$ $b=-1.04289-1.07285I$	$-4.29448-1.80145I$	$-9.60875+0.I$
$u=\ \ 0.493980-0.317625I$ $a=\ \ 0.937414+0.739185I$ $b=-1.04289+1.07285I$	$-4.29448+1.80145I$	$-9.60875+0.I$
$u=\ \ 0.561955+0.018127I$ $a=-4.24999-2.73769I$ $b=-0.191201-1.083290I$	$-2.80166+7.30370I$	$-8.30952-5.85238I$
$u=\ \ 0.561955-0.018127I$ $a=-4.24999+2.73769I$ $b=-0.191201+1.083290I$	$-2.80166-7.30370I$	$-8.30952+5.85238I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.26925+0.72936I$ $a=\ \ 0.828493-0.364572I$ $b=-0.668207-1.236750I$	$-6.15819+5.77118I$	0
$u=-1.26925-0.72936I$ $a=\ \ 0.828493+0.364572I$ $b=-0.668207+1.236750I$	$-6.15819-5.77118I$	0
$u=\ \ 0.452020+0.216521I$ $a=-2.41319-0.08031I$ $b=\ \ 0.59513-1.44819I$	$-0.80423-4.27055I$	$-0.48463+5.72907I$
$u=\ \ 0.452020-0.216521I$ $a=-2.41319+0.08031I$ $b=\ \ 0.59513+1.44819I$	$-0.80423+4.27055I$	$-0.48463-5.72907I$
$u=-1.24291+0.84349I$ $a=-1.120300+0.310078I$ $b=\ \ 0.66041+1.39444I$	$0.57250+11.80900I$	0
$u=-1.24291-0.84349I$ $a=-1.120300-0.310078I$ $b=\ \ 0.66041-1.39444I$	$0.57250-11.80900I$	0
$u=\ \ 1.33241+0.78412I$ $a=\ \ 1.018580+0.399893I$ $b=-0.453842+1.235090I$	$-6.09735-10.15500I$	0
$u=\ \ 1.33241-0.78412I$ $a=\ \ 1.018580-0.399893I$ $b=-0.453842-1.235090I$	$-6.09735+10.15500I$	0
$u=-1.26228+0.91600I$ $a=\ \ 1.176470-0.136269I$ $b=-0.60887-1.42566I$	$-2.8819+18.6658I$	0
$u=-1.26228-0.91600I$ $a=\ \ 1.176470+0.136269I$ $b=-0.60887+1.42566I$	$-2.8819-18.6658I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.057520 + 0.413685I$ $a = -1.056710 + 0.741967I$ $b = 0.594242 + 0.288655I$	$1.117370 + 0.291182I$	$8.38562 - 0.26124I$
$u = 0.057520 - 0.413685I$ $a = -1.056710 - 0.741967I$ $b = 0.594242 - 0.288655I$	$1.117370 - 0.291182I$	$8.38562 + 0.26124I$
$u = 1.52411 + 0.57971I$ $a = -0.560070 - 0.560133I$ $b = 0.357677 - 1.146480I$	$-4.02196 - 4.45374I$	0
$u = 1.52411 - 0.57971I$ $a = -0.560070 + 0.560133I$ $b = 0.357677 + 1.146480I$	$-4.02196 + 4.45374I$	0
$u = -0.68354 + 1.50880I$ $a = 0.192961 - 0.407127I$ $b = -0.475157 + 1.174560I$	$-0.83973 - 10.47620I$	0
$u = -0.68354 - 1.50880I$ $a = 0.192961 + 0.407127I$ $b = -0.475157 - 1.174560I$	$-0.83973 + 10.47620I$	0
$u = 1.34539 + 1.03982I$ $a = 0.759443 - 0.215195I$ $b = -0.27159 + 1.48784I$	$-8.89716 - 3.38553I$	0
$u = 1.34539 - 1.03982I$ $a = 0.759443 + 0.215195I$ $b = -0.27159 - 1.48784I$	$-8.89716 + 3.38553I$	0
$u = 1.29317 + 1.24467I$ $a = -0.629447 + 0.339445I$ $b = 0.11910 - 1.47515I$	$-8.29632 - 5.97727I$	0
$u = 1.29317 - 1.24467I$ $a = -0.629447 - 0.339445I$ $b = 0.11910 + 1.47515I$	$-8.29632 + 5.97727I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.45139+1.20131I$ $a=-0.661432+0.054596I$ $b=\ \ 0.146139+1.078340I$	$-3.74346+5.27551I$	0
$u=-1.45139-1.20131I$ $a=-0.661432-0.054596I$ $b=\ \ 0.146139-1.078340I$	$-3.74346-5.27551I$	0
$u=\ \ 2.79086+0.10430I$ $a=\ \ 0.007741-0.159276I$ $b=-0.164343-0.996726I$	$-11.84140+0.67173I$	0
$u=\ \ 2.79086-0.10430I$ $a=\ \ 0.007741+0.159276I$ $b=-0.164343+0.996726I$	$-11.84140-0.67173I$	0

II. $\boldsymbol{I_2^u = \langle -4.11 \times 10^{56} u^{39} + 4.77 \times 10^{57} u^{38} + \cdots + 1.95 \times 10^{54} b + 9.86 \times 10^{56},\ 1.95 \times 10^{56} u^{39} - 2.22 \times 10^{57} u^{38} + \cdots + 1.95 \times 10^{54} a - 2.62 \times 10^{56},\ u^{40} - 12u^{39} + \cdots - 13u + 1 \rangle}$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} -99.8990u^{39} + 1138.25u^{38} + \cdots - 1631.79u + 134.047 \\ 210.388u^{39} - 2444.64u^{38} + \cdots + 5456.34u - 505.330 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 110.489u^{39} - 1306.39u^{38} + \cdots + 3824.55u - 371.282 \\ 210.388u^{39} - 2444.64u^{38} + \cdots + 5456.34u - 505.330 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 408.196u^{39} - 4726.35u^{38} + \cdots + 9754.53u - 886.579 \\ -84.0848u^{39} + 987.608u^{38} + \cdots - 2786.07u + 281.198 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 142.879u^{39} - 1678.71u^{38} + \cdots + 4511.66u - 431.821 \\ 246.038u^{39} - 2859.72u^{38} + \cdots + 6466.46u - 601.706 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 249.407u^{39} - 2850.43u^{38} + \cdots + 3923.03u - 293.604 \\ 58.5821u^{39} - 659.117u^{38} + \cdots + 386.945u - 2.68274 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -34.8208u^{39} + 460.736u^{38} + \cdots - 3749.86u + 427.753 \\ 246.377u^{39} - 2829.55u^{38} + \cdots + 5025.98u - 441.746 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -15.3396u^{39} + 186.951u^{38} + \cdots - 561.014u + 43.9058 \\ -130.238u^{39} + 1529.37u^{38} + \cdots - 4188.59u + 410.753 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -154.270u^{39} + 1812.36u^{38} + \cdots - 4802.33u + 457.535 \\ -140.958u^{39} + 1655.86u^{38} + \cdots - 4592.45u + 452.506 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 65.1236u^{39} - 779.184u^{38} + \cdots + 2472.75u - 227.473 \\ 278.168u^{39} - 3233.59u^{38} + \cdots + 7495.68u - 708.706 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -1022.42u^{39} + 11967.0u^{38} + \cdots - 31498.0u + 3109.09$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{40} - 12u^{39} + \cdots - 13u + 1$
c_2	$u^{40} - 3u^{39} + \cdots + 3u + 1$
c_3	$u^{40} - 12u^{38} + \cdots - 62u + 11$
c_4	$u^{40} + 15u^{37} + \cdots - 433u + 143$
c_5	$u^{40} + 16u^{38} + \cdots - 19u + 5$
c_6	$u^{40} + 3u^{39} + \cdots - 3u + 1$
c_7	$u^{40} + u^{39} + \cdots - 2u + 1$
c_8	$u^{40} - 4u^{38} + \cdots - 8u + 5$
c_9	$u^{40} + 2u^{39} + \cdots + 16u + 1$
c_{10}	$u^{40} + u^{39} + \cdots - 1530u + 209$
c_{11}	$u^{40} + 16u^{38} + \cdots + 19u + 5$
c_{12}	$u^{40} - 2u^{39} + \cdots - 16u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{40} - 26y^{39} + \cdots - 31y + 1$
c_2, c_6	$y^{40} + 9y^{39} + \cdots - 17y + 1$
c_3	$y^{40} - 24y^{39} + \cdots + 50y + 121$
c_4	$y^{40} - 42y^{38} + \cdots + 190031y + 20449$
c_5, c_{11}	$y^{40} + 32y^{39} + \cdots + 279y + 25$
c_7	$y^{40} + 27y^{39} + \cdots + 20y + 1$
c_8	$y^{40} - 8y^{39} + \cdots - 444y + 25$
c_9, c_{12}	$y^{40} + 36y^{39} + \cdots + 28y + 1$
c_{10}	$y^{40} + 33y^{39} + \cdots - 2363472y + 43681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.957915+0.220941I$ $a=-1.65799+0.12438I$ $b=\ \ 0.173257+1.060960I$	$-10.17420+0.76157I$	$-10.51805+0.I$
$u=-0.957915-0.220941I$ $a=-1.65799-0.12438I$ $b=\ \ 0.173257-1.060960I$	$-10.17420-0.76157I$	$-10.51805+0.I$
$u=-0.940572+0.518692I$ $a=\ \ 0.215793-0.082147I$ $b=-0.47191+1.38052I$	$-3.46326+2.49269I$	0
$u=-0.940572-0.518692I$ $a=\ \ 0.215793+0.082147I$ $b=-0.47191-1.38052I$	$-3.46326-2.49269I$	0
$u=\ \ 0.577842+0.923327I$ $a=-0.762120+0.443077I$ $b=\ \ 1.03074-1.18611I$	$0.83905-4.87391I$	0
$u=\ \ 0.577842-0.923327I$ $a=-0.762120-0.443077I$ $b=\ \ 1.03074+1.18611I$	$0.83905+4.87391I$	0
$u=-0.904806+0.643282I$ $a=-0.926298+0.674376I$ $b=\ \ 0.709188+0.171836I$	$4.62609+2.70135I$	0
$u=-0.904806-0.643282I$ $a=-0.926298-0.674376I$ $b=\ \ 0.709188-0.171836I$	$4.62609-2.70135I$	0
$u=\ \ 1.089130+0.310663I$ $a=-0.230799-0.860542I$ $b=\ \ 0.125450-1.285940I$	$-5.32985-2.81809I$	0
$u=\ \ 1.089130-0.310663I$ $a=-0.230799+0.860542I$ $b=\ \ 0.125450+1.285940I$	$-5.32985+2.81809I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.757486+0.413737I$ $a=-1.31501+1.13630I$ $b=\ \ 0.389042-0.015994I$	$4.58093+2.75968I$	$5.74012-0.32593I$
$u=-0.757486-0.413737I$ $a=-1.31501-1.13630I$ $b=\ \ 0.389042+0.015994I$	$4.58093-2.75968I$	$5.74012+0.32593I$
$u=\ \ 0.835484+0.163747I$ $a=\ \ 0.490142+1.124950I$ $b=-0.19556+1.51752I$	$-10.74590-5.50038I$	$-22.1827+16.5048I$
$u=\ \ 0.835484-0.163747I$ $a=\ \ 0.490142-1.124950I$ $b=-0.19556-1.51752I$	$-10.74590+5.50038I$	$-22.1827-16.5048I$
$u=\ \ 0.857608+0.805558I$ $a=-0.535152+0.395063I$ $b=\ \ 0.099028+0.136259I$	$-4.03983-4.81313I$	0
$u=\ \ 0.857608-0.805558I$ $a=-0.535152-0.395063I$ $b=\ \ 0.099028-0.136259I$	$-4.03983+4.81313I$	0
$u=-0.716928+0.942833I$ $a=-1.65882-0.37419I$ $b=\ \ 0.305571+1.266510I$	$0.75603+6.13369I$	0
$u=-0.716928-0.942833I$ $a=-1.65882+0.37419I$ $b=\ \ 0.305571-1.266510I$	$0.75603-6.13369I$	0
$u=\ \ 0.580069+0.446653I$ $a=\ \ 0.741565-0.353664I$ $b=-1.246050+0.011269I$	$-3.95408+0.58100I$	$-9.16193+1.66269I$
$u=\ \ 0.580069-0.446653I$ $a=\ \ 0.741565+0.353664I$ $b=-1.246050-0.011269I$	$-3.95408-0.58100I$	$-9.16193-1.66269I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.497446 + 0.421973I$ $a = -2.97680 + 0.76067I$ $b = 0.388512 - 1.192210I$	$-0.97519 - 3.20392I$	$-2.96191 + 2.18739I$
$u = 0.497446 - 0.421973I$ $a = -2.97680 - 0.76067I$ $b = 0.388512 + 1.192210I$	$-0.97519 + 3.20392I$	$-2.96191 - 2.18739I$
$u = -0.621579 + 0.176725I$ $a = 3.59902 + 0.00321I$ $b = -0.190185 - 1.072050I$	$-8.67168 + 0.84442I$	$-5.07285 - 8.15591I$
$u = -0.621579 - 0.176725I$ $a = 3.59902 - 0.00321I$ $b = -0.190185 + 1.072050I$	$-8.67168 - 0.84442I$	$-5.07285 + 8.15591I$
$u = 1.130430 + 0.790751I$ $a = 0.444535 - 0.200165I$ $b = 0.137656 + 0.379521I$	$-1.88914 - 1.60912I$	0
$u = 1.130430 - 0.790751I$ $a = 0.444535 + 0.200165I$ $b = 0.137656 - 0.379521I$	$-1.88914 + 1.60912I$	0
$u = 0.211306 + 0.579957I$ $a = 0.31812 - 3.34048I$ $b = -0.335254 + 1.065060I$	$-2.02942 - 7.54693I$	$0.91634 + 8.70936I$
$u = 0.211306 - 0.579957I$ $a = 0.31812 + 3.34048I$ $b = -0.335254 - 1.065060I$	$-2.02942 + 7.54693I$	$0.91634 - 8.70936I$
$u = 0.394550 + 0.150700I$ $a = -0.36439 - 2.49657I$ $b = -0.30748 - 1.64295I$	$-3.20382 - 3.66648I$	$1.49841 + 4.00857I$
$u = 0.394550 - 0.150700I$ $a = -0.36439 + 2.49657I$ $b = -0.30748 + 1.64295I$	$-3.20382 + 3.66648I$	$1.49841 - 4.00857I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.390222 + 0.052928I$ $a = -2.02317 - 0.97955I$ $b = 0.934838 + 0.594171I$	$1.14301 + 1.69574I$	$9.37429 - 7.47923I$
$u = 0.390222 - 0.052928I$ $a = -2.02317 + 0.97955I$ $b = 0.934838 - 0.594171I$	$1.14301 - 1.69574I$	$9.37429 + 7.47923I$
$u = -1.18444 + 1.25835I$ $a = 0.703467 + 0.057310I$ $b = -0.285656 - 1.054060I$	$-3.09404 + 5.74542I$	0
$u = -1.18444 - 1.25835I$ $a = 0.703467 - 0.057310I$ $b = -0.285656 + 1.054060I$	$-3.09404 - 5.74542I$	0
$u = 1.41921 + 1.05213I$ $a = 0.632349 - 0.155034I$ $b = -0.25982 + 1.42657I$	$-9.33189 - 3.96127I$	0
$u = 1.41921 - 1.05213I$ $a = 0.632349 + 0.155034I$ $b = -0.25982 - 1.42657I$	$-9.33189 + 3.96127I$	0
$u = 1.35052 + 1.24961I$ $a = -0.623104 + 0.255444I$ $b = 0.11923 - 1.41397I$	$-8.77032 - 5.75888I$	0
$u = 1.35052 - 1.24961I$ $a = -0.623104 - 0.255444I$ $b = 0.11923 + 1.41397I$	$-8.77032 + 5.75888I$	0
$u = 2.74991 + 0.04072I$ $a = -0.071328 - 0.134868I$ $b = -0.120596 - 1.024610I$	$-11.93950 + 0.49739I$	0
$u = 2.74991 - 0.04072I$ $a = -0.071328 + 0.134868I$ $b = -0.120596 + 1.024610I$	$-11.93950 - 0.49739I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{40}-12u^{39}+\cdots-13u+1)(u^{114}-3u^{113}+\cdots-2274u+2081)$
c_2	$(u^{40}-3u^{39}+\cdots+3u+1)(u^{114}+31u^{112}+\cdots-8992u+727)$
c_3	$(u^{40}-12u^{38}+\cdots-62u+11)(u^{114}-u^{113}+\cdots+7575u+971)$
c_4	$(u^{40}+15u^{37}+\cdots-433u+143)$ $\cdot(u^{114}-3u^{113}+\cdots+677580u+100759)$
c_5	$(u^{40}+16u^{38}+\cdots-19u+5)(u^{114}+u^{113}+\cdots-32148u+2295)$
c_6	$(u^{40}+3u^{39}+\cdots-3u+1)(u^{114}+31u^{112}+\cdots-8992u+727)$
c_7	$(u^{40}+u^{39}+\cdots-2u+1)(u^{114}+2u^{113}+\cdots+32727u+2699)$
c_8	$(u^{40}-4u^{38}+\cdots-8u+5)(u^{114}+u^{113}+\cdots-789311u+110833)$
c_9	$(u^{40}+2u^{39}+\cdots+16u+1)(u^{114}+5u^{113}+\cdots+925855u+133141)$
c_{10}	$(u^{40}+u^{39}+\cdots-1530u+209)$ $\cdot(u^{114}+2u^{113}+\cdots-346643u+24343)$
c_{11}	$(u^{40}+16u^{38}+\cdots+19u+5)(u^{114}+u^{113}+\cdots-32148u+2295)$
c_{12}	$(u^{40}-2u^{39}+\cdots-16u+1)(u^{114}+5u^{113}+\cdots+925855u+133141)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{40} - 26y^{39} + \cdots - 31y + 1)$ $\cdot (y^{114} - 45y^{113} + \cdots - 156805222y + 4330561)$
c_2, c_6	$(y^{40} + 9y^{39} + \cdots - 17y + 1)$ $\cdot (y^{114} + 62y^{113} + \cdots + 1324016y + 528529)$
c_3	$(y^{40} - 24y^{39} + \cdots + 50y + 121)$ $\cdot (y^{114} - 19y^{113} + \cdots + 62600019y + 942841)$
c_4	$(y^{40} - 42y^{38} + \cdots + 190031y + 20449)$ $\cdot (y^{114} + 9y^{113} + \cdots + 511689441808y + 10152376081)$
c_5, c_{11}	$(y^{40} + 32y^{39} + \cdots + 279y + 25)$ $\cdot (y^{114} + 69y^{113} + \cdots - 334253304y + 5267025)$
c_7	$(y^{40} + 27y^{39} + \cdots + 20y + 1)$ $\cdot (y^{114} + 56y^{113} + \cdots + 301217633y + 7284601)$
c_8	$(y^{40} - 8y^{39} + \cdots - 444y + 25)$ $\cdot (y^{114} + 9y^{113} + \cdots + 275716760661y + 12283953889)$
c_9, c_{12}	$(y^{40} + 36y^{39} + \cdots + 28y + 1)$ $\cdot (y^{114} + 81y^{113} + \cdots + 550591102597y + 17726525881)$
c_{10}	$(y^{40} + 33y^{39} + \cdots - 2363472y + 43681)$ $\cdot (y^{114} + 26y^{113} + \cdots - 56765332723y + 592581649)$