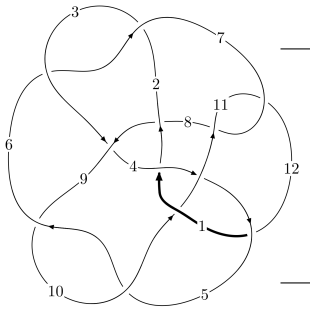
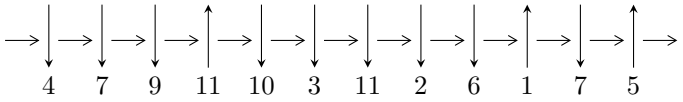
$12n_{0854}$ $(K12n_{0854})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 8.39823 \times 10^{498} u^{108} + 2.41008 \times 10^{499} u^{107} + \cdots + 7.17600 \times 10^{500} b - 4.55608 \times 10^{504}, \\ & 7.81238 \times 10^{505} u^{108} + 1.77615 \times 10^{506} u^{107} + \cdots + 2.83788 \times 10^{507} a - 3.55368 \times 10^{511}, \\ & u^{109} + 36 u^{107} + \cdots - 1154036 u - 171943 \rangle \\ I_2^u = \langle & 2.24797 \times 10^{42} u^{37} + 1.61524 \times 10^{42} u^{36} + \cdots + 1.01090 \times 10^{43} b - 7.15951 \times 10^{42}, \\ & - 3.29889 \times 10^{42} u^{37} - 5.18067 \times 10^{42} u^{36} + \cdots + 7.07629 \times 10^{43} a + 2.71417 \times 10^{43}, \ u^{38} + u^{37} + \cdots + 8u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 147 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. $\boldsymbol{I_1^u = \langle 8.40 \times 10^{498} u^{108} + 2.41 \times 10^{499} u^{107} + \cdots + 7.18 \times 10^{500} b - 4.56 \times 10^{504},\ 7.81 \times 10^{505} u^{108} + 1.78 \times 10^{506} u^{107} + \cdots + 2.84 \times 10^{507} a - 3.55 \times 10^{511},\ u^{109} + 36 u^{107} + \cdots - 1154036 u - 171943 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -0.0275289u^{108} - 0.0625870u^{107} + \cdots + 82142.5u + 12522.3 \\ -0.0117032u^{108} - 0.0335853u^{107} + \cdots + 41138.1u + 6349.05 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0285405u^{108} + 0.0104270u^{107} + \cdots + 11834.6u + 1173.41 \\ 0.00263481u^{108} + 0.0158836u^{107} + \cdots - 18487.5u - 2914.67 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0311753u^{108} - 0.00545660u^{107} + \cdots + 30322.1u + 4088.08 \\ 0.00263481u^{108} + 0.0158836u^{107} + \cdots - 18487.5u - 2914.67 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0169095u^{108} - 0.131078u^{107} + \cdots + 144204.u + 22938.7 \\ -0.0147313u^{108} + 0.0146839u^{107} + \cdots - 7112.82u - 1533.36 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0444190u^{108} - 0.0696387u^{107} + \cdots + 34828.4u + 6920.06 \\ -0.0314214u^{108} + 0.0150164u^{107} + \cdots + 9958.32u + 770.043 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0124119u^{108} + 0.0237295u^{107} + \cdots - 13201.6u - 2454.64 \\ -0.0143619u^{108} + 0.0345235u^{107} + \cdots - 25103.0u - 4439.04 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0342753u^{108} - 0.0523315u^{107} + \cdots + 77734.8u + 11680.1 \\ -0.00772236u^{108} + 0.0156642u^{107} + \cdots - 10128.1u - 1906.46 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0275289u^{108} + 0.0625870u^{107} + \cdots - 82142.5u - 12522.3 \\ -0.0520561u^{108} + 0.00229324u^{107} + \cdots + 35822.9u + 4412.34 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.216975u^{108} - 0.110555u^{107} + \cdots - 47146.8u - 2137.91$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{109} - 9u^{108} + \cdots + 76u + 717$
c_2, c_6	$u^{109} + 36u^{107} + \cdots - 1154036u + 171943$
c_3	$u^{109} + u^{108} + \cdots - 284399u + 14941$
c_4	$u^{109} - 2u^{108} + \cdots + 17549u + 277$
c_5, c_9	$u^{109} + 46u^{107} + \cdots - 4285172u + 1094877$
c_7, c_{11}	$u^{109} - u^{108} + \cdots - 10183u + 2217$
c_8	$u^{109} - 5u^{108} + \cdots + 9551892u + 3400151$
c_{10}	$u^{109} + 3u^{108} + \cdots + 652u - 23$
c_{12}	$u^{109} - 3u^{108} + \cdots + 3441u + 1219$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{109} - 17y^{108} + \cdots + 4144300y - 514089$
c_2, c_6	$y^{109} + 72y^{108} + \cdots - 612883806196y - 29564395249$
c_3	$y^{109} + 63y^{108} + \cdots + 3169749553y - 223233481$
c_4	$y^{109} + 18y^{108} + \cdots + 99463961y - 76729$
c_5, c_9	$y^{109} + 92y^{108} + \cdots - 34486733431904y - 1198755645129$
c_7, c_{11}	$y^{109} - 59y^{108} + \cdots + 32452411y - 4915089$
c_8	$y^{109} - 15y^{108} + \cdots + 809760664993586y - 11561026822801$
c_{10}	$y^{109} - 37y^{108} + \cdots + 624376y - 529$
c_{12}	$y^{109} - 27y^{108} + \cdots - 202910749y - 1485961$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.303524+0.959372I$ $a=\ 1.36417-0.74888I$ $b=\ 0.312249+0.029977I$	$9.26189+2.26190I$	0
$u=-0.303524-0.959372I$ $a=\ 1.36417+0.74888I$ $b=\ 0.312249-0.029977I$	$9.26189-2.26190I$	0
$u=-0.889230+0.439652I$ $a=\ 1.15134+0.89416I$ $b=\ 1.57467-0.00752I$	$-4.81066+0.03170I$	0
$u=-0.889230-0.439652I$ $a=\ 1.15134-0.89416I$ $b=\ 1.57467+0.00752I$	$-4.81066-0.03170I$	0
$u=-0.149684+0.997733I$ $a=-0.847808+0.305336I$ $b=-0.437320+0.557102I$	$1.51309-1.25303I$	0
$u=-0.149684-0.997733I$ $a=-0.847808-0.305336I$ $b=-0.437320-0.557102I$	$1.51309+1.25303I$	0
$u=-0.273044+0.972250I$ $a=\ 1.255330-0.402290I$ $b=\ 0.382982-0.444639I$	$2.33195+4.96654I$	0
$u=-0.273044-0.972250I$ $a=\ 1.255330+0.402290I$ $b=\ 0.382982+0.444639I$	$2.33195-4.96654I$	0
$u=\ 0.078092+0.981755I$ $a=\ 0.372072-1.275790I$ $b=\ 1.50482+0.55259I$	$3.66084-0.32648I$	0
$u=\ 0.078092-0.981755I$ $a=\ 0.372072+1.275790I$ $b=\ 1.50482-0.55259I$	$3.66084+0.32648I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.875395+0.415021I$ $a=-1.13573-0.84326I$ $b=-1.63212-0.10082I$	$-4.74544-6.36143I$	0
$u=-0.875395-0.415021I$ $a=-1.13573+0.84326I$ $b=-1.63212+0.10082I$	$-4.74544+6.36143I$	0
$u=-0.277502+0.994760I$ $a=-1.42293+0.55061I$ $b=-0.621269-0.047157I$	$9.38262+0.15225I$	0
$u=-0.277502-0.994760I$ $a=-1.42293-0.55061I$ $b=-0.621269+0.047157I$	$9.38262-0.15225I$	0
$u=0.109733+1.027060I$ $a=-0.210190+0.905325I$ $b=-3.37504+1.38734I$	$1.80139-0.26427I$	0
$u=0.109733-1.027060I$ $a=-0.210190-0.905325I$ $b=-3.37504-1.38734I$	$1.80139+0.26427I$	0
$u=-0.972023+0.374394I$ $a=-0.955302-0.439978I$ $b=-1.48399-0.17642I$	$2.12306-3.00392I$	0
$u=-0.972023-0.374394I$ $a=-0.955302+0.439978I$ $b=-1.48399+0.17642I$	$2.12306+3.00392I$	0
$u=0.672917+0.679097I$ $a=-0.92675+1.17716I$ $b=-0.842169-0.232879I$	$-3.66466+0.35770I$	0
$u=0.672917-0.679097I$ $a=-0.92675-1.17716I$ $b=-0.842169+0.232879I$	$-3.66466-0.35770I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.200193 + 1.062610I$ $a = 0.208302 - 1.108320I$ $b = 1.10729 + 1.11583I$	$1.32352 - 3.73779I$	0
$u = 0.200193 - 1.062610I$ $a = 0.208302 + 1.108320I$ $b = 1.10729 - 1.11583I$	$1.32352 + 3.73779I$	0
$u = 0.150923 + 0.900392I$ $a = -0.229702 + 1.212150I$ $b = -0.91905 - 2.00806I$	$0.664463 - 0.337928I$	0
$u = 0.150923 - 0.900392I$ $a = -0.229702 - 1.212150I$ $b = -0.91905 + 2.00806I$	$0.664463 + 0.337928I$	0
$u = -0.457929 + 0.996062I$ $a = 0.604808 - 0.784299I$ $b = 0.028118 + 0.710849I$	$7.20217 - 1.09591I$	0
$u = -0.457929 - 0.996062I$ $a = 0.604808 + 0.784299I$ $b = 0.028118 - 0.710849I$	$7.20217 + 1.09591I$	0
$u = 0.393709 + 1.042330I$ $a = 0.185641 - 0.420821I$ $b = -0.77813 + 3.00794I$	$9.01390 - 6.41979I$	0
$u = 0.393709 - 1.042330I$ $a = 0.185641 + 0.420821I$ $b = -0.77813 - 3.00794I$	$9.01390 + 6.41979I$	0
$u = -0.283158 + 1.089750I$ $a = 0.889536 + 0.836349I$ $b = 1.62195 - 0.25881I$	$-1.09610 + 3.53279I$	0
$u = -0.283158 - 1.089750I$ $a = 0.889536 - 0.836349I$ $b = 1.62195 + 0.25881I$	$-1.09610 - 3.53279I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.309081+1.091610I$ $a=-0.949969+0.037189I$ $b=-1.035930-0.530135I$	$7.76345+4.27063I$	0
$u=-0.309081-1.091610I$ $a=-0.949969-0.037189I$ $b=-1.035930+0.530135I$	$7.76345-4.27063I$	0
$u=\ \ 0.270378+0.811928I$ $a=-0.846337+0.647452I$ $b=-1.39858+0.34869I$	$0.72336-1.75177I$	0
$u=\ \ 0.270378-0.811928I$ $a=-0.846337-0.647452I$ $b=-1.39858-0.34869I$	$0.72336+1.75177I$	0
$u=\ \ 0.025046+0.852780I$ $a=\ \ 0.88759-1.19182I$ $b=\ \ 1.292320-0.093716I$	$0.15411+2.70420I$	0
$u=\ \ 0.025046-0.852780I$ $a=\ \ 0.88759+1.19182I$ $b=\ \ 1.292320+0.093716I$	$0.15411-2.70420I$	0
$u=-0.280210+1.112280I$ $a=-1.040390-0.799126I$ $b=-1.46813+0.18970I$	$-0.21645+9.63542I$	0
$u=-0.280210-1.112280I$ $a=-1.040390+0.799126I$ $b=-1.46813-0.18970I$	$-0.21645-9.63542I$	0
$u=\ \ 0.504827+1.074060I$ $a=-0.200935+0.329041I$ $b=\ \ 0.04678-2.92414I$	$8.96311+2.52979I$	0
$u=\ \ 0.504827-1.074060I$ $a=-0.200935-0.329041I$ $b=\ \ 0.04678+2.92414I$	$8.96311-2.52979I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.663656+0.437634I$ $a=-0.199853-0.278763I$ $b=-0.348882-0.188836I$	$4.38372+2.19355I$	0
$u=-0.663656-0.437634I$ $a=-0.199853+0.278763I$ $b=-0.348882+0.188836I$	$4.38372-2.19355I$	0
$u=-0.316796+0.713571I$ $a=-1.17918+1.00604I$ $b=-0.881567+0.454717I$	$1.43940-2.47886I$	0
$u=-0.316796-0.713571I$ $a=-1.17918-1.00604I$ $b=-0.881567-0.454717I$	$1.43940+2.47886I$	0
$u=1.067020+0.604673I$ $a=0.962905-0.253459I$ $b=1.74985+0.14641I$	$-4.88585-2.37007I$	0
$u=1.067020-0.604673I$ $a=0.962905+0.253459I$ $b=1.74985-0.14641I$	$-4.88585+2.37007I$	0
$u=-0.772527+0.020882I$ $a=1.72282-0.07303I$ $b=1.51637+0.35853I$	$-0.31062-1.51311I$	0
$u=-0.772527-0.020882I$ $a=1.72282+0.07303I$ $b=1.51637-0.35853I$	$-0.31062+1.51311I$	0
$u=0.775022+0.956827I$ $a=-1.084560+0.471628I$ $b=-1.47152-0.24042I$	$-3.03726-5.87728I$	0
$u=0.775022-0.956827I$ $a=-1.084560-0.471628I$ $b=-1.47152+0.24042I$	$-3.03726+5.87728I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.151010 + 0.458194I$ $a = -0.536389 - 1.170770I$ $b = -0.746546 - 0.091402I$	$3.91226 + 3.76178I$	0
$u = 1.151010 - 0.458194I$ $a = -0.536389 + 1.170770I$ $b = -0.746546 + 0.091402I$	$3.91226 - 3.76178I$	0
$u = -0.506061 + 1.146190I$ $a = -0.850584 - 0.878371I$ $b = -1.83639 + 0.94288I$	$-2.40270 + 11.40680I$	0
$u = -0.506061 - 1.146190I$ $a = -0.850584 + 0.878371I$ $b = -1.83639 - 0.94288I$	$-2.40270 - 11.40680I$	0
$u = -0.470228 + 1.170700I$ $a = 0.844448 + 0.887504I$ $b = 1.89051 - 0.76346I$	$-2.39140 + 4.86267I$	0
$u = -0.470228 - 1.170700I$ $a = 0.844448 - 0.887504I$ $b = 1.89051 + 0.76346I$	$-2.39140 - 4.86267I$	0
$u = 0.020367 + 1.264000I$ $a = -0.158509 + 0.620147I$ $b = -0.042012 + 1.371470I$	$2.18378 - 0.67613I$	0
$u = 0.020367 - 1.264000I$ $a = -0.158509 - 0.620147I$ $b = -0.042012 - 1.371470I$	$2.18378 + 0.67613I$	0
$u = 0.788510 + 1.020090I$ $a = 0.734102 - 0.811935I$ $b = 1.32026 + 0.51630I$	$-3.45606 - 4.09090I$	0
$u = 0.788510 - 1.020090I$ $a = 0.734102 + 0.811935I$ $b = 1.32026 - 0.51630I$	$-3.45606 + 4.09090I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.618633+1.210490I$ $a=-0.760577-0.727691I$ $b=-1.46450+0.99172I$	$4.76534+8.82470I$	0
$u=-0.618633-1.210490I$ $a=-0.760577+0.727691I$ $b=-1.46450-0.99172I$	$4.76534-8.82470I$	0
$u=-0.372480+0.504941I$ $a=-0.52257-2.39656I$ $b=-0.651137+0.014558I$	$-2.14254-6.94960I$	0
$u=-0.372480-0.504941I$ $a=-0.52257+2.39656I$ $b=-0.651137-0.014558I$	$-2.14254+6.94960I$	0
$u=-0.102497+0.608643I$ $a=-0.942242-0.035552I$ $b=-0.411916+0.555250I$	$1.32344-1.30831I$	0
$u=-0.102497-0.608643I$ $a=-0.942242+0.035552I$ $b=-0.411916-0.555250I$	$1.32344+1.30831I$	0
$u=1.045930+0.933846I$ $a=1.036920-0.728819I$ $b=1.46515+0.17404I$	$-3.15443-3.77330I$	0
$u=1.045930-0.933846I$ $a=1.036920+0.728819I$ $b=1.46515-0.17404I$	$-3.15443+3.77330I$	0
$u=0.664145+1.235810I$ $a=0.809078+0.838757I$ $b=0.491161+0.267957I$	$6.50620-10.20970I$	0
$u=0.664145-1.235810I$ $a=0.809078-0.838757I$ $b=0.491161-0.267957I$	$6.50620+10.20970I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.88842+1.11687I$ $a=-0.660668-0.449424I$ $b=-1.34661+0.78473I$	$4.82997+3.53104I$	0
$u=-0.88842-1.11687I$ $a=-0.660668+0.449424I$ $b=-1.34661-0.78473I$	$4.82997-3.53104I$	0
$u=-0.53942+1.32318I$ $a=\ \ 0.613896+0.861401I$ $b=\ \ 1.44054-0.84210I$	$3.67771+6.65625I$	0
$u=-0.53942-1.32318I$ $a=\ \ 0.613896-0.861401I$ $b=\ \ 1.44054+0.84210I$	$3.67771-6.65625I$	0
$u=-0.20548+1.41936I$ $a=\ \ 0.031238-0.300635I$ $b=-0.991342+0.167067I$	$8.23882+0.68980I$	0
$u=-0.20548-1.41936I$ $a=\ \ 0.031238+0.300635I$ $b=-0.991342-0.167067I$	$8.23882-0.68980I$	0
$u=-0.350766+0.417010I$ $a=\ \ 0.95202+2.37027I$ $b=\ \ 0.728670+0.008261I$	$-3.08065-0.78537I$	$-5.08726-1.72654I$
$u=-0.350766-0.417010I$ $a=\ \ 0.95202-2.37027I$ $b=\ \ 0.728670-0.008261I$	$-3.08065+0.78537I$	$-5.08726+1.72654I$
$u=\ \ 0.507312+0.190369I$ $a=-0.497230+1.256420I$ $b=\ \ 0.259100-0.104192I$	$-0.959823-0.136425I$	$-10.15518+0.60041I$
$u=\ \ 0.507312-0.190369I$ $a=-0.497230-1.256420I$ $b=\ \ 0.259100+0.104192I$	$-0.959823+0.136425I$	$-10.15518-0.60041I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.45615 + 0.10590I$ $a = -1.009980 + 0.472889I$ $b = -1.65752 + 0.07813I$	$-1.12357 + 11.21470I$	0
$u = 1.45615 - 0.10590I$ $a = -1.009980 - 0.472889I$ $b = -1.65752 - 0.07813I$	$-1.12357 - 11.21470I$	0
$u = 0.41330 + 1.40396I$ $a = -0.457416 - 0.549437I$ $b = -0.352219 - 0.099185I$	$3.01820 - 3.47797I$	0
$u = 0.41330 - 1.40396I$ $a = -0.457416 + 0.549437I$ $b = -0.352219 + 0.099185I$	$3.01820 + 3.47797I$	0
$u = -0.445441 + 0.268888I$ $a = 0.460371 - 0.878088I$ $b = 0.276021 - 0.887551I$	$-0.07159 + 3.78659I$	$-6.00000 - 9.96814I$
$u = -0.445441 - 0.268888I$ $a = 0.460371 + 0.878088I$ $b = 0.276021 + 0.887551I$	$-0.07159 - 3.78659I$	$-6.00000 + 9.96814I$
$u = -0.22537 + 1.46787I$ $a = 0.1091890 - 0.0330745I$ $b = -0.264833 - 0.166665I$	$10.50910 + 5.39495I$	0
$u = -0.22537 - 1.46787I$ $a = 0.1091890 + 0.0330745I$ $b = -0.264833 + 0.166665I$	$10.50910 - 5.39495I$	0
$u = -0.25943 + 1.48423I$ $a = 0.066568 + 0.250365I$ $b = 0.419717 - 0.874249I$	$5.96819 + 6.25116I$	0
$u = -0.25943 - 1.48423I$ $a = 0.066568 - 0.250365I$ $b = 0.419717 + 0.874249I$	$5.96819 - 6.25116I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.16176 + 1.53104I$ $a = 0.224469 - 0.835935I$ $b = 0.749578 - 0.769398I$	$5.53575 - 7.10544I$	0
$u = 0.16176 - 1.53104I$ $a = 0.224469 + 0.835935I$ $b = 0.749578 + 0.769398I$	$5.53575 + 7.10544I$	0
$u = 0.13989 + 1.53939I$ $a = -0.101372 - 0.483431I$ $b = -0.371955 + 0.056625I$	$3.34619 - 3.46550I$	0
$u = 0.13989 - 1.53939I$ $a = -0.101372 + 0.483431I$ $b = -0.371955 - 0.056625I$	$3.34619 + 3.46550I$	0
$u = 1.54672 + 0.08791I$ $a = 0.754447 - 0.513976I$ $b = 1.56397 + 0.14143I$	$-3.36494 + 3.10866I$	0
$u = 1.54672 - 0.08791I$ $a = 0.754447 + 0.513976I$ $b = 1.56397 - 0.14143I$	$-3.36494 - 3.10866I$	0
$u = 0.66558 + 1.45280I$ $a = -0.841722 + 0.611308I$ $b = -1.94012 - 0.73352I$	$3.2244 - 18.4927I$	0
$u = 0.66558 - 1.45280I$ $a = -0.841722 - 0.611308I$ $b = -1.94012 + 0.73352I$	$3.2244 + 18.4927I$	0
$u = 0.63126 + 1.49413I$ $a = 0.802241 - 0.511519I$ $b = 2.06045 + 0.76604I$	$1.40447 - 10.49290I$	0
$u = 0.63126 - 1.49413I$ $a = 0.802241 + 0.511519I$ $b = 2.06045 - 0.76604I$	$1.40447 + 10.49290I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.73090+1.46637I$ $a=\ \ 0.471206+0.643703I$ $b=\ \ 1.37964-0.93100I$	$2.13985+7.50654I$	0
$u=-0.73090-1.46637I$ $a=\ \ 0.471206-0.643703I$ $b=\ \ 1.37964+0.93100I$	$2.13985-7.50654I$	0
$u=\ \ 0.354268$ $a=-1.36730$ $b=\ \ 0.223063$	-0.846043	-12.6520
$u=-1.62340+0.43079I$ $a=\ \ 0.635269+0.076684I$ $b=\ \ 1.97733-0.04868I$	$-1.82525+0.68177I$	0
$u=-1.62340-0.43079I$ $a=\ \ 0.635269-0.076684I$ $b=\ \ 1.97733+0.04868I$	$-1.82525-0.68177I$	0
$u=\ \ 0.16780+1.77854I$ $a=-0.929365-0.124459I$ $b=-2.65053-0.11583I$	$12.18050-1.51264I$	0
$u=\ \ 0.16780-1.77854I$ $a=-0.929365+0.124459I$ $b=-2.65053+0.11583I$	$12.18050+1.51264I$	0
$u=\ \ 0.37756+1.78772I$ $a=-0.023256+0.728223I$ $b=-0.349684-0.122526I$	$5.37081+3.69453I$	0
$u=\ \ 0.37756-1.78772I$ $a=-0.023256-0.728223I$ $b=-0.349684+0.122526I$	$5.37081-3.69453I$	0

II.

$\boldsymbol{I_2^u = \langle 2.25\times 10^{42}u^{37}+1.62\times 10^{42}u^{36}+\cdots+1.01\times 10^{43}b-7.16\times 10^{42},\ -3.30\times 10^{42}u^{37}-5.18\times 10^{42}u^{36}+\cdots+7.08\times 10^{43}a+2.71\times 10^{43},\ u^{38}+u^{37}+\cdots+8u+7\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix}0.0466190u^{37}+0.0732116u^{36}+\cdots+5.76664u-0.383558\\-0.222373u^{37}-0.159782u^{36}+\cdots-2.93637u+0.708232\end{pmatrix}$$

$$a_8 = \begin{pmatrix}0.151462u^{37}+0.140190u^{36}+\cdots+4.91559u+0.874356\\-0.157642u^{37}-0.101078u^{36}+\cdots-2.07834u+0.879533\end{pmatrix}$$

$$a_9 = \begin{pmatrix}0.309104u^{37}+0.241267u^{36}+\cdots+6.99393u-0.00517696\\-0.157642u^{37}-0.101078u^{36}+\cdots-2.07834u+0.879533\end{pmatrix}$$

$$a_4 = \begin{pmatrix}0.247100u^{37}+0.287249u^{36}+\cdots+6.34348u+2.52563\\0.0695401u^{37}+0.0646430u^{36}+\cdots-1.50387u+0.197133\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-0.102787u^{37}-0.115542u^{36}+\cdots+0.910959u-1.00445\\-0.0496101u^{37}-0.0749171u^{36}+\cdots+0.366300u-0.222920\end{pmatrix}$$

$$a_6 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}0.150101u^{37}+0.132885u^{36}+\cdots+4.99158u+0.375243\\-0.168318u^{37}-0.123865u^{36}+\cdots-3.37263u+0.905608\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-0.172576u^{37}-0.167587u^{36}+\cdots-5.60098u+0.757942\\0.194834u^{37}+0.440293u^{36}+\cdots+5.87802u+0.806992\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}0.0466190u^{37}+0.0732116u^{36}+\cdots+5.76664u-0.383558\\-0.221349u^{37}-0.154808u^{36}+\cdots-3.47544u+0.522084\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0.0878830u^{37}+0.0469208u^{36}+\cdots+15.7881u-3.18550$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{38} - 4u^{37} + \cdots - 20u + 19$
c_2	$u^{38} + u^{37} + \cdots + 8u + 7$
c_3	$u^{38} + 14u^{36} + \cdots + 7u + 1$
c_4	$u^{38} + 3u^{37} + \cdots + 9u + 1$
c_5	$u^{38} + 3u^{37} + \cdots - 4u + 1$
c_6	$u^{38} - u^{37} + \cdots - 8u + 7$
c_7	$u^{38} + 2u^{37} + \cdots + u + 1$
c_8	$u^{38} - 4u^{37} + \cdots + 168u + 17$
c_9	$u^{38} - 3u^{37} + \cdots + 4u + 1$
c_{10}	$u^{38} + 12u^{37} + \cdots + 12u + 1$
c_{11}	$u^{38} - 2u^{37} + \cdots - u + 1$
c_{12}	$u^{38} - 15u^{36} + \cdots - 115u + 25$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{38} - 8y^{37} + \cdots + 5908y + 361$
c_2, c_6	$y^{38} + 29y^{37} + \cdots + 608y + 49$
c_3	$y^{38} + 28y^{37} + \cdots + 7y + 1$
c_4	$y^{38} - 5y^{37} + \cdots - 29y + 1$
c_5, c_9	$y^{38} + 41y^{37} + \cdots - 52y + 1$
c_7, c_{11}	$y^{38} - 6y^{37} + \cdots + 21y + 1$
c_8	$y^{38} + 10y^{37} + \cdots + 95094y + 289$
c_{10}	$y^{38} - 20y^{37} + \cdots - 32y + 1$
c_{12}	$y^{38} - 30y^{37} + \cdots + 7725y + 625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.133322 + 1.000280I$ $a = -0.312853 + 0.940337I$ $b = -2.71045 + 0.54171I$	$1.79670 - 0.37443I$	$-8.2124 + 18.2229I$
$u = 0.133322 - 1.000280I$ $a = -0.312853 - 0.940337I$ $b = -2.71045 - 0.54171I$	$1.79670 + 0.37443I$	$-8.2124 - 18.2229I$
$u = -0.245111 + 0.908215I$ $a = 1.52859 - 0.58284I$ $b = 0.527612 + 0.228137I$	$9.11911 + 1.85542I$	$-1.99342 + 3.73857I$
$u = -0.245111 - 0.908215I$ $a = 1.52859 + 0.58284I$ $b = 0.527612 - 0.228137I$	$9.11911 - 1.85542I$	$-1.99342 - 3.73857I$
$u = 1.097730 + 0.266092I$ $a = -1.103780 - 0.223861I$ $b = -1.47602 + 0.00845I$	$-4.00657 - 2.26250I$	$-7.52626 + 0.76626I$
$u = 1.097730 - 0.266092I$ $a = -1.103780 + 0.223861I$ $b = -1.47602 - 0.00845I$	$-4.00657 + 2.26250I$	$-7.52626 - 0.76626I$
$u = -0.223827 + 1.169640I$ $a = -0.997099 + 0.335187I$ $b = -0.249086 - 0.244223I$	$10.14710 + 0.09421I$	$8.04376 + 1.13836I$
$u = -0.223827 - 1.169640I$ $a = -0.997099 - 0.335187I$ $b = -0.249086 + 0.244223I$	$10.14710 - 0.09421I$	$8.04376 - 1.13836I$
$u = 0.350442 + 1.173200I$ $a = 0.344584 + 0.103672I$ $b = 0.85103 - 2.54415I$	$9.57968 - 6.39112I$	$7.27778 + 5.20209I$
$u = 0.350442 - 1.173200I$ $a = 0.344584 - 0.103672I$ $b = 0.85103 + 2.54415I$	$9.57968 + 6.39112I$	$7.27778 - 5.20209I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.000935+1.237830I$ $a=\ 0.189569+0.656562I$ $b=\ 0.76857+1.72115I$	$2.39078+0.01786I$	$-2.73638+0.66752I$
$u=-0.000935-1.237830I$ $a=\ 0.189569-0.656562I$ $b=\ 0.76857-1.72115I$	$2.39078-0.01786I$	$-2.73638-0.66752I$
$u=\ 0.439936+1.183170I$ $a=-0.229457-0.292308I$ $b=\ 0.14888+2.60320I$	$9.35163+2.81595I$	$6.96988-6.30176I$
$u=\ 0.439936-1.183170I$ $a=-0.229457+0.292308I$ $b=\ 0.14888-2.60320I$	$9.35163-2.81595I$	$6.96988+6.30176I$
$u=\ 0.845263+0.970892I$ $a=-0.985025+0.700226I$ $b=-1.55819-0.30361I$	$-3.93665-3.25428I$	$-10.43858+1.28254I$
$u=\ 0.845263-0.970892I$ $a=-0.985025-0.700226I$ $b=-1.55819+0.30361I$	$-3.93665+3.25428I$	$-10.43858-1.28254I$
$u=\ 0.521987+0.434269I$ $a=\ 2.20601-0.47071I$ $b=\ 1.260940+0.277322I$	$-2.29503-8.27917I$	$-4.34310+7.45137I$
$u=\ 0.521987-0.434269I$ $a=\ 2.20601+0.47071I$ $b=\ 1.260940-0.277322I$	$-2.29503+8.27917I$	$-4.34310-7.45137I$
$u=\ 0.033614+1.327820I$ $a=-0.415387+0.107961I$ $b=-0.290433-0.722460I$	$4.38778-3.91744I$	$1.99542+5.18399I$
$u=\ 0.033614-1.327820I$ $a=-0.415387-0.107961I$ $b=-0.290433+0.722460I$	$4.38778+3.91744I$	$1.99542-5.18399I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.374631 + 0.548517I$ $a = 1.36732 + 1.25692I$ $b = 0.691859 + 0.569327I$	$1.25895 + 2.87882I$	$-6.56035 - 10.72828I$
$u = 0.374631 - 0.548517I$ $a = 1.36732 - 1.25692I$ $b = 0.691859 - 0.569327I$	$1.25895 - 2.87882I$	$-6.56035 + 10.72828I$
$u = -0.650211 + 0.024846I$ $a = -0.142264 - 1.380460I$ $b = 0.766497 + 0.042011I$	$5.55351 - 2.57256I$	$0.92510 + 3.42731I$
$u = -0.650211 - 0.024846I$ $a = -0.142264 + 1.380460I$ $b = 0.766497 - 0.042011I$	$5.55351 + 2.57256I$	$0.92510 - 3.42731I$
$u = -0.21302 + 1.44313I$ $a = -0.305475 - 0.046954I$ $b = 0.00464002 - 0.01008770I$	$10.65010 + 5.51871I$	$15.9371 - 17.8210I$
$u = -0.21302 - 1.44313I$ $a = -0.305475 + 0.046954I$ $b = 0.00464002 + 0.01008770I$	$10.65010 - 5.51871I$	$15.9371 + 17.8210I$
$u = -0.58097 + 1.34775I$ $a = -0.538939 - 0.759566I$ $b = -1.39280 + 0.96918I$	$3.17519 + 7.31849I$	$-2.37996 - 8.30018I$
$u = -0.58097 - 1.34775I$ $a = -0.538939 + 0.759566I$ $b = -1.39280 - 0.96918I$	$3.17519 - 7.31849I$	$-2.37996 + 8.30018I$
$u = -0.438561 + 0.238927I$ $a = -2.39509 - 0.31734I$ $b = -1.301230 - 0.402596I$	$-1.08236 - 2.66340I$	$-8.88648 + 4.78970I$
$u = -0.438561 - 0.238927I$ $a = -2.39509 + 0.31734I$ $b = -1.301230 + 0.402596I$	$-1.08236 + 2.66340I$	$-8.88648 - 4.78970I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.54761+0.19640I$ $a=-0.765393+0.026355I$ $b=-1.94947+0.13472I$	$-1.96576+1.19069I$	$0.-7.48502I$
$u=-1.54761-0.19640I$ $a=-0.765393-0.026355I$ $b=-1.94947-0.13472I$	$-1.96576-1.19069I$	$0.+7.48502I$
$u=0.058398+0.432391I$ $a=0.07424+2.10314I$ $b=0.726160-1.007150I$	$-0.026476-0.475980I$	$-2.94754+5.05440I$
$u=0.058398-0.432391I$ $a=0.07424-2.10314I$ $b=0.726160+1.007150I$	$-0.026476+0.475980I$	$-2.94754-5.05440I$
$u=-0.26238+1.66704I$ $a=-0.137991-0.684851I$ $b=-0.503128+0.036319I$	$4.34368+6.09031I$	0
$u=-0.26238-1.66704I$ $a=-0.137991+0.684851I$ $b=-0.503128-0.036319I$	$4.34368-6.09031I$	0
$u=-0.19271+1.74669I$ $a=0.904154-0.119013I$ $b=2.68460-0.15180I$	$12.29080+1.46245I$	0
$u=-0.19271-1.74669I$ $a=0.904154+0.119013I$ $b=2.68460+0.15180I$	$12.29080-1.46245I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{38}-4u^{37}+\cdots-20u+19)(u^{109}-9u^{108}+\cdots+76u+717)$
c_2	$(u^{38}+u^{37}+\cdots+8u+7)(u^{109}+36u^{107}+\cdots-1154036u+171943)$
c_3	$(u^{38}+14u^{36}+\cdots+7u+1)(u^{109}+u^{108}+\cdots-284399u+14941)$
c_4	$(u^{38}+3u^{37}+\cdots+9u+1)(u^{109}-2u^{108}+\cdots+17549u+277)$
c_5	$(u^{38}+3u^{37}+\cdots-4u+1)$ $\cdot(u^{109}+46u^{107}+\cdots-4285172u+1094877)$
c_6	$(u^{38}-u^{37}+\cdots-8u+7)(u^{109}+36u^{107}+\cdots-1154036u+171943)$
c_7	$(u^{38}+2u^{37}+\cdots+u+1)(u^{109}-u^{108}+\cdots-10183u+2217)$
c_8	$(u^{38}-4u^{37}+\cdots+168u+17)$ $\cdot(u^{109}-5u^{108}+\cdots+9551892u+3400151)$
c_9	$(u^{38}-3u^{37}+\cdots+4u+1)$ $\cdot(u^{109}+46u^{107}+\cdots-4285172u+1094877)$
c_{10}	$(u^{38}+12u^{37}+\cdots+12u+1)(u^{109}+3u^{108}+\cdots+652u-23)$
c_{11}	$(u^{38}-2u^{37}+\cdots-u+1)(u^{109}-u^{108}+\cdots-10183u+2217)$
c_{12}	$(u^{38}-15u^{36}+\cdots-115u+25)(u^{109}-3u^{108}+\cdots+3441u+1219)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{38} - 8y^{37} + \cdots + 5908y + 361)$ $\cdot (y^{109} - 17y^{108} + \cdots + 4144300y - 514089)$
c_2, c_6	$(y^{38} + 29y^{37} + \cdots + 608y + 49)$ $\cdot (y^{109} + 72y^{108} + \cdots - 612883806196y - 29564395249)$
c_3	$(y^{38} + 28y^{37} + \cdots + 7y + 1)$ $\cdot (y^{109} + 63y^{108} + \cdots + 3169749553y - 223233481)$
c_4	$(y^{38} - 5y^{37} + \cdots - 29y + 1)$ $\cdot (y^{109} + 18y^{108} + \cdots + 99463961y - 76729)$
c_5, c_9	$(y^{38} + 41y^{37} + \cdots - 52y + 1)$ $\cdot (y^{109} + 92y^{108} + \cdots - 34486733431904y - 1198755645129)$
c_7, c_{11}	$(y^{38} - 6y^{37} + \cdots + 21y + 1)$ $\cdot (y^{109} - 59y^{108} + \cdots + 32452411y - 4915089)$
c_8	$(y^{38} + 10y^{37} + \cdots + 95094y + 289)$ $\cdot (y^{109} - 15y^{108} + \cdots + 809760664993586y - 11561026822801)$
c_{10}	$(y^{38} - 20y^{37} + \cdots - 32y + 1)(y^{109} - 37y^{108} + \cdots + 624376y - 529)$
c_{12}	$(y^{38} - 30y^{37} + \cdots + 7725y + 625)$ $\cdot (y^{109} - 27y^{108} + \cdots - 202910749y - 1485961)$