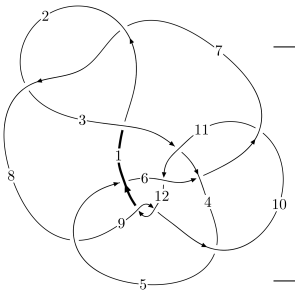
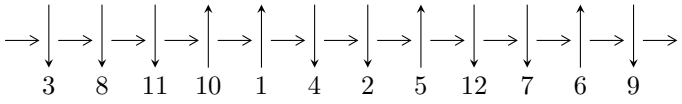
$12a_{0788}$ $(K12a_{0788})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -7.48372 \times 10^{14} u^{59} - 1.40888 \times 10^{16} u^{58} + \cdots + 1.09132 \times 10^{11} b + 1.02559 \times 10^{18}, \\
&\quad - 1.00155 \times 10^{15} u^{59} - 1.85343 \times 10^{16} u^{58} + \cdots + 2.18264 \times 10^{11} a + 9.84042 \times 10^{17}, \\
&\quad u^{60} + 20 u^{59} + \cdots - 27648 u - 2048 \rangle \\
I_2^u &= \langle 1.40209 \times 10^{270} a^{21} u^5 + 1.35540 \times 10^{271} a^{20} u^5 + \cdots - 1.14418 \times 10^{274} a - 7.36836 \times 10^{272}, \\
&\quad - 3 a^{21} u^5 + 2 a^{20} u^5 + \cdots + 91 a + 98,\ u^6 - u^5 - u^4 + 2 u^3 - u + 1 \rangle \\
I_3^u &= \langle -2121378380 u^{44} + 1708716794 u^{43} + \cdots + 57230447 b - 2318247446, \\
&\quad - 2318247446 u^{44} + 2515116512 u^{43} + \cdots + 57230447 a - 1658167052,\ u^{45} - 2 u^{44} + \cdots + 2 u - 1 \rangle \\
I_4^u &= \langle b - 1,\ a - u - 1,\ u^2 + u + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 239 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. $\boldsymbol{I_1^u = \langle -7.48 \times 10^{14} u^{59} - 1.41 \times 10^{16} u^{58} + \cdots + 1.09 \times 10^{11} b + 1.03 \times 10^{18},\ -1.00 \times 10^{15} u^{59} - 1.85 \times 10^{16} u^{58} + \cdots + 2.18 \times 10^{11} a + 9.84 \times 10^{17},\ u^{60} + 20 u^{59} + \cdots - 27648 u - 2048 \rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 4588.72u^{59} + 84916.9u^{58} + \cdots - 6.02606 \times 10^7 u - 4.50849 \times 10^6 \\ 6857.49u^{59} + 129098.u^{58} + \cdots - 1.22360 \times 10^8 u - 9.39770 \times 10^6 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 250.351u^{59} + 5495.68u^{58} + \cdots - 1.44691 \times 10^7 u - 1.15895 \times 10^6 \\ -488.667u^{59} - 8145.45u^{58} + \cdots - 5.76275 \times 10^6 u - 512719. \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} 1325.73u^{59} + 24882.4u^{58} + \cdots - 2.45048 \times 10^7 u - 1.89309 \times 10^6 \\ 1986.08u^{59} + 36969.0u^{58} + \cdots - 3.14103 \times 10^7 u - 2.40620 \times 10^6 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3514.76u^{59} + 67929.5u^{58} + \cdots - 8.86252 \times 10^7 u - 6.95375 \times 10^6 \\ 5783.53u^{59} + 112111.u^{58} + \cdots - 1.50725 \times 10^8 u - 1.18430 \times 10^7 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 238.438u^{59} + 3950.12u^{58} + \cdots + 5.58629 \times 10^6 u + 496872. \\ -218.983u^{59} - 5479.84u^{58} + \cdots + 2.60400 \times 10^7 u + 2.13851 \times 10^6 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -129.456u^{59} - 2345.21u^{58} + \cdots + 2.05852 \times 10^6 u + 170613. \\ -1118.08u^{59} - 21011.6u^{58} + \cdots + 2.28800 \times 10^7 u + 1.79800 \times 10^6 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1645.01u^{59} - 30594.3u^{58} + \cdots + 2.26877 \times 10^7 u + 1.70023 \times 10^6 \\ -3467.72u^{59} - 64602.7u^{58} + \cdots + 5.02340 \times 10^7 u + 3.79319 \times 10^6 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$$= \frac{36746774069337}{13641503552} u^{59} + \frac{1434372875041167}{27283007104} u^{58} + \cdots - \frac{15915677814015894}{213148493} u - \frac{1254542070951070}{213148493}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{60} + 34u^{59} + \cdots + 13631488u + 4194304$
c_2, c_7	$u^{60} - 20u^{59} + \cdots + 27648u - 2048$
c_3, c_{10}	$u^{60} + 2u^{59} + \cdots + 4u - 1$
c_4, c_{11}	$u^{60} + 7u^{58} + \cdots - 2u - 21$
c_5, c_8	$u^{60} + 4u^{59} + \cdots + 23u - 1$
c_6	$u^{60} - 41u^{59} + \cdots - 416u + 64$
c_9, c_{12}	$u^{60} - 21u^{59} + \cdots - 66560u + 4096$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{60} - 14y^{59} + \cdots + 355142255771648y + 17592186044416$
c_2, c_7	$y^{60} - 34y^{59} + \cdots - 13631488y + 4194304$
c_3, c_{10}	$y^{60} + 10y^{59} + \cdots + 18y + 1$
c_4, c_{11}	$y^{60} + 14y^{59} + \cdots + 2768y + 441$
c_5, c_8	$y^{60} - 30y^{59} + \cdots - 629y + 1$
c_6	$y^{60} - 7y^{59} + \cdots - 119808y + 4096$
c_9, c_{12}	$y^{60} + 29y^{59} + \cdots + 103809024y + 16777216$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.333620+0.934820I$ $a=\ \ 0.674936+1.218260I$ $b=\ \ 1.364030-0.224508I$	$2.2681-15.8299I$	0
$u=-0.333620-0.934820I$ $a=\ \ 0.674936-1.218260I$ $b=\ \ 1.364030+0.224508I$	$2.2681+15.8299I$	0
$u=-0.313471+0.961263I$ $a=-0.601185-1.165240I$ $b=-1.308550+0.212628I$	$-1.49873-9.71181I$	0
$u=-0.313471-0.961263I$ $a=-0.601185+1.165240I$ $b=-1.308550-0.212628I$	$-1.49873+9.71181I$	0
$u=\ \ 0.944174+0.249030I$ $a=-0.081713+0.383364I$ $b=\ \ 0.172621-0.341613I$	$-0.507559-0.907664I$	0
$u=\ \ 0.944174-0.249030I$ $a=-0.081713-0.383364I$ $b=\ \ 0.172621+0.341613I$	$-0.507559+0.907664I$	0
$u=-0.697333+0.759169I$ $a=\ \ 0.809520+0.902124I$ $b=\ \ 1.249370+0.014518I$	$3.10973+0.23218I$	0
$u=-0.697333-0.759169I$ $a=\ \ 0.809520-0.902124I$ $b=\ \ 1.249370-0.014518I$	$3.10973-0.23218I$	0
$u=-0.145685+0.934102I$ $a=-0.001093-0.424826I$ $b=-0.396990-0.060870I$	$0.27991-2.30790I$	0
$u=-0.145685-0.934102I$ $a=-0.001093+0.424826I$ $b=-0.396990+0.060870I$	$0.27991+2.30790I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.780293+0.715158I$ $a=-0.08445-1.54692I$ $b=-1.17219-1.14665I$	$7.75560+1.60562I$	0
$u=-0.780293-0.715158I$ $a=-0.08445+1.54692I$ $b=-1.17219+1.14665I$	$7.75560-1.60562I$	0
$u=-0.187677+0.905842I$ $a=0.367951+1.279140I$ $b=1.227760-0.093240I$	$4.33323-3.97038I$	0
$u=-0.187677-0.905842I$ $a=0.367951-1.279140I$ $b=1.227760+0.093240I$	$4.33323+3.97038I$	0
$u=-0.303550+1.037960I$ $a=0.270953+0.350153I$ $b=0.445694-0.174951I$	$2.68007-6.88503I$	0
$u=-0.303550-1.037960I$ $a=0.270953-0.350153I$ $b=0.445694+0.174951I$	$2.68007+6.88503I$	0
$u=-0.848038+0.707790I$ $a=-1.104920-0.731601I$ $b=-1.45484+0.16163I$	$7.56196+3.77097I$	0
$u=-0.848038-0.707790I$ $a=-1.104920+0.731601I$ $b=-1.45484-0.16163I$	$7.56196-3.77097I$	0
$u=-1.070680+0.508372I$ $a=1.26524+0.88222I$ $b=1.80317+0.30136I$	$1.92878+5.49302I$	0
$u=-1.070680-0.508372I$ $a=1.26524-0.88222I$ $b=1.80317-0.30136I$	$1.92878-5.49302I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.824091+0.858404I$ $a=-0.070507-1.171040I$ $b=-1.063330-0.904520I$	$5.37941+11.52000I$	0
$u=-0.824091-0.858404I$ $a=-0.070507+1.171040I$ $b=-1.063330+0.904520I$	$5.37941-11.52000I$	0
$u=-0.905721+0.787538I$ $a=0.293055+1.287800I$ $b=1.27962+0.93560I$	$2.52360+5.52538I$	0
$u=-0.905721-0.787538I$ $a=0.293055-1.287800I$ $b=1.27962-0.93560I$	$2.52360-5.52538I$	0
$u=-0.420754+0.679305I$ $a=-0.26528-1.64093I$ $b=-1.226310-0.510218I$	$3.52442-0.82636I$	0
$u=-0.420754-0.679305I$ $a=-0.26528+1.64093I$ $b=-1.226310+0.510218I$	$3.52442+0.82636I$	0
$u=-1.075920+0.562568I$ $a=-1.32077-1.35476I$ $b=-2.18319-0.71459I$	$1.61159+5.63980I$	0
$u=-1.075920-0.562568I$ $a=-1.32077+1.35476I$ $b=-2.18319+0.71459I$	$1.61159-5.63980I$	0
$u=-0.838313+0.884571I$ $a=-0.727740-0.574385I$ $b=-1.118160+0.162223I$	$5.35357-5.24503I$	0
$u=-0.838313-0.884571I$ $a=-0.727740+0.574385I$ $b=-1.118160-0.162223I$	$5.35357+5.24503I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.159010 + 0.393572I$ $a = 0.221908 - 0.440917I$ $b = -0.430725 + 0.423688I$	$0.101185 - 0.165210I$	0
$u = 1.159010 - 0.393572I$ $a = 0.221908 + 0.440917I$ $b = -0.430725 - 0.423688I$	$0.101185 + 0.165210I$	0
$u = -0.456971 + 0.622877I$ $a = -0.07193 + 1.60525I$ $b = 0.967003 + 0.778358I$	$3.74351 - 1.00486I$	0
$u = -0.456971 - 0.622877I$ $a = -0.07193 - 1.60525I$ $b = 0.967003 - 0.778358I$	$3.74351 + 1.00486I$	0
$u = -1.079430 + 0.603300I$ $a = 0.80779 + 1.26432I$ $b = 1.63471 + 0.87741I$	$1.49576 + 5.38757I$	0
$u = -1.079430 - 0.603300I$ $a = 0.80779 - 1.26432I$ $b = 1.63471 - 0.87741I$	$1.49576 - 5.38757I$	0
$u = 0.733772$ $a = 0.687778$ $b = -0.504672$	-1.46322	0
$u = 1.324830 + 0.182582I$ $a = 0.269732 - 0.353967I$ $b = -0.421977 + 0.419697I$	$-3.44520 + 12.20910I$	0
$u = 1.324830 - 0.182582I$ $a = 0.269732 + 0.353967I$ $b = -0.421977 - 0.419697I$	$-3.44520 - 12.20910I$	0
$u = -1.184740 + 0.623579I$ $a = 1.01088 + 1.65429I$ $b = 2.22921 + 1.32954I$	$-0.3203 + 21.5045I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.184740-0.623579I$ $a=\ \ 1.01088-1.65429I$ $b=\ \ 2.22921-1.32954I$	$-0.3203-21.5045I$	0
$u=-1.198680+0.625931I$ $a=-1.00532-1.57397I$ $b=-2.19026-1.25744I$	$-4.1959+15.4585I$	0
$u=-1.198680-0.625931I$ $a=-1.00532+1.57397I$ $b=-2.19026+1.25744I$	$-4.1959-15.4585I$	0
$u=-1.232080+0.594174I$ $a=-0.480166-0.705714I$ $b=-1.010920-0.584195I$	$-2.90188+7.84313I$	0
$u=-1.232080-0.594174I$ $a=-0.480166+0.705714I$ $b=-1.010920+0.584195I$	$-2.90188-7.84313I$	0
$u=-1.357810+0.168665I$ $a=-0.502833+0.534844I$ $b=-0.592539+0.811023I$	$-5.60267+3.59176I$	0
$u=-1.357810-0.168665I$ $a=-0.502833-0.534844I$ $b=-0.592539-0.811023I$	$-5.60267-3.59176I$	0
$u=-1.238410+0.587165I$ $a=\ \ 1.17216+1.44428I$ $b=\ \ 2.29964+1.10036I$	$1.18187+9.43402I$	0
$u=-1.238410-0.587165I$ $a=\ \ 1.17216-1.44428I$ $b=\ \ 2.29964-1.10036I$	$1.18187-9.43402I$	0
$u=-1.214920+0.640884I$ $a=\ \ 0.325458+0.864460I$ $b=\ \ 0.949425+0.841673I$	$-0.12077+12.85670I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.214920-0.640884I$ $a=\ 0.325458-0.864460I$ $b=\ 0.949425-0.841673I$	$-0.12077-12.85670I$	0
$u=\ 1.376690+0.208793I$ $a=-0.227645+0.340466I$ $b=\ 0.384484-0.421186I$	$-7.27211+5.75378I$	0
$u=\ 1.376690-0.208793I$ $a=-0.227645-0.340466I$ $b=\ 0.384484+0.421186I$	$-7.27211-5.75378I$	0
$u=\ 1.41503+0.05159I$ $a=\ 0.189430+0.088042I$ $b=-0.263507-0.134354I$	$-4.01041+2.67707I$	0
$u=\ 1.41503-0.05159I$ $a=\ 0.189430-0.088042I$ $b=-0.263507+0.134354I$	$-4.01041-2.67707I$	0
$u=\ 0.362341+0.451988I$ $a=\ 0.473557+0.229618I$ $b=-0.067805-0.297242I$	$-0.34589-1.42851I$	0
$u=\ 0.362341-0.451988I$ $a=\ 0.473557-0.229618I$ $b=-0.067805+0.297242I$	$-0.34589+1.42851I$	0
$u=\ 1.58428+0.31201I$ $a=-0.0680742-0.0136247I$ $b=\ 0.1035970+0.0428251I$	$-4.90655-3.22898I$	0
$u=\ 1.58428-0.31201I$ $a=-0.0680742+0.0136247I$ $b=\ 0.1035970-0.0428251I$	$-4.90655+3.22898I$	0
$u=-1.65006$ $a=-1.76564$ $b=-2.91341$	-9.98161	0

II. $I_2^u = \langle 1.40 \times 10^{270} a^{21} u^5 + 1.36 \times 10^{271} a^{20} u^5 + \cdots - 1.14 \times 10^{274} a - 7.37 \times 10^{272},\ -3a^{21}u^5 + 2a^{20}u^5 + \cdots + 91a + 98,\ u^6 - u^5 - u^4 + 2u^3 - u + 1 \rangle$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} a \\ -0.000363549a^{21}u^5 - 0.00351444a^{20}u^5 + \cdots + 2.96676a + 0.191055 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.000759916a^{21}u^5 - 0.000594802a^{20}u^5 + \cdots - 1.22098a + 1.04533 \\ -0.00153762a^{21}u^5 - 0.00216772a^{20}u^5 + \cdots - 2.50590a + 1.50725 \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} -0.00106816a^{21}u^5 + 0.00333324a^{20}u^5 + \cdots + 1.71747a - 0.564711 \\ -0.00254284a^{21}u^5 + 0.00301452a^{20}u^5 + \cdots + 3.28250a - 2.04730 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0000888451a^{21}u^5 - 0.0000384555a^{20}u^5 + \cdots + 5.04034a - 2.00457 \\ -0.000274704a^{21}u^5 - 0.00355290a^{20}u^5 + \cdots + 7.00710a - 1.81352 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.00102679a^{21}u^5 + 0.00234859a^{20}u^5 + \cdots + 0.564123a + 0.490125 \\ -0.00183032a^{21}u^5 + 0.00341665a^{20}u^5 + \cdots + 1.51139a - 1.71646 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00165500a^{21}u^5 + 0.00153794a^{20}u^5 + \cdots - 3.86117a + 1.10515 \\ -0.000225977a^{21}u^5 - 0.00143759a^{20}u^5 + \cdots - 9.27202a + 1.99918 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00102916a^{21}u^5 - 0.00283999a^{20}u^5 + \cdots - 6.13904a + 1.54232 \\ 0.00177077a^{21}u^5 - 0.00397137a^{20}u^5 + \cdots - 3.96200a + 2.57725 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -8.89321 \times 10^{-7} a^{21}u^5 + 0.0105424a^{20}u^5 + \cdots - 6.69822a - 15.5822$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^{22}$
c_2, c_7	$(u^6+u^5-u^4-2u^3+u+1)^{22}$
c_3, c_{10}	$u^{132}+3u^{131}+\cdots+1266u+83$
c_4, c_{11}	$u^{132}+u^{131}+\cdots+14455610u+3138347$
c_5, c_8	$u^{132}-u^{131}+\cdots-758u+67$
c_6	$(u^{11}+5u^{10}+12u^9+15u^8+8u^7-4u^6-8u^5-3u^4+3u^3+3u^2-1)^{12}$
c_9, c_{12}	$(u^{11}+3u^{10}+\cdots+2u+1)^{12}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^6+y^5+5y^4+6y^2+3y+1)^{22}$
c_2, c_7	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^{22}$
c_3, c_{10}	$y^{132}-45y^{131}+\cdots-1080188y+6889$
c_4, c_{11}	$y^{132}+39y^{131}+\cdots-615346853465156y+9849221892409$
c_5, c_8	$y^{132}+27y^{131}+\cdots+10768000y+4489$
c_6	$(y^{11}-y^{10}+\cdots+6y-1)^{12}$
c_9, c_{12}	$(y^{11}+7y^{10}+\cdots-6y-1)^{12}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=-0.639750-0.756577I$ $b=\ \ 0.336258-0.656288I$	$-3.39789+6.14059I$	$-10.15275-9.80700I$
$u=-1.002190+0.295542I$ $a=\ \ 0.158001+0.975492I$ $b=\ \ 1.36089+1.68840I$	$1.09519-4.07643I$	$-1.87613+5.43329I$
$u=-1.002190+0.295542I$ $a=-1.002450+0.210092I$ $b=\ \ 0.227642+0.569565I$	$-4.33844+3.62871I$	$-13.18434-0.71090I$
$u=-1.002190+0.295542I$ $a=-0.674793+0.781681I$ $b=-1.46049+0.69130I$	$-3.95954+3.17209I$	$-13.3525-5.8578I$
$u=-1.002190+0.295542I$ $a=\ \ 0.008409-0.917004I$ $b=\ \ 0.931121-0.184282I$	$-4.33844-1.78010I$	$-13.18434-0.87755I$
$u=-1.002190+0.295542I$ $a=\ \ 0.904638+0.082895I$ $b=-0.262585-0.921500I$	$-4.33844-1.78010I$	$-13.18434-0.87755I$
$u=-1.002190+0.295542I$ $a=\ \ 1.015710+0.658026I$ $b=\ \ 1.92772+0.15809I$	$1.09519+5.92504I$	$-1.87613-7.02174I$
$u=-1.002190+0.295542I$ $a=\ \ 1.078360-0.597521I$ $b=-0.20300-1.52029I$	$-3.95954-1.32348I$	$-13.35253+4.26937I$
$u=-1.002190+0.295542I$ $a=-1.049240-0.705437I$ $b=-0.073777+0.441684I$	$-3.39789-4.29198I$	$-10.15275+8.21855I$
$u=-1.002190+0.295542I$ $a=\ \ 0.486341-0.511433I$ $b=-0.864753-0.569164I$	$-3.39789+6.14059I$	$-10.15275-9.80700I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=\ \ 0.054785+0.584474I$ $b=-0.942552+0.506817I$	$-4.33844+3.62871I$	$-13.18434-0.71090I$
$u=-1.002190+0.295542I$ $a=\ \ 0.22520-1.45055I$ $b=\ \ 0.904135-0.917533I$	$-3.95954-1.32348I$	$-13.35253+4.26937I$
$u=-1.002190+0.295542I$ $a=-1.52785+0.23923I$ $b=-0.445254+0.982825I$	$-3.95954+3.17209I$	$-13.3525-5.8578I$
$u=-1.002190+0.295542I$ $a=-0.187294+0.385486I$ $b=-1.260030-0.396890I$	$-3.39789-4.29198I$	$-10.15275+8.21855I$
$u=-1.002190+0.295542I$ $a=\ \ 1.72681+0.66697I$ $b=\ \ 1.212410+0.359284I$	$1.09519+5.92504I$	$-1.87613-7.02174I$
$u=-1.002190+0.295542I$ $a=\ \ 0.79220+1.91832I$ $b=\ \ 0.446646+0.930935I$	$1.09519-4.07643I$	$-1.87613+5.43329I$
$u=-1.002190+0.295542I$ $a=\ \ 1.87501+2.12992I$ $b=\ \ 2.41815+2.28154I$	$-1.77531+6.84873I$	$-12.8872-10.8178I$
$u=-1.002190+0.295542I$ $a=\ \ 2.46678+1.68983I$ $b=\ \ 2.62310+1.84390I$	$-1.77531-5.00012I$	0
$u=-1.002190+0.295542I$ $a=\ \ 1.90880+2.40276I$ $b=\ \ 2.97160+0.96450I$	$-1.77531-5.00012I$	0
$u=-1.002190+0.295542I$ $a=-2.32648-2.04569I$ $b=-2.64223-2.17398I$	$-5.91430+0.92430I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=\ \ 1.60219+2.74903I$ $b=\ \ 2.50860+1.58044I$	$-1.77531+6.84873I$	0
$u=-1.002190+0.295542I$ $a=-1.83700-2.71095I$ $b=-2.93617-1.36260I$	$-5.91430+0.92430I$	0
$u=-1.002190-0.295542I$ $a=-0.639750+0.756577I$ $b=\ \ 0.336258+0.656288I$	$-3.39789-6.14059I$	$-10.15275+9.80700I$
$u=-1.002190-0.295542I$ $a=\ \ 0.158001-0.975492I$ $b=\ \ 1.36089-1.68840I$	$1.09519+4.07643I$	$-1.87613-5.43329I$
$u=-1.002190-0.295542I$ $a=-1.002450-0.210092I$ $b=\ \ 0.227642-0.569565I$	$-4.33844-3.62871I$	$-13.18434+0.71090I$
$u=-1.002190-0.295542I$ $a=-0.674793-0.781681I$ $b=-1.46049-0.69130I$	$-3.95954-3.17209I$	$-13.3525+5.8578I$
$u=-1.002190-0.295542I$ $a=\ \ 0.008409+0.917004I$ $b=\ \ 0.931121+0.184282I$	$-4.33844+1.78010I$	$-13.18434+0.87755I$
$u=-1.002190-0.295542I$ $a=\ \ 0.904638-0.082895I$ $b=-0.262585+0.921500I$	$-4.33844+1.78010I$	$-13.18434+0.87755I$
$u=-1.002190-0.295542I$ $a=\ \ 1.015710-0.658026I$ $b=\ \ 1.92772-0.15809I$	$1.09519-5.92504I$	$-1.87613+7.02174I$
$u=-1.002190-0.295542I$ $a=\ \ 1.078360+0.597521I$ $b=-0.20300+1.52029I$	$-3.95954+1.32348I$	$-13.35253-4.26937I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190-0.295542I$ $a=-1.049240+0.705437I$ $b=-0.073777-0.441684I$	$-3.39789+4.29198I$	$-10.15275-8.21855I$
$u=-1.002190-0.295542I$ $a=\ \ 0.486341+0.511433I$ $b=-0.864753+0.569164I$	$-3.39789-6.14059I$	$-10.15275+9.80700I$
$u=-1.002190-0.295542I$ $a=\ \ 0.054785-0.584474I$ $b=-0.942552-0.506817I$	$-4.33844-3.62871I$	$-13.18434+0.71090I$
$u=-1.002190-0.295542I$ $a=\ \ 0.22520+1.45055I$ $b=\ \ 0.904135+0.917533I$	$-3.95954+1.32348I$	$-13.35253-4.26937I$
$u=-1.002190-0.295542I$ $a=-1.52785-0.23923I$ $b=-0.445254-0.982825I$	$-3.95954-3.17209I$	$-13.3525+5.8578I$
$u=-1.002190-0.295542I$ $a=-0.187294-0.385486I$ $b=-1.260030+0.396890I$	$-3.39789+4.29198I$	$-10.15275-8.21855I$
$u=-1.002190-0.295542I$ $a=\ \ 1.72681-0.66697I$ $b=\ \ 1.212410-0.359284I$	$1.09519-5.92504I$	$-1.87613+7.02174I$
$u=-1.002190-0.295542I$ $a=\ \ 0.79220-1.91832I$ $b=\ \ 0.446646-0.930935I$	$1.09519+4.07643I$	$-1.87613-5.43329I$
$u=-1.002190-0.295542I$ $a=\ \ 1.87501-2.12992I$ $b=\ \ 2.41815-2.28154I$	$-1.77531-6.84873I$	$-12.8872+10.8178I$
$u=-1.002190-0.295542I$ $a=\ \ 2.46678-1.68983I$ $b=\ \ 2.62310-1.84390I$	$-1.77531+5.00012I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190-0.295542I$ $a=\ \ 1.90880-2.40276I$ $b=\ \ 2.97160-0.96450I$	$-1.77531+5.00012I$	0
$u=-1.002190-0.295542I$ $a=-2.32648+2.04569I$ $b=-2.64223+2.17398I$	$-5.91430-0.92430I$	0
$u=-1.002190-0.295542I$ $a=\ \ 1.60219-2.74903I$ $b=\ \ 2.50860-1.58044I$	$-1.77531-6.84873I$	0
$u=-1.002190-0.295542I$ $a=-1.83700+2.71095I$ $b=-2.93617+1.36260I$	$-5.91430-0.92430I$	0
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.937359+0.290616I$ $b=-0.034445+0.972282I$	$0.38333-4.29198I$	$-2.71931+8.21855I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.888537+0.363534I$ $b=\ \ 0.084731+0.430342I$	$-0.55723-1.78010I$	$-5.75090-0.87755I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.513515-0.791746I$ $b=\ \ 0.481721-0.568584I$	$-0.178329-1.323480I$	$-5.91910+4.26937I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.274480+0.901786I$ $b=-0.746049-0.002187I$	$-0.178329-1.323480I$	$-5.91910+4.26937I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 1.007060-0.367162I$ $b=-0.944493+0.754666I$	$-2.13309+0.92430I$	$-14.5446-0.7942I$
$u=\ \ 0.428243+0.664531I$ $a=-1.010190-0.702828I$ $b=-0.208294-0.747359I$	$0.38333-4.29198I$	$-2.71931+8.21855I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 + 0.664531I$ $a = -1.307470 - 0.198828I$ $b = 1.12264 - 1.02990I$	$2.00590 + 6.84873I$	$-5.45374 - 10.81777I$
$u = 0.428243 + 0.664531I$ $a = -1.135580 - 0.768212I$ $b = 0.788220 - 0.886069I$	$4.87640 - 4.07643I$	$5.55731 + 5.43329I$
$u = 0.428243 + 0.664531I$ $a = 0.99399 - 1.03232I$ $b = 1.78426 - 0.19433I$	$4.87640 + 5.92504I$	$5.55731 - 7.02174I$
$u = 0.428243 + 0.664531I$ $a = -0.515623 - 0.204777I$ $b = -0.138930 - 0.746141I$	$-0.55723 - 1.78010I$	$-5.75090 - 0.87755I$
$u = 0.428243 + 0.664531I$ $a = 0.40204 + 1.44521I$ $b = -0.024195 + 1.083610I$	$4.87640 - 4.07643I$	$5.55731 + 5.43329I$
$u = 0.428243 + 0.664531I$ $a = -0.15524 - 1.52134I$ $b = -0.675255 - 0.511985I$	$-2.13309 + 0.92430I$	$-14.5446 - 0.7942I$
$u = 0.428243 + 0.664531I$ $a = -1.18622 + 1.07737I$ $b = -1.309380 + 0.296275I$	$-0.17833 + 3.17209I$	$-5.91910 - 5.85782I$
$u = 0.428243 + 0.664531I$ $a = -1.01261 + 1.34820I$ $b = -1.62757 - 0.23946I$	$0.38333 + 6.14059I$	$-2.71931 - 9.80700I$
$u = 0.428243 + 0.664531I$ $a = 0.58216 - 1.59522I$ $b = 1.223930 + 0.326901I$	$-0.17833 + 3.17209I$	$-5.91910 - 5.85782I$
$u = 0.428243 + 0.664531I$ $a = 0.94767 - 1.44455I$ $b = 1.40651 + 0.32895I$	$-0.55723 + 3.62871I$	$-5.75090 - 0.71090I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 + 0.664531I$ $a = 0.091076 + 0.184671I$ $b = 1.42088 - 0.24221I$	$2.00590 - 5.00012I$	$-5.45374 + 9.22932I$
$u = 0.428243 + 0.664531I$ $a = -0.71604 + 1.67673I$ $b = 0.083717 - 0.139607I$	$2.00590 - 5.00012I$	$-5.45374 + 9.22932I$
$u = 0.428243 + 0.664531I$ $a = -1.31350 + 1.27009I$ $b = -1.365780 - 0.011137I$	$-0.55723 + 3.62871I$	$-5.75090 - 0.71090I$
$u = 0.428243 + 0.664531I$ $a = 0.32582 + 1.89934I$ $b = 0.427787 + 0.953999I$	$2.00590 + 6.84873I$	$-5.45374 - 10.81777I$
$u = 0.428243 + 0.664531I$ $a = 1.36981 - 1.56645I$ $b = 1.329570 + 0.095549I$	$0.38333 + 6.14059I$	$-2.71931 - 9.80700I$
$u = 0.428243 + 0.664531I$ $a = -1.01595 + 2.03029I$ $b = -1.111680 - 0.218457I$	$4.87640 + 5.92504I$	$5.55731 - 7.02174I$
$u = 0.428243 - 0.664531I$ $a = 0.937359 - 0.290616I$ $b = -0.034445 - 0.972282I$	$0.38333 + 4.29198I$	$-2.71931 - 8.21855I$
$u = 0.428243 - 0.664531I$ $a = 0.888537 - 0.363534I$ $b = 0.084731 - 0.430342I$	$-0.55723 + 1.78010I$	$-5.75090 + 0.87755I$
$u = 0.428243 - 0.664531I$ $a = 0.513515 + 0.791746I$ $b = 0.481721 + 0.568584I$	$-0.178329 + 1.323480I$	$-5.91910 - 4.26937I$
$u = 0.428243 - 0.664531I$ $a = 0.274480 - 0.901786I$ $b = -0.746049 + 0.002187I$	$-0.178329 + 1.323480I$	$-5.91910 - 4.26937I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 - 0.664531I$ $a = 1.007060 + 0.367162I$ $b = -0.944493 - 0.754666I$	$-2.13309 - 0.92430I$	$-14.5446 + 0.7942I$
$u = 0.428243 - 0.664531I$ $a = -1.010190 + 0.702828I$ $b = -0.208294 + 0.747359I$	$0.38333 + 4.29198I$	$-2.71931 - 8.21855I$
$u = 0.428243 - 0.664531I$ $a = -1.307470 + 0.198828I$ $b = 1.12264 + 1.02990I$	$2.00590 - 6.84873I$	$-5.45374 + 10.81777I$
$u = 0.428243 - 0.664531I$ $a = -1.135580 + 0.768212I$ $b = 0.788220 + 0.886069I$	$4.87640 + 4.07643I$	$5.55731 - 5.43329I$
$u = 0.428243 - 0.664531I$ $a = 0.99399 + 1.03232I$ $b = 1.78426 + 0.19433I$	$4.87640 - 5.92504I$	$5.55731 + 7.02174I$
$u = 0.428243 - 0.664531I$ $a = -0.515623 + 0.204777I$ $b = -0.138930 + 0.746141I$	$-0.55723 + 1.78010I$	$-5.75090 + 0.87755I$
$u = 0.428243 - 0.664531I$ $a = 0.40204 - 1.44521I$ $b = -0.024195 - 1.083610I$	$4.87640 + 4.07643I$	$5.55731 - 5.43329I$
$u = 0.428243 - 0.664531I$ $a = -0.15524 + 1.52134I$ $b = -0.675255 + 0.511985I$	$-2.13309 - 0.92430I$	$-14.5446 + 0.7942I$
$u = 0.428243 - 0.664531I$ $a = -1.18622 - 1.07737I$ $b = -1.309380 - 0.296275I$	$-0.17833 - 3.17209I$	$-5.91910 + 5.85782I$
$u = 0.428243 - 0.664531I$ $a = -1.01261 - 1.34820I$ $b = -1.62757 + 0.23946I$	$0.38333 - 6.14059I$	$-2.71931 + 9.80700I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 - 0.664531I$ $a = 0.58216 + 1.59522I$ $b = 1.223930 - 0.326901I$	$-0.17833 - 3.17209I$	$-5.91910 + 5.85782I$
$u = 0.428243 - 0.664531I$ $a = 0.94767 + 1.44455I$ $b = 1.40651 - 0.32895I$	$-0.55723 - 3.62871I$	$-5.75090 + 0.71090I$
$u = 0.428243 - 0.664531I$ $a = 0.091076 - 0.184671I$ $b = 1.42088 + 0.24221I$	$2.00590 + 5.00012I$	$-5.45374 - 9.22932I$
$u = 0.428243 - 0.664531I$ $a = -0.71604 - 1.67673I$ $b = 0.083717 + 0.139607I$	$2.00590 + 5.00012I$	$-5.45374 - 9.22932I$
$u = 0.428243 - 0.664531I$ $a = -1.31350 - 1.27009I$ $b = -1.365780 + 0.011137I$	$-0.55723 - 3.62871I$	$-5.75090 + 0.71090I$
$u = 0.428243 - 0.664531I$ $a = 0.32582 - 1.89934I$ $b = 0.427787 - 0.953999I$	$2.00590 - 6.84873I$	$-5.45374 + 10.81777I$
$u = 0.428243 - 0.664531I$ $a = 1.36981 + 1.56645I$ $b = 1.329570 - 0.095549I$	$0.38333 - 6.14059I$	$-2.71931 + 9.80700I$
$u = 0.428243 - 0.664531I$ $a = -1.01595 - 2.03029I$ $b = -1.111680 + 0.218457I$	$4.87640 - 5.92504I$	$5.55731 + 7.02174I$
$u = 1.073950 + 0.558752I$ $a = -0.084014 + 1.015950I$ $b = -0.837758 + 0.839734I$	$-2.44783 - 2.98861I$	$-9.46762 + 5.59390I$
$u = 1.073950 + 0.558752I$ $a = 0.293747 - 0.934741I$ $b = 0.657888 - 1.044130I$	$-2.44783 - 2.98861I$	$-9.46762 + 5.59390I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 + 0.558752I$ $a = 0.362631 - 0.954585I$ $b = -0.1327270 - 0.0315553I$	$0.115297 + 0.231405I$	$-9.17045 - 4.51298I$
$u = 1.073950 + 0.558752I$ $a = 0.120889 + 0.856405I$ $b = -0.070409 + 0.946845I$	$-1.50728 - 0.47673I$	$-6.43603 - 3.50221I$
$u = 1.073950 + 0.558752I$ $a = -1.182070 - 0.073943I$ $b = -1.50537 - 0.12930I$	$2.98579 - 0.69228I$	$1.84059 - 0.71694I$
$u = 1.073950 + 0.558752I$ $a = -0.309392 - 0.720678I$ $b = 0.348689 - 0.987283I$	$-1.50728 - 0.47673I$	$-6.43603 - 3.50221I$
$u = 1.073950 + 0.558752I$ $a = 1.152410 - 0.479176I$ $b = 1.22817 + 0.73990I$	$2.98579 - 0.69228I$	$1.84059 - 0.71694I$
$u = 1.073950 + 0.558752I$ $a = 0.911073 + 0.930551I$ $b = 1.48352 + 0.56702I$	$-4.02369 - 5.69302I$	$-18.2613 + 5.5106I$
$u = 1.073950 + 0.558752I$ $a = -1.303280 + 0.150088I$ $b = -0.45850 - 1.50843I$	$-4.02369 - 5.69302I$	$-18.2613 + 5.5106I$
$u = 1.073950 + 0.558752I$ $a = 0.97227 - 1.06551I$ $b = 1.40323 - 1.08047I$	$-2.06894 - 3.44524I$	$-9.63582 + 0.44697I$
$u = 1.073950 + 0.558752I$ $a = -0.61633 + 1.32674I$ $b = -1.63952 + 0.60105I$	$-2.06894 - 3.44524I$	$-9.63582 + 0.44697I$
$u = 1.073950 + 0.558752I$ $a = -1.39370 - 0.74791I$ $b = -1.95662 - 0.59736I$	$0.11530 - 11.61740I$	$-9.1705 + 15.5341I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 + 0.558752I$ $a = 1.66153 - 0.30823I$ $b = 1.07887 + 1.58195I$	$0.11530 - 11.61740I$	$-9.1705 + 15.5341I$
$u = 1.073950 + 0.558752I$ $a = -0.69767 + 1.69151I$ $b = -2.32631 + 1.65114I$	$2.98579 - 10.69380I$	$1.84059 + 11.73808I$
$u = 1.073950 + 0.558752I$ $a = 0.1092910 - 0.0274790I$ $b = -0.922823 + 0.822556I$	$0.115297 + 0.231405I$	$-9.17045 - 4.51298I$
$u = 1.073950 + 0.558752I$ $a = 0.63890 - 1.86392I$ $b = 2.18525 - 1.36863I$	$-2.06894 - 7.94081I$	$-9.6358 + 10.5742I$
$u = 1.073950 + 0.558752I$ $a = -1.07953 + 1.83604I$ $b = -1.72761 + 1.64477I$	$-2.06894 - 7.94081I$	$-9.6358 + 10.5742I$
$u = 1.073950 + 0.558752I$ $a = 0.89609 - 1.93458I$ $b = 2.10722 - 1.85079I$	$-1.50728 - 10.90930I$	$-6.4360 + 14.5233I$
$u = 1.073950 + 0.558752I$ $a = 0.70039 - 2.02609I$ $b = 2.07265 - 1.58800I$	$-2.44783 - 8.39743I$	$-9.46762 + 5.42724I$
$u = 1.073950 + 0.558752I$ $a = -0.91338 + 1.95387I$ $b = -1.88426 + 1.78457I$	$-2.44783 - 8.39743I$	$-9.46762 + 5.42724I$
$u = 1.073950 + 0.558752I$ $a = -0.83852 + 2.15961I$ $b = -2.04330 + 1.57695I$	$-1.50728 - 10.90930I$	$-6.4360 + 14.5233I$
$u = 1.073950 + 0.558752I$ $a = 1.07519 - 2.09684I$ $b = 1.69439 - 1.42677I$	$2.98579 - 10.69380I$	$1.84059 + 11.73808I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$ $a = -0.084014 - 1.015950I$ $b = -0.837758 - 0.839734I$	$-2.44783 + 2.98861I$	$-9.46762 - 5.59390I$
$u = 1.073950 - 0.558752I$ $a = 0.293747 + 0.934741I$ $b = 0.657888 + 1.044130I$	$-2.44783 + 2.98861I$	$-9.46762 - 5.59390I$
$u = 1.073950 - 0.558752I$ $a = 0.362631 + 0.954585I$ $b = -0.1327270 + 0.0315553I$	$0.115297 - 0.231405I$	$-9.17045 + 4.51298I$
$u = 1.073950 - 0.558752I$ $a = 0.120889 - 0.856405I$ $b = -0.070409 - 0.946845I$	$-1.50728 + 0.47673I$	$-6.43603 + 3.50221I$
$u = 1.073950 - 0.558752I$ $a = -1.182070 + 0.073943I$ $b = -1.50537 + 0.12930I$	$2.98579 + 0.69228I$	$1.84059 + 0.71694I$
$u = 1.073950 - 0.558752I$ $a = -0.309392 + 0.720678I$ $b = 0.348689 + 0.987283I$	$-1.50728 + 0.47673I$	$-6.43603 + 3.50221I$
$u = 1.073950 - 0.558752I$ $a = 1.152410 + 0.479176I$ $b = 1.22817 - 0.73990I$	$2.98579 + 0.69228I$	$1.84059 + 0.71694I$
$u = 1.073950 - 0.558752I$ $a = 0.911073 - 0.930551I$ $b = 1.48352 - 0.56702I$	$-4.02369 + 5.69302I$	$-18.2613 - 5.5106I$
$u = 1.073950 - 0.558752I$ $a = -1.303280 - 0.150088I$ $b = -0.45850 + 1.50843I$	$-4.02369 + 5.69302I$	$-18.2613 - 5.5106I$
$u = 1.073950 - 0.558752I$ $a = 0.97227 + 1.06551I$ $b = 1.40323 + 1.08047I$	$-2.06894 + 3.44524I$	$-9.63582 - 0.44697I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$ $a = -0.61633 - 1.32674I$ $b = -1.63952 - 0.60105I$	$-2.06894 + 3.44524I$	$-9.63582 - 0.44697I$
$u = 1.073950 - 0.558752I$ $a = -1.39370 + 0.74791I$ $b = -1.95662 + 0.59736I$	$0.11530 + 11.61740I$	$-9.1705 - 15.5341I$
$u = 1.073950 - 0.558752I$ $a = 1.66153 + 0.30823I$ $b = 1.07887 - 1.58195I$	$0.11530 + 11.61740I$	$-9.1705 - 15.5341I$
$u = 1.073950 - 0.558752I$ $a = -0.69767 - 1.69151I$ $b = -2.32631 - 1.65114I$	$2.98579 + 10.69380I$	$1.84059 - 11.73808I$
$u = 1.073950 - 0.558752I$ $a = 0.1092910 + 0.0274790I$ $b = -0.922823 - 0.822556I$	$0.115297 - 0.231405I$	$-9.17045 + 4.51298I$
$u = 1.073950 - 0.558752I$ $a = 0.63890 + 1.86392I$ $b = 2.18525 + 1.36863I$	$-2.06894 + 7.94081I$	$-9.6358 - 10.5742I$
$u = 1.073950 - 0.558752I$ $a = -1.07953 - 1.83604I$ $b = -1.72761 - 1.64477I$	$-2.06894 + 7.94081I$	$-9.6358 - 10.5742I$
$u = 1.073950 - 0.558752I$ $a = 0.89609 + 1.93458I$ $b = 2.10722 + 1.85079I$	$-1.50728 + 10.90930I$	$-6.4360 - 14.5233I$
$u = 1.073950 - 0.558752I$ $a = 0.70039 + 2.02609I$ $b = 2.07265 + 1.58800I$	$-2.44783 + 8.39743I$	$-9.46762 - 5.42724I$
$u = 1.073950 - 0.558752I$ $a = -0.91338 - 1.95387I$ $b = -1.88426 - 1.78457I$	$-2.44783 + 8.39743I$	$-9.46762 - 5.42724I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$		
$a = -0.83852 - 2.15961I$	$-1.50728 + 10.90930I$	$-6.4360 - 14.5233I$
$b = -2.04330 - 1.57695I$		
$u = 1.073950 - 0.558752I$		
$a = 1.07519 + 2.09684I$	$2.98579 + 10.69380I$	$1.84059 - 11.73808I$
$b = 1.69439 + 1.42677I$		

III.

$\boldsymbol{I_3^u = \langle -2.12\times 10^9 u^{44} + 1.71\times 10^9 u^{43} + \cdots + 5.72\times 10^7 b - 2.32\times 10^9,\ -2.32\times 10^9 u^{44} + 2.52\times 10^9 u^{43} + \cdots + 5.72\times 10^7 a - 1.66\times 10^9,\ u^{45} - 2u^{44} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 40.5072u^{44} - 43.9472u^{43} + \cdots - 23.0765u + 28.9735 \\ 37.0673u^{44} - 29.8568u^{43} + \cdots - 52.0410u + 40.5072 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -4.90785u^{44} + 23.9865u^{43} + \cdots - 24.0880u + 17.4586 \\ 14.1708u^{44} - 37.1237u^{43} + \cdots + 26.2743u - 4.90785 \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} -7.44768u^{44} + 22.4355u^{43} + \cdots + 9.09415u - 3.38213 \\ 42.1786u^{44} - 124.862u^{43} + \cdots + 137.203u - 48.7766 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 35.5786u^{44} - 36.8812u^{43} + \cdots - 40.9375u + 36.1840 \\ 32.1387u^{44} - 22.7908u^{43} + \cdots - 69.9020u + 47.7178 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 7.10030u^{44} - 15.4634u^{43} + \cdots + 52.4706u - 17.1345 \\ 63.4171u^{44} - 184.881u^{43} + \cdots + 181.398u - 64.2316 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 7.54710u^{44} - 8.57726u^{43} + \cdots - 8.43501u + 1.14124 \\ 15.0041u^{44} - 22.4267u^{43} + \cdots - 14.1267u + 10.1107 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 27.6269u^{44} - 30.3038u^{43} + \cdots - 2.18605u + 15.3122 \\ 37.8156u^{44} - 51.7656u^{43} + \cdots - 20.3289u + 24.3846 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{3996664524}{57230447}u^{44} - \frac{10950155072}{57230447}u^{43} + \cdots + \frac{10553998747}{57230447}u - \frac{2768249785}{57230447}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{45} - 30u^{44} + \cdots + 16u - 1$
c_2	$u^{45} - 2u^{44} + \cdots + 2u - 1$
c_3, c_{10}	$u^{45} - u^{44} + \cdots + 6u - 1$
c_4, c_{11}	$u^{45} + 9u^{43} + \cdots + 16u - 4$
c_5, c_8	$u^{45} + 2u^{44} + \cdots + 14u + 1$
c_6	$u^{45} + 22u^{44} + \cdots + 5u + 1$
c_7	$u^{45} + 2u^{44} + \cdots + 2u + 1$
c_9	$u^{45} - 15u^{44} + \cdots + 292u - 29$
c_{12}	$u^{45} + 15u^{44} + \cdots + 292u + 29$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{45} - 14y^{44} + \cdots - 44y - 1$
c_2, c_7	$y^{45} - 30y^{44} + \cdots + 16y - 1$
c_3, c_{10}	$y^{45} - 25y^{44} + \cdots - 14y - 1$
c_4, c_{11}	$y^{45} + 18y^{44} + \cdots + 216y - 16$
c_5, c_8	$y^{45} + 12y^{44} + \cdots + 156y - 1$
c_6	$y^{45} - 8y^{44} + \cdots + 19y - 1$
c_9, c_{12}	$y^{45} + 23y^{44} + \cdots - 18614y - 841$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.953181 + 0.282182I$ $a = -2.48300 + 1.93285I$ $b = -2.91216 + 1.14170I$	$-5.31781 - 1.12767I$	$-6.32235 + 5.99209I$
$u = \ 0.953181 - 0.282182I$ $a = -2.48300 - 1.93285I$ $b = -2.91216 - 1.14170I$	$-5.31781 + 1.12767I$	$-6.32235 - 5.99209I$
$u = -0.950979 + 0.351708I$ $a = -0.572715 - 0.262540I$ $b = \ 0.636978 + 0.048242I$	$-3.72251 + 4.31570I$	$-5.05810 - 7.71164I$
$u = -0.950979 - 0.351708I$ $a = -0.572715 + 0.262540I$ $b = \ 0.636978 - 0.048242I$	$-3.72251 - 4.31570I$	$-5.05810 + 7.71164I$
$u = \ 0.969732 + 0.319689I$ $a = \ 2.22637 - 2.18286I$ $b = \ 2.85682 - 1.40504I$	$-1.30775 + 4.51511I$	$-2.36632 + 1.74372I$
$u = \ 0.969732 - 0.319689I$ $a = \ 2.22637 + 2.18286I$ $b = \ 2.85682 + 1.40504I$	$-1.30775 - 4.51511I$	$-2.36632 - 1.74372I$
$u = -0.982303 + 0.350110I$ $a = -0.411329 - 0.586289I$ $b = \ 0.609316 + 0.431903I$	$-3.01185 - 3.53079I$	$-4.00000 - 2.37834I$
$u = -0.982303 - 0.350110I$ $a = -0.411329 + 0.586289I$ $b = \ 0.609316 - 0.431903I$	$-3.01185 + 3.53079I$	$-4.00000 + 2.37834I$
$u = \ 0.883888 + 0.578691I$ $a = -0.247609 - 1.234170I$ $b = \ 0.495346 - 1.234160I$	$-1.53567 - 3.97017I$	$-6.72669 + 9.84978I$
$u = \ 0.883888 - 0.578691I$ $a = -0.247609 + 1.234170I$ $b = \ 0.495346 + 1.234160I$	$-1.53567 + 3.97017I$	$-6.72669 - 9.84978I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.901426 + 0.246511I$ $a = 2.92569 - 2.03463I$ $b = 3.13885 - 1.11285I$	$-0.92509 - 6.86041I$	$-1.09352 + 11.39986I$
$u = 0.901426 - 0.246511I$ $a = 2.92569 + 2.03463I$ $b = 3.13885 + 1.11285I$	$-0.92509 + 6.86041I$	$-1.09352 - 11.39986I$
$u = -0.882476 + 0.284343I$ $a = 0.546817 + 0.566293I$ $b = -0.643574 - 0.344256I$	$-3.34359 - 1.65680I$	$-2.43487 - 2.50445I$
$u = -0.882476 - 0.284343I$ $a = 0.546817 - 0.566293I$ $b = -0.643574 + 0.344256I$	$-3.34359 + 1.65680I$	$-2.43487 + 2.50445I$
$u = 0.320812 + 0.829837I$ $a = -0.535247 - 0.173656I$ $b = -0.027608 - 0.499879I$	$-0.51214 - 2.42117I$	$-6.7641 + 14.3760I$
$u = 0.320812 - 0.829837I$ $a = -0.535247 + 0.173656I$ $b = -0.027608 + 0.499879I$	$-0.51214 + 2.42117I$	$-6.7641 - 14.3760I$
$u = -0.853109 + 0.239315I$ $a = 0.775539 + 0.087226I$ $b = -0.682494 + 0.111185I$	$-2.34208 + 6.04810I$	$-0.84715 - 8.85910I$
$u = -0.853109 - 0.239315I$ $a = 0.775539 - 0.087226I$ $b = -0.682494 - 0.111185I$	$-2.34208 - 6.04810I$	$-0.84715 + 8.85910I$
$u = 0.503965 + 0.668700I$ $a = -1.30449 + 1.23303I$ $b = -1.48195 - 0.25091I$	$0.27709 + 4.89364I$	$-1.57571 - 2.92107I$
$u = 0.503965 - 0.668700I$ $a = -1.30449 - 1.23303I$ $b = -1.48195 + 0.25091I$	$0.27709 - 4.89364I$	$-1.57571 + 2.92107I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.374875+0.744478I$ $a=-0.124461-0.557366I$ $b=\ \ 0.461604+0.116284I$	$2.79366-5.92565I$	$-0.22534+3.53136I$
$u=-0.374875-0.744478I$ $a=-0.124461+0.557366I$ $b=\ \ 0.461604-0.116284I$	$2.79366+5.92565I$	$-0.22534-3.53136I$
$u=\ \ 1.052430+0.563594I$ $a=-0.74140+2.08043I$ $b=-1.95280+1.77166I$	$-1.36854-9.68680I$	0
$u=\ \ 1.052430-0.563594I$ $a=-0.74140-2.08043I$ $b=-1.95280-1.77166I$	$-1.36854+9.68680I$	0
$u=\ \ 1.003330+0.650345I$ $a=\ \ 0.298580+0.722828I$ $b=-0.170514+0.919412I$	$-1.84991-1.11758I$	0
$u=\ \ 1.003330-0.650345I$ $a=\ \ 0.298580-0.722828I$ $b=-0.170514-0.919412I$	$-1.84991+1.11758I$	0
$u=-0.548617+0.587502I$ $a=\ \ 0.337767+0.841668I$ $b=-0.679786-0.263315I$	$-1.42913-1.34791I$	$-3.76096+6.63178I$
$u=-0.548617-0.587502I$ $a=\ \ 0.337767-0.841668I$ $b=-0.679786+0.263315I$	$-1.42913+1.34791I$	$-3.76096-6.63178I$
$u=-1.074590+0.536692I$ $a=-0.212698-0.371950I$ $b=\ \ 0.428186+0.285542I$	$-3.15166+5.80304I$	0
$u=-1.074590-0.536692I$ $a=-0.212698+0.371950I$ $b=\ \ 0.428186-0.285542I$	$-3.15166-5.80304I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.081080+0.570431I$ $a=\ \ 0.108294+0.386648I$ $b=-0.337630-0.356222I$	$0.78478+10.87500I$	0
$u=-1.081080-0.570431I$ $a=\ \ 0.108294-0.386648I$ $b=-0.337630+0.356222I$	$0.78478-10.87500I$	0
$u=\ \ 1.137610+0.512505I$ $a=\ \ 1.20595-1.84848I$ $b=\ \ 2.31925-1.48479I$	$0.35457-8.85047I$	0
$u=\ \ 1.137610-0.512505I$ $a=\ \ 1.20595+1.84848I$ $b=\ \ 2.31925+1.48479I$	$0.35457+8.85047I$	0
$u=-1.148970+0.579575I$ $a=\ \ 0.187415+0.493262I$ $b=-0.501217-0.458123I$	$0.633057-0.173557I$	0
$u=-1.148970-0.579575I$ $a=\ \ 0.187415-0.493262I$ $b=-0.501217+0.458123I$	$0.633057+0.173557I$	0
$u=-1.326280+0.098070I$ $a=-0.257662+0.124130I$ $b=\ \ 0.329558-0.189899I$	$-5.90926+4.60306I$	0
$u=-1.326280-0.098070I$ $a=-0.257662-0.124130I$ $b=\ \ 0.329558+0.189899I$	$-5.90926-4.60306I$	0
$u=-0.240188+0.543925I$ $a=-0.73101-1.33621I$ $b=\ \ 0.902376-0.076675I$	$3.20060+4.86291I$	$2.02471-7.80621I$
$u=-0.240188-0.543925I$ $a=-0.73101+1.33621I$ $b=\ \ 0.902376+0.076675I$	$3.20060-4.86291I$	$2.02471+7.80621I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.54844 + 0.26943I$ $a = -0.189437 - 0.102924I$ $b = -0.265601 - 0.210410I$	$-4.84265 - 3.15872I$	0
$u = 1.54844 - 0.26943I$ $a = -0.189437 + 0.102924I$ $b = -0.265601 + 0.210410I$	$-4.84265 + 3.15872I$	0
$u = 0.362650 + 0.227595I$ $a = 2.07931 - 2.97836I$ $b = 1.43192 - 0.60686I$	$2.97085 + 4.86862I$	$1.96874 - 5.64966I$
$u = 0.362650 - 0.227595I$ $a = 2.07931 + 2.97836I$ $b = 1.43192 + 0.60686I$	$2.97085 - 4.86862I$	$1.96874 + 5.64966I$
$u = 1.65201$ $a = -1.76135$ $b = -2.90977$	-9.97717	0

IV. $I_4^u = \langle b-1,\ a-u-1,\ u^2+u+1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u-1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u+1 \\ 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u+1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u+2 \\ -u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u+1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u-1 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u+1 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_7, c_9, c_{10} c_{12}	$u^2 - u + 1$
c_4, c_{11}	u^2
c_5, c_6, c_8	$(u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_7, c_9, c_{10} c_{12}	$y^2 + y + 1$
c_4, c_{11}	y^2
c_5, c_6, c_8	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.500000+0.866025I$ $a=\ \ 0.500000+0.866025I$ $b=\ \ 1.00000$	3.28987	3.00000
$u=-0.500000-0.866025I$ $a=\ \ 0.500000-0.866025I$ $b=\ \ 1.00000$	3.28987	3.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^{22}$ $\cdot(u^{45}-30u^{44}+\cdots+16u-1)$ $\cdot(u^{60}+34u^{59}+\cdots+13631488u+4194304)$
c_2	$(u^2-u+1)(u^6+u^5+\cdots+u+1)^{22}(u^{45}-2u^{44}+\cdots+2u-1)$ $\cdot(u^{60}-20u^{59}+\cdots+27648u-2048)$
c_3, c_{10}	$(u^2-u+1)(u^{45}-u^{44}+\cdots+6u-1)(u^{60}+2u^{59}+\cdots+4u-1)$ $\cdot(u^{132}+3u^{131}+\cdots+1266u+83)$
c_4, c_{11}	$u^2(u^{45}+9u^{43}+\cdots+16u-4)(u^{60}+7u^{58}+\cdots-2u-21)$ $\cdot(u^{132}+u^{131}+\cdots+14455610u+3138347)$
c_5, c_8	$((u-1)^2)(u^{45}+2u^{44}+\cdots+14u+1)(u^{60}+4u^{59}+\cdots+23u-1)$ $\cdot(u^{132}-u^{131}+\cdots-758u+67)$
c_6	$(u-1)^2$ $\cdot(u^{11}+5u^{10}+12u^9+15u^8+8u^7-4u^6-8u^5-3u^4+3u^3+3u^2-1)^{12}$ $\cdot(u^{45}+22u^{44}+\cdots+5u+1)(u^{60}-41u^{59}+\cdots-416u+64)$
c_7	$(u^2-u+1)(u^6+u^5+\cdots+u+1)^{22}(u^{45}+2u^{44}+\cdots+2u+1)$ $\cdot(u^{60}-20u^{59}+\cdots+27648u-2048)$
c_9	$(u^2-u+1)(u^{11}+3u^{10}+\cdots+2u+1)^{12}$ $\cdot(u^{45}-15u^{44}+\cdots+292u-29)(u^{60}-21u^{59}+\cdots-66560u+4096)$
c_{12}	$(u^2-u+1)(u^{11}+3u^{10}+\cdots+2u+1)^{12}$ $\cdot(u^{45}+15u^{44}+\cdots+292u+29)(u^{60}-21u^{59}+\cdots-66560u+4096)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)(y^6+y^5+5y^4+6y^2+3y+1)^{22}$ $\cdot(y^{45}-14y^{44}+\cdots-44y-1)$ $\cdot(y^{60}-14y^{59}+\cdots+355142255771648y+17592186044416)$
c_2, c_7	$(y^2+y+1)(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^{22}$ $\cdot(y^{45}-30y^{44}+\cdots+16y-1)$ $\cdot(y^{60}-34y^{59}+\cdots-13631488y+4194304)$
c_3, c_{10}	$(y^2+y+1)(y^{45}-25y^{44}+\cdots-14y-1)(y^{60}+10y^{59}+\cdots+18y+1)$ $\cdot(y^{132}-45y^{131}+\cdots-1080188y+6889)$
c_4, c_{11}	$y^2(y^{45}+18y^{44}+\cdots+216y-16)(y^{60}+14y^{59}+\cdots+2768y+441)$ $\cdot(y^{132}+39y^{131}+\cdots-615346853465156y+9849221892409)$
c_5, c_8	$((y-1)^2)(y^{45}+12y^{44}+\cdots+156y-1)(y^{60}-30y^{59}+\cdots-629y+1)$ $\cdot(y^{132}+27y^{131}+\cdots+10768000y+4489)$
c_6	$((y-1)^2)(y^{11}-y^{10}+\cdots+6y-1)^{12}(y^{45}-8y^{44}+\cdots+19y-1)$ $\cdot(y^{60}-7y^{59}+\cdots-119808y+4096)$
c_9, c_{12}	$(y^2+y+1)(y^{11}+7y^{10}+\cdots-6y-1)^{12}$ $\cdot(y^{45}+23y^{44}+\cdots-18614y-841)$ $\cdot(y^{60}+29y^{59}+\cdots+103809024y+16777216)$