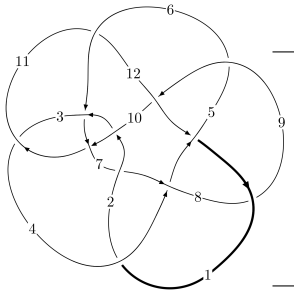
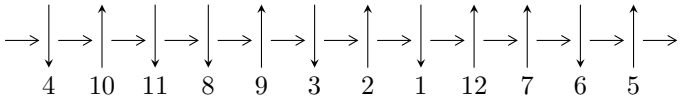
$12a_{1188}$ $(K12a_{1188})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.81506 \times 10^{2919} u^{239} - 1.08972 \times 10^{2920} u^{238} + \cdots + 4.30429 \times 10^{2919} b - 1.97379 \times 10^{2919}, \\ & - 5.27544 \times 10^{2905} u^{239} + 3.16294 \times 10^{2906} u^{238} + \cdots + 1.89211 \times 10^{2905} a + 1.16747 \times 10^{2906}, \\ & u^{240} - 6u^{239} + \cdots + 10u + 1 \rangle \\ I_2^u = \langle & -2.64041 \times 10^{167} u^{63} + 8.31490 \times 10^{167} u^{62} + \cdots + 4.36412 \times 10^{167} b + 2.46869 \times 10^{167}, \\ & 8.16860 \times 10^{164} u^{63} - 2.18885 \times 10^{165} u^{62} + \cdots + 1.84218 \times 10^{164} a - 3.02215 \times 10^{164}, \ u^{64} - 3u^{63} + \cdots - 2u \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 304 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle 1.82 \times 10^{2919} u^{239} - 1.09 \times 10^{2920} u^{238} + \cdots + 4.30 \times 10^{2919} b - 1.97 \times 10^{2919},\ -5.28 \times 10^{2905} u^{239} + 3.16 \times 10^{2906} u^{238} + \cdots + 1.89 \times 10^{2905} a + 1.17 \times 10^{2906},\ u^{240} - 6u^{239} + \cdots + 10u + 1 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 2.78813u^{239} - 16.7165u^{238} + \cdots - 5.43938u - 6.17024 \\ -0.421687u^{239} + 2.53172u^{238} + \cdots + 6.21740u + 0.458564 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 3.25402u^{239} - 19.5063u^{238} + \cdots - 8.74602u - 6.61654 \\ -0.384909u^{239} + 2.30152u^{238} + \cdots + 6.73880u + 0.464116 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 3.20982u^{239} - 19.2483u^{238} + \cdots - 11.6568u - 6.62880 \\ -0.421687u^{239} + 2.53172u^{238} + \cdots + 6.21740u + 0.458564 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.66418u^{239} - 21.6821u^{238} + \cdots + 143.995u - 9.87242 \\ -0.0549898u^{239} + 0.268874u^{238} + \cdots + 15.4207u + 3.35693 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.81437u^{239} - 22.9434u^{238} + \cdots + 2.58637u - 6.43776 \\ -0.446474u^{239} + 2.66940u^{238} + \cdots + 6.43698u - 0.125884 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.56736u^{239} - 21.2165u^{238} + \cdots + 171.565u - 3.31915 \\ -0.0418322u^{239} + 0.196767u^{238} + \cdots + 14.1492u + 3.19633 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.50713u^{239} - 9.09463u^{238} + \cdots + 30.2331u - 0.181601 \\ 0.112580u^{239} - 0.719524u^{238} + \cdots + 2.39539u + 0.954201 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.04405u^{239} - 6.46589u^{238} + \cdots - 32.4340u - 4.21920 \\ -0.615053u^{239} + 3.78553u^{238} + \cdots - 6.21318u - 1.93610 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.38370u^{239} - 38.1804u^{238} + \cdots + 325.441u + 6.54059 \\ -0.817778u^{239} + 4.98347u^{238} + \cdots - 8.13549u - 0.697420 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.57847u^{239} - 10.3573u^{238} + \cdots - 181.846u - 1.67149$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{240}+11u^{239}+\cdots-149360u+19984$
c_2	$u^{240}+u^{239}+\cdots+81u+1$
c_3	$u^{240}-u^{239}+\cdots-81u+1$
c_4	$u^{240}+3u^{239}+\cdots+2694745u+109393$
c_5	$u^{240}-3u^{239}+\cdots-2694745u+109393$
c_6	$u^{240}+6u^{239}+\cdots-10u+1$
c_7	$u^{240}+u^{239}+\cdots+412134229504u+89704305664$
c_8	$u^{240}+17u^{238}+\cdots-455354u+53269$
c_9	$u^{240}-11u^{239}+\cdots+149360u+19984$
c_{10}	$u^{240}-6u^{239}+\cdots+10u+1$
c_{11}	$u^{240}-u^{239}+\cdots-412134229504u+89704305664$
c_{12}	$u^{240}+17u^{238}+\cdots+455354u+53269$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_9	$y^{240} + 19y^{239} + \cdots + 58000092160y + 399360256$
c_2, c_3	$y^{240} + 31y^{239} + \cdots - 443y + 1$
c_4, c_5	$y^{240} - 31y^{239} + \cdots - 2123917792621y + 11966828449$
c_6, c_{10}	$y^{240} + 24y^{239} + \cdots + 176y + 1$
c_7, c_{11}	$y^{240} + 79y^{239} + \cdots - 5.06 \times 10^{23}y + 8.05 \times 10^{21}$
c_8, c_{12}	$y^{240} + 34y^{239} + \cdots + 461228757544y + 2837586361$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.462173+0.889612I$ $a=-1.205520-0.585035I$ $b=-0.130224-0.650718I$	$-1.66054+0.42784I$	0
$u=-0.462173-0.889612I$ $a=-1.205520+0.585035I$ $b=-0.130224+0.650718I$	$-1.66054-0.42784I$	0
$u=-0.955315+0.283983I$ $a=-0.265351+0.329439I$ $b=-1.04054+1.12378I$	$2.32347-4.18248I$	0
$u=-0.955315-0.283983I$ $a=-0.265351-0.329439I$ $b=-1.04054-1.12378I$	$2.32347+4.18248I$	0
$u=-0.752413+0.653296I$ $a=\ \ 0.594249-0.646863I$ $b=-0.355511+0.287540I$	$-1.83854-2.39098I$	0
$u=-0.752413-0.653296I$ $a=\ \ 0.594249+0.646863I$ $b=-0.355511-0.287540I$	$-1.83854+2.39098I$	0
$u=-0.564784+0.843184I$ $a=-0.25618+1.62455I$ $b=-0.94983+1.54327I$	$1.95547-5.70601I$	0
$u=-0.564784-0.843184I$ $a=-0.25618-1.62455I$ $b=-0.94983-1.54327I$	$1.95547+5.70601I$	0
$u=-0.112788+0.974457I$ $a=-1.33083+0.78769I$ $b=-0.160752+0.511728I$	$-3.13991-10.22530I$	0
$u=-0.112788-0.974457I$ $a=-1.33083-0.78769I$ $b=-0.160752-0.511728I$	$-3.13991+10.22530I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.851605 + 0.574305I$ $a = 0.117778 + 0.090949I$ $b = 0.916781 + 0.207243I$	$0.95651 + 1.30346I$	0
$u = 0.851605 - 0.574305I$ $a = 0.117778 - 0.090949I$ $b = 0.916781 - 0.207243I$	$0.95651 - 1.30346I$	0
$u = 0.962888 + 0.076989I$ $a = -0.123291 - 0.677784I$ $b = -0.61778 - 1.59419I$	$3.77428 + 3.63498I$	0
$u = 0.962888 - 0.076989I$ $a = -0.123291 + 0.677784I$ $b = -0.61778 + 1.59419I$	$3.77428 - 3.63498I$	0
$u = -0.758729 + 0.593105I$ $a = -0.04017 + 1.56316I$ $b = -0.861363 + 0.697584I$	$6.08093 - 2.08294I$	0
$u = -0.758729 - 0.593105I$ $a = -0.04017 - 1.56316I$ $b = -0.861363 - 0.697584I$	$6.08093 + 2.08294I$	0
$u = -1.027460 + 0.144503I$ $a = 0.961208 + 0.275825I$ $b = -0.538282 + 0.432730I$	$-6.17244I$	0
$u = -1.027460 - 0.144503I$ $a = 0.961208 - 0.275825I$ $b = -0.538282 - 0.432730I$	$6.17244I$	0
$u = 0.983829 + 0.361988I$ $a = -0.162275 + 0.616807I$ $b = -0.249772 + 1.272020I$	$3.26283 + 2.70754I$	0
$u = 0.983829 - 0.361988I$ $a = -0.162275 - 0.616807I$ $b = -0.249772 - 1.272020I$	$3.26283 - 2.70754I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.843979+0.626338I$ $a=\ \ 0.11343+1.56019I$ $b=-0.775740+0.550166I$	$5.39279-6.94228I$	0
$u=-0.843979-0.626338I$ $a=\ \ 0.11343-1.56019I$ $b=-0.775740-0.550166I$	$5.39279+6.94228I$	0
$u=-0.172009+1.038400I$ $a=\ \ 0.519630-1.309040I$ $b=\ \ 0.146076-0.681818I$	$-2.54684-2.74438I$	0
$u=-0.172009-1.038400I$ $a=\ \ 0.519630+1.309040I$ $b=\ \ 0.146076+0.681818I$	$-2.54684+2.74438I$	0
$u=\ \ 0.732181+0.588336I$ $a=-0.190030+0.674014I$ $b=\ \ 0.795753+0.513770I$	$1.36746+1.23188I$	0
$u=\ \ 0.732181-0.588336I$ $a=-0.190030-0.674014I$ $b=\ \ 0.795753-0.513770I$	$1.36746-1.23188I$	0
$u=\ \ 0.621211+0.869444I$ $a=-0.47955-1.65018I$ $b=-1.21639-0.92379I$	$2.94911+3.94406I$	0
$u=\ \ 0.621211-0.869444I$ $a=-0.47955+1.65018I$ $b=-1.21639+0.92379I$	$2.94911-3.94406I$	0
$u=\ \ 0.254211+1.039930I$ $a=\ \ 0.300450-0.075517I$ $b=\ \ 1.48858-0.42954I$	$-1.50146+0.64615I$	0
$u=\ \ 0.254211-1.039930I$ $a=\ \ 0.300450+0.075517I$ $b=\ \ 1.48858+0.42954I$	$-1.50146-0.64615I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.873327+0.627565I$ $a=\ \ 0.07075-1.45313I$ $b=\ \ 1.111060-0.393869I$	$5.34578+4.51566I$	0
$u=-0.873327-0.627565I$ $a=\ \ 0.07075+1.45313I$ $b=\ \ 1.111060+0.393869I$	$5.34578-4.51566I$	0
$u=\ \ 0.974649+0.487952I$ $a=\ \ 0.100632-1.083240I$ $b=-0.53954-1.51937I$	$1.60477+7.07465I$	0
$u=\ \ 0.974649-0.487952I$ $a=\ \ 0.100632+1.083240I$ $b=-0.53954+1.51937I$	$1.60477-7.07465I$	0
$u=-0.307093+0.851024I$ $a=\ \ 0.578632-1.127990I$ $b=-0.178633-0.580618I$	$-1.87666-1.61146I$	0
$u=-0.307093-0.851024I$ $a=\ \ 0.578632+1.127990I$ $b=-0.178633+0.580618I$	$-1.87666+1.61146I$	0
$u=\ \ 0.511715+0.737443I$ $a=-0.710951+0.653603I$ $b=\ \ 0.523693+0.557440I$	$1.43357+1.49420I$	0
$u=\ \ 0.511715-0.737443I$ $a=-0.710951-0.653603I$ $b=\ \ 0.523693-0.557440I$	$1.43357-1.49420I$	0
$u=\ \ 0.672934+0.875350I$ $a=-0.0671478-0.0909015I$ $b=-0.300114+0.615676I$	$-0.31028+2.82362I$	0
$u=\ \ 0.672934-0.875350I$ $a=-0.0671478+0.0909015I$ $b=-0.300114-0.615676I$	$-0.31028-2.82362I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.082270+0.254160I$ $a=\ \ 0.160105-0.746243I$ $b=\ \ 0.058687-0.807551I$	$3.77157-4.59426I$	0
$u=-1.082270-0.254160I$ $a=\ \ 0.160105+0.746243I$ $b=\ \ 0.058687+0.807551I$	$3.77157+4.59426I$	0
$u=-0.024528+0.874929I$ $a=\ \ 0.770188+0.838379I$ $b=\ \ 0.908644+0.386792I$	$1.83854+2.39098I$	0
$u=-0.024528-0.874929I$ $a=\ \ 0.770188-0.838379I$ $b=\ \ 0.908644-0.386792I$	$1.83854-2.39098I$	0
$u=-0.845800+0.189828I$ $a=-0.762292+0.700803I$ $b=-0.230871-0.163427I$	$-1.43357+1.49420I$	0
$u=-0.845800-0.189828I$ $a=-0.762292-0.700803I$ $b=-0.230871+0.163427I$	$-1.43357-1.49420I$	0
$u=-0.847352+0.179873I$ $a=\ \ 0.163280-0.857037I$ $b=\ \ 0.77527-1.26461I$	$4.14524-4.46886I$	0
$u=-0.847352-0.179873I$ $a=\ \ 0.163280+0.857037I$ $b=\ \ 0.77527+1.26461I$	$4.14524+4.46886I$	0
$u=-0.357235+0.788094I$ $a=-0.77592-1.59842I$ $b=\ \ 0.720457-1.171540I$	$-0.78557-6.22013I$	0
$u=-0.357235-0.788094I$ $a=-0.77592+1.59842I$ $b=\ \ 0.720457+1.171540I$	$-0.78557+6.22013I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.261871+0.822610I$ $a=\ 1.79232-0.30332I$ $b=\ 0.160816+0.388613I$	$-3.42009+2.34373I$	0
$u=-0.261871-0.822610I$ $a=\ 1.79232+0.30332I$ $b=\ 0.160816-0.388613I$	$-3.42009-2.34373I$	0
$u=\ 0.011461+0.857355I$ $a=-0.54606+1.68283I$ $b=\ 0.083402+1.236880I$	$-4.47839+4.82263I$	0
$u=\ 0.011461-0.857355I$ $a=-0.54606-1.68283I$ $b=\ 0.083402-1.236880I$	$-4.47839-4.82263I$	0
$u=\ 0.808852+0.279800I$ $a=-1.07659+1.79670I$ $b=\ 0.697932+0.143093I$	$3.49598+5.30010I$	0
$u=\ 0.808852-0.279800I$ $a=-1.07659-1.79670I$ $b=\ 0.697932-0.143093I$	$3.49598-5.30010I$	0
$u=\ 0.782250+0.838827I$ $a=\ 0.360032+0.701847I$ $b=\ 1.132720+0.172502I$	$1.87666+1.61146I$	0
$u=\ 0.782250-0.838827I$ $a=\ 0.360032-0.701847I$ $b=\ 1.132720-0.172502I$	$1.87666-1.61146I$	0
$u=\ 0.016389+0.848325I$ $a=\ 0.274853+1.281080I$ $b=\ 0.17466+1.72150I$	$-3.77157+4.59426I$	0
$u=\ 0.016389-0.848325I$ $a=\ 0.274853-1.281080I$ $b=\ 0.17466-1.72150I$	$-3.77157-4.59426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.187342 + 1.140860I$ $a = 1.028090 + 0.124438I$ $b = -0.0574189 + 0.0175925I$	$-2.72621 + 0.44591I$	0
$u = 0.187342 - 1.140860I$ $a = 1.028090 - 0.124438I$ $b = -0.0574189 - 0.0175925I$	$-2.72621 - 0.44591I$	0
$u = 0.904298 + 0.736208I$ $a = 0.046826 + 1.167730I$ $b = 1.049570 + 0.855059I$	$5.29473 + 2.58473I$	0
$u = 0.904298 - 0.736208I$ $a = 0.046826 - 1.167730I$ $b = 1.049570 - 0.855059I$	$5.29473 - 2.58473I$	0
$u = -0.084362 + 0.829363I$ $a = -1.64711 - 0.69235I$ $b = -0.249405 - 0.660293I$	$-3.70870 + 3.57300I$	0
$u = -0.084362 - 0.829363I$ $a = -1.64711 + 0.69235I$ $b = -0.249405 + 0.660293I$	$-3.70870 - 3.57300I$	0
$u = 0.314399 + 0.765717I$ $a = -1.47843 + 1.18572I$ $b = 0.408518 + 0.801422I$	$0.78908 + 6.16308I$	0
$u = 0.314399 - 0.765717I$ $a = -1.47843 - 1.18572I$ $b = 0.408518 - 0.801422I$	$0.78908 - 6.16308I$	0
$u = 0.626647 + 1.006670I$ $a = 0.085027 - 0.915261I$ $b = -0.56243 - 2.19475I$	$-1.60477 + 7.07465I$	0
$u = 0.626647 - 1.006670I$ $a = 0.085027 + 0.915261I$ $b = -0.56243 + 2.19475I$	$-1.60477 - 7.07465I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.885936 + 0.788459I$ $a = -0.238962 - 0.422002I$ $b = -0.88455 - 1.24304I$	$-0.11810 + 5.03004I$	0
$u = 0.885936 - 0.788459I$ $a = -0.238962 + 0.422002I$ $b = -0.88455 + 1.24304I$	$-0.11810 - 5.03004I$	0
$u = -0.969199 + 0.685117I$ $a = -0.17450 - 1.40517I$ $b = 1.119210 - 0.485214I$	$4.4535 - 13.8077I$	0
$u = -0.969199 - 0.685117I$ $a = -0.17450 + 1.40517I$ $b = 1.119210 + 0.485214I$	$4.4535 + 13.8077I$	0
$u = 0.050638 + 1.196220I$ $a = 0.958636 - 0.116032I$ $b = 1.41265 - 0.29947I$	$2.72621 - 0.44591I$	0
$u = 0.050638 - 1.196220I$ $a = 0.958636 + 0.116032I$ $b = 1.41265 + 0.29947I$	$2.72621 + 0.44591I$	0
$u = 0.391673 + 0.694321I$ $a = 2.00478 - 1.10448I$ $b = -0.384587 - 0.946911I$	$-1.0870 + 14.1748I$	0
$u = 0.391673 - 0.694321I$ $a = 2.00478 + 1.10448I$ $b = -0.384587 + 0.946911I$	$-1.0870 - 14.1748I$	0
$u = 0.972467 + 0.713462I$ $a = -0.141213 - 1.192780I$ $b = -0.728438 - 0.289240I$	$4.98335 + 6.29912I$	0
$u = 0.972467 - 0.713462I$ $a = -0.141213 + 1.192780I$ $b = -0.728438 + 0.289240I$	$4.98335 - 6.29912I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.570287+0.548270I$ $a=-0.106715-0.804546I$ $b=\ \ 1.35023-1.26672I$	$-2.14067-6.36358I$	0
$u=-0.570287-0.548270I$ $a=-0.106715+0.804546I$ $b=\ \ 1.35023+1.26672I$	$-2.14067+6.36358I$	0
$u=-0.038374+0.769767I$ $a=-0.050198+0.296760I$ $b=-1.42638+0.81708I$	$-4.41937+0.30153I$	0
$u=-0.038374-0.769767I$ $a=-0.050198-0.296760I$ $b=-1.42638-0.81708I$	$-4.41937-0.30153I$	0
$u=-0.707686+0.267204I$ $a=\ \ 0.34600+1.98429I$ $b=\ \ 0.0243930+0.1091550I$	$3.25544-3.10252I$	0
$u=-0.707686-0.267204I$ $a=\ \ 0.34600-1.98429I$ $b=\ \ 0.0243930-0.1091550I$	$3.25544+3.10252I$	0
$u=\ \ 0.015802+0.755582I$ $a=\ \ 0.214511+1.125940I$ $b=-0.62598+1.90201I$	$-4.14524+4.46886I$	0
$u=\ \ 0.015802-0.755582I$ $a=\ \ 0.214511-1.125940I$ $b=-0.62598-1.90201I$	$-4.14524-4.46886I$	0
$u=-0.489053+0.570905I$ $a=-0.253226+0.553916I$ $b=-1.70640+1.16467I$	$-2.34716-5.38219I$	0
$u=-0.489053-0.570905I$ $a=-0.253226-0.553916I$ $b=-1.70640-1.16467I$	$-2.34716+5.38219I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.942583 + 0.821802I$ $a = -0.100167 - 1.294480I$ $b = -1.324300 - 0.414916I$	$1.96692 + 4.81207I$	0
$u = 0.942583 - 0.821802I$ $a = -0.100167 + 1.294480I$ $b = -1.324300 + 0.414916I$	$1.96692 - 4.81207I$	0
$u = 1.079040 + 0.661013I$ $a = -0.247126 + 1.142640I$ $b = 1.261650 + 0.272557I$	$1.78281 + 3.94174I$	0
$u = 1.079040 - 0.661013I$ $a = -0.247126 - 1.142640I$ $b = 1.261650 - 0.272557I$	$1.78281 - 3.94174I$	0
$u = 0.103017 + 0.703146I$ $a = 0.404742 - 0.680349I$ $b = -1.147920 - 0.456898I$	$-3.79747 + 0.05325I$	0
$u = 0.103017 - 0.703146I$ $a = 0.404742 + 0.680349I$ $b = -1.147920 + 0.456898I$	$-3.79747 - 0.05325I$	0
$u = 0.670965 + 0.218079I$ $a = 0.218425 + 0.724509I$ $b = 1.42925 + 1.96395I$	$0.62171 + 12.40400I$	0
$u = 0.670965 - 0.218079I$ $a = 0.218425 - 0.724509I$ $b = 1.42925 - 1.96395I$	$0.62171 - 12.40400I$	0
$u = -0.323233 + 0.625479I$ $a = 0.073694 + 0.246867I$ $b = 1.78398 + 0.24359I$	$-2.41267 - 7.83325I$	0
$u = -0.323233 - 0.625479I$ $a = 0.073694 - 0.246867I$ $b = 1.78398 - 0.24359I$	$-2.41267 + 7.83325I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.768410+1.057980I$ $a=\ \ 0.226856-1.138030I$ $b=\ \ 1.04099-1.24092I$	$-3.23355-7.16796I$	0
$u=-0.768410-1.057980I$ $a=\ \ 0.226856+1.138030I$ $b=\ \ 1.04099+1.24092I$	$-3.23355+7.16796I$	0
$u=\ \ 0.002632+0.684261I$ $a=-1.24898-2.06304I$ $b=-0.288372-1.060070I$	$-3.99523+1.15874I$	0
$u=\ \ 0.002632-0.684261I$ $a=-1.24898+2.06304I$ $b=-0.288372+1.060070I$	$-3.99523-1.15874I$	0
$u=-0.310551+0.602795I$ $a=-2.34703-1.66000I$ $b=\ \ 0.291231-1.054070I$	$-3.36622-5.19098I$	0
$u=-0.310551-0.602795I$ $a=-2.34703+1.66000I$ $b=\ \ 0.291231+1.054070I$	$-3.36622+5.19098I$	0
$u=-0.382927+0.548091I$ $a=-0.39892-1.51630I$ $b=\ \ 0.82491-1.67264I$	$-3.26283-2.70754I$	0
$u=-0.382927-0.548091I$ $a=-0.39892+1.51630I$ $b=\ \ 0.82491+1.67264I$	$-3.26283+2.70754I$	0
$u=-0.066534+0.662122I$ $a=-0.25978-1.42814I$ $b=\ \ 0.63087-2.23686I$	$-3.77428+3.63498I$	0
$u=-0.066534-0.662122I$ $a=-0.25978+1.42814I$ $b=\ \ 0.63087+2.23686I$	$-3.77428-3.63498I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.535683+0.381699I$ $a=-0.38749-1.37440I$ $b=-0.178969-0.478082I$	$-1.36746-1.23188I$	0
$u=-0.535683-0.381699I$ $a=-0.38749+1.37440I$ $b=-0.178969+0.478082I$	$-1.36746+1.23188I$	0
$u=1.077610+0.802055I$ $a=-0.671396-0.325827I$ $b=-0.085251+0.678626I$	$1.66054+0.42784I$	0
$u=1.077610-0.802055I$ $a=-0.671396+0.325827I$ $b=-0.085251-0.678626I$	$1.66054-0.42784I$	0
$u=0.501966+0.400313I$ $a=-0.162012+1.221450I$ $b=-0.84449+1.21980I$	$2.14067+6.36358I$	0
$u=0.501966-0.400313I$ $a=-0.162012-1.221450I$ $b=-0.84449-1.21980I$	$2.14067-6.36358I$	0
$u=-0.817348+1.090450I$ $a=0.034285-0.854987I$ $b=0.492357-1.239410I$	$-5.29473-2.58473I$	0
$u=-0.817348-1.090450I$ $a=0.034285+0.854987I$ $b=0.492357+1.239410I$	$-5.29473+2.58473I$	0
$u=-0.373244+0.509989I$ $a=2.73801+0.69366I$ $b=-0.427915+0.862114I$	$-2.94445-5.95495I$	0
$u=-0.373244-0.509989I$ $a=2.73801-0.69366I$ $b=-0.427915-0.862114I$	$-2.94445+5.95495I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.936768 + 1.008610I$ $a = -0.073762 - 0.997276I$ $b = -0.947418 - 0.384192I$	$4.56409I$	0
$u = 0.936768 - 1.008610I$ $a = -0.073762 + 0.997276I$ $b = -0.947418 + 0.384192I$	$-4.56409I$	0
$u = -0.209648 + 0.587000I$ $a = 1.49314 - 2.16188I$ $b = -0.088641 - 0.637789I$	$-3.22625 - 0.60604I$	0
$u = -0.209648 - 0.587000I$ $a = 1.49314 + 2.16188I$ $b = -0.088641 + 0.637789I$	$-3.22625 + 0.60604I$	0
$u = 0.171638 + 0.576245I$ $a = -2.94675 + 0.51136I$ $b = 0.229630 + 0.251769I$	$-2.22153 + 7.08409I$	0
$u = 0.171638 - 0.576245I$ $a = -2.94675 - 0.51136I$ $b = 0.229630 - 0.251769I$	$-2.22153 - 7.08409I$	0
$u = -0.178551 + 0.555541I$ $a = 2.35770 + 2.27779I$ $b = -0.256280 + 0.620793I$	$1.39813 - 5.53123I$	0
$u = -0.178551 - 0.555541I$ $a = 2.35770 - 2.27779I$ $b = -0.256280 - 0.620793I$	$1.39813 + 5.53123I$	0
$u = 0.78328 + 1.18885I$ $a = 0.358655 + 1.066050I$ $b = 1.07263 + 1.15587I$	$-2.29556 + 13.21820I$	0
$u = 0.78328 - 1.18885I$ $a = 0.358655 - 1.066050I$ $b = 1.07263 - 1.15587I$	$-2.29556 - 13.21820I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.121027 + 0.562279I$ $a = -1.01604 - 1.79431I$ $b = 0.33400 - 1.64576I$	$0.11810 + 5.03004I$	0
$u = 0.121027 - 0.562279I$ $a = -1.01604 + 1.79431I$ $b = 0.33400 + 1.64576I$	$0.11810 - 5.03004I$	0
$u = -0.70595 + 1.24316I$ $a = -0.512321 + 0.858794I$ $b = -1.021910 + 0.909034I$	$-1.84370I$	0
$u = -0.70595 - 1.24316I$ $a = -0.512321 - 0.858794I$ $b = -1.021910 - 0.909034I$	$1.84370I$	0
$u = -1.07082 + 0.95466I$ $a = 0.040519 - 1.026880I$ $b = 0.69506 - 1.32008I$	$-0.55240 - 6.88390I$	0
$u = -1.07082 - 0.95466I$ $a = 0.040519 + 1.026880I$ $b = 0.69506 + 1.32008I$	$-0.55240 + 6.88390I$	0
$u = 0.520080 + 0.214505I$ $a = 0.645839 + 1.085620I$ $b = 1.245170 + 0.069108I$	$3.79747 - 0.05325I$	0
$u = 0.520080 - 0.214505I$ $a = 0.645839 - 1.085620I$ $b = 1.245170 - 0.069108I$	$3.79747 + 0.05325I$	0
$u = 0.71368 + 1.26069I$ $a = -0.097883 - 0.826787I$ $b = -0.865049 - 1.006040I$	$-4.98335 + 6.29912I$	0
$u = 0.71368 - 1.26069I$ $a = -0.097883 + 0.826787I$ $b = -0.865049 + 1.006040I$	$-4.98335 - 6.29912I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.97912 + 1.07317I$ $a = -0.160083 - 1.021570I$ $b = -1.46014 - 0.86198I$	$1.78311 + 5.17535I$	0
$u = \ 0.97912 - 1.07317I$ $a = -0.160083 + 1.021570I$ $b = -1.46014 + 0.86198I$	$1.78311 - 5.17535I$	0
$u = \ 0.482042 + 0.235295I$ $a = \ 3.10691 + 0.29784I$ $b = -0.369158 - 0.672239I$	$0.69525 - 2.93626I$	0
$u = \ 0.482042 - 0.235295I$ $a = \ 3.10691 - 0.29784I$ $b = -0.369158 + 0.672239I$	$0.69525 + 2.93626I$	0
$u = -0.011445 + 0.533754I$ $a = \ 0.381448 - 1.265250I$ $b = -1.30517 - 2.31958I$	$-0.62171 - 12.40400I$	0
$u = -0.011445 - 0.533754I$ $a = \ 0.381448 + 1.265250I$ $b = -1.30517 + 2.31958I$	$-0.62171 + 12.40400I$	0
$u = \ 0.93693 + 1.13829I$ $a = \ 0.038366 + 0.972314I$ $b = \ 1.39490 + 1.64454I$	$0.55240 + 6.88390I$	0
$u = \ 0.93693 - 1.13829I$ $a = \ 0.038366 - 0.972314I$ $b = \ 1.39490 - 1.64454I$	$0.55240 - 6.88390I$	0
$u = -1.02196 + 1.06959I$ $a = -0.180821 - 0.836061I$ $b = \ 0.548087 - 0.751157I$	$-1.78281 - 3.94174I$	0
$u = -1.02196 - 1.06959I$ $a = -0.180821 + 0.836061I$ $b = \ 0.548087 + 0.751157I$	$-1.78281 + 3.94174I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.26993 + 0.76475I$ $a = 0.261962 + 0.659930I$ $b = 0.866484 - 0.505339I$	$2.54684 + 2.74438I$	0
$u = 1.26993 - 0.76475I$ $a = 0.261962 - 0.659930I$ $b = 0.866484 + 0.505339I$	$2.54684 - 2.74438I$	0
$u = 0.71316 + 1.30764I$ $a = -0.515961 - 0.216880I$ $b = -0.774940 + 0.041492I$	$3.70870 + 3.57300I$	0
$u = 0.71316 - 1.30764I$ $a = -0.515961 + 0.216880I$ $b = -0.774940 - 0.041492I$	$3.70870 - 3.57300I$	0
$u = -0.273938 + 0.426761I$ $a = 1.90797 + 2.45998I$ $b = -0.55193 + 1.36990I$	$-1.60043 - 5.74473I$	0
$u = -0.273938 - 0.426761I$ $a = 1.90797 - 2.45998I$ $b = -0.55193 - 1.36990I$	$-1.60043 + 5.74473I$	0
$u = 0.160807 + 0.475562I$ $a = -2.41787 - 2.62738I$ $b = -0.179793 - 0.006742I$	$0.35296 + 3.20640I$	0
$u = 0.160807 - 0.475562I$ $a = -2.41787 + 2.62738I$ $b = -0.179793 + 0.006742I$	$0.35296 - 3.20640I$	0
$u = 0.93958 + 1.17204I$ $a = -0.149717 - 0.955422I$ $b = -0.717623 - 1.001220I$	$-1.78311 + 5.17535I$	0
$u = 0.93958 - 1.17204I$ $a = -0.149717 + 0.955422I$ $b = -0.717623 + 1.001220I$	$-1.78311 - 5.17535I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.89664+1.20983I$ $a=-0.016427+0.639309I$ $b=-0.536503+1.083720I$	$-6.08093-2.08294I$	0
$u=-0.89664-1.20983I$ $a=-0.016427-0.639309I$ $b=-0.536503-1.083720I$	$-6.08093+2.08294I$	0
$u=-1.02936+1.10053I$ $a=-0.108003+1.031070I$ $b=-1.08095+1.04534I$	$2.5409-14.2142I$	0
$u=-1.02936-1.10053I$ $a=-0.108003-1.031070I$ $b=-1.08095-1.04534I$	$2.5409+14.2142I$	0
$u=-0.95764+1.16396I$ $a=\ \ 0.179599-1.041580I$ $b=\ \ 1.31052-1.18793I$	$-2.1141-14.1050I$	0
$u=-0.95764-1.16396I$ $a=\ \ 0.179599+1.041580I$ $b=\ \ 1.31052+1.18793I$	$-2.1141+14.1050I$	0
$u=-0.254550+0.412233I$ $a=\ \ 3.00776-1.24783I$ $b=-0.374742+0.300094I$	$-2.80459-1.69573I$	$0.+10.92567I$
$u=-0.254550-0.412233I$ $a=\ \ 3.00776+1.24783I$ $b=-0.374742-0.300094I$	$-2.80459+1.69573I$	$0.-10.92567I$
$u=-1.44904+0.44888I$ $a=-0.174455+0.537628I$ $b=-0.451646-0.010605I$	$4.47839+4.82263I$	0
$u=-1.44904-0.44888I$ $a=-0.174455-0.537628I$ $b=-0.451646+0.010605I$	$4.47839-4.82263I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.61747+1.38568I$ $a=-0.556467+0.329364I$ $b=-1.259180+0.066314I$	$3.13991-10.22530I$	0
$u=-0.61747-1.38568I$ $a=-0.556467-0.329364I$ $b=-1.259180-0.066314I$	$3.13991+10.22530I$	0
$u=1.02969+1.11448I$ $a=0.168469+0.845130I$ $b=0.929336+1.007900I$	$3.23355+7.16796I$	0
$u=1.02969-1.11448I$ $a=0.168469-0.845130I$ $b=0.929336-1.007900I$	$3.23355-7.16796I$	0
$u=-0.77507+1.31180I$ $a=0.085282+0.489087I$ $b=-0.923422+0.830397I$	$-3.25544-3.10252I$	0
$u=-0.77507-1.31180I$ $a=0.085282-0.489087I$ $b=-0.923422-0.830397I$	$-3.25544+3.10252I$	0
$u=1.53689+0.04048I$ $a=-0.245776-0.506310I$ $b=-0.203329+0.054135I$	$0.78557-6.22013I$	0
$u=1.53689-0.04048I$ $a=-0.245776+0.506310I$ $b=-0.203329-0.054135I$	$0.78557+6.22013I$	0
$u=-0.192393+0.415462I$ $a=-0.68265+1.49325I$ $b=1.37512+1.25801I$	$2.34716-5.38219I$	$2.04719+12.06129I$
$u=-0.192393-0.415462I$ $a=-0.68265-1.49325I$ $b=1.37512-1.25801I$	$2.34716+5.38219I$	$2.04719-12.06129I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.02356+1.18020I$ $a=-0.100489+0.959339I$ $b=-1.27151+1.13373I$	$-2.5409-14.2142I$	0
$u=-1.02356-1.18020I$ $a=-0.100489-0.959339I$ $b=-1.27151-1.13373I$	$-2.5409+14.2142I$	0
$u=0.85015+1.31345I$ $a=0.033424+0.686543I$ $b=0.455681+1.007420I$	$-5.34578-4.51566I$	0
$u=0.85015-1.31345I$ $a=0.033424-0.686543I$ $b=0.455681-1.007420I$	$-5.34578+4.51566I$	0
$u=-1.37275+0.75927I$ $a=-0.411625+0.330128I$ $b=-0.558315-0.488426I$	$-0.78908+6.16308I$	0
$u=-1.37275-0.75927I$ $a=-0.411625-0.330128I$ $b=-0.558315+0.488426I$	$-0.78908-6.16308I$	0
$u=-0.21984+1.55381I$ $a=0.542400+0.091793I$ $b=1.059800+0.199128I$	$3.42009-2.34373I$	0
$u=-0.21984-1.55381I$ $a=0.542400-0.091793I$ $b=1.059800-0.199128I$	$3.42009+2.34373I$	0
$u=1.02973+1.19091I$ $a=-0.144404-0.989519I$ $b=-1.23930-1.21021I$	$22.8238I$	0
$u=1.02973-1.19091I$ $a=-0.144404+0.989519I$ $b=-1.23930+1.21021I$	$-22.8238I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.25123+1.55753I$ $a=\ 0.283652+0.117679I$ $b=\ 0.952859+0.199939I$	$2.80459+1.69573I$	0
$u=-0.25123-1.55753I$ $a=\ 0.283652-0.117679I$ $b=\ 0.952859-0.199939I$	$2.80459-1.69573I$	0
$u=\ 0.159939+0.390073I$ $a=-1.48289+1.84105I$ $b=\ 1.08256+1.54184I$	$-2.32347-4.18248I$	$-5.80637+3.07602I$
$u=\ 0.159939-0.390073I$ $a=-1.48289-1.84105I$ $b=\ 1.08256-1.54184I$	$-2.32347+4.18248I$	$-5.80637-3.07602I$
$u=-1.57249+0.14036I$ $a=\ 0.196863-0.253820I$ $b=\ 0.181064-0.660371I$	$1.60043+5.74473I$	0
$u=-1.57249-0.14036I$ $a=\ 0.196863+0.253820I$ $b=\ 0.181064+0.660371I$	$1.60043-5.74473I$	0
$u=\ 1.04036+1.20651I$ $a=\ 0.160767+0.932361I$ $b=\ 1.09009+1.13240I$	$2.1141+14.1050I$	0
$u=\ 1.04036-1.20651I$ $a=\ 0.160767-0.932361I$ $b=\ 1.09009-1.13240I$	$2.1141-14.1050I$	0
$u=-0.98645+1.26141I$ $a=\ 0.283498-0.842661I$ $b=\ 1.19967-0.97116I$	$2.29556-13.21820I$	0
$u=-0.98645-1.26141I$ $a=\ 0.283498+0.842661I$ $b=\ 1.19967+0.97116I$	$2.29556+13.21820I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.96939 + 1.30247I$ $a = -0.059421 - 0.767912I$ $b = -0.659814 - 0.845957I$	$-1.96692 + 4.81207I$	0
$u = 0.96939 - 1.30247I$ $a = -0.059421 + 0.767912I$ $b = -0.659814 + 0.845957I$	$-1.96692 - 4.81207I$	0
$u = 0.95599 + 1.32971I$ $a = 0.216297 + 0.313171I$ $b = 1.069600 + 0.355394I$	$3.22625 + 0.60604I$	0
$u = 0.95599 - 1.32971I$ $a = 0.216297 - 0.313171I$ $b = 1.069600 - 0.355394I$	$3.22625 - 0.60604I$	0
$u = -1.07294 + 1.24572I$ $a = 0.046354 + 0.637576I$ $b = -0.910046 + 0.929505I$	$-5.39279 - 6.94228I$	0
$u = -1.07294 - 1.24572I$ $a = 0.046354 - 0.637576I$ $b = -0.910046 - 0.929505I$	$-5.39279 + 6.94228I$	0
$u = 1.40837 + 0.86006I$ $a = -0.214745 - 0.354712I$ $b = -0.303841 - 0.098636I$	$3.99523 + 1.15874I$	0
$u = 1.40837 - 0.86006I$ $a = -0.214745 + 0.354712I$ $b = -0.303841 + 0.098636I$	$3.99523 - 1.15874I$	0
$u = 0.154909 + 0.293248I$ $a = 3.13057 + 0.78685I$ $b = -1.223000 + 0.193897I$	$1.50146 - 0.64615I$	$6.32433 + 2.05336I$
$u = 0.154909 - 0.293248I$ $a = 3.13057 - 0.78685I$ $b = -1.223000 - 0.193897I$	$1.50146 + 0.64615I$	$6.32433 - 2.05336I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.22510+1.13352I$ $a=-0.094713+0.600621I$ $b=-0.697858+1.150480I$	$-1.95547-5.70601I$	0
$u=-1.22510-1.13352I$ $a=-0.094713-0.600621I$ $b=-0.697858-1.150480I$	$-1.95547+5.70601I$	0
$u=1.42759+0.87461I$ $a=0.318932-0.030573I$ $b=-0.113207-0.085265I$	$-0.69525+2.93626I$	0
$u=1.42759-0.87461I$ $a=0.318932+0.030573I$ $b=-0.113207+0.085265I$	$-0.69525-2.93626I$	0
$u=1.13183+1.24234I$ $a=-0.087033+0.700849I$ $b=0.828910+0.913852I$	$-4.4535+13.8077I$	0
$u=1.13183-1.24234I$ $a=-0.087033-0.700849I$ $b=0.828910-0.913852I$	$-4.4535-13.8077I$	0
$u=-0.226510+0.050029I$ $a=-0.55415+3.27599I$ $b=1.37918+0.64464I$	$4.41937+0.30153I$	$11.41852+2.48842I$
$u=-0.226510-0.050029I$ $a=-0.55415-3.27599I$ $b=1.37918-0.64464I$	$4.41937-0.30153I$	$11.41852-2.48842I$
$u=-1.37570+1.13746I$ $a=0.343201-0.086947I$ $b=0.494532+0.264029I$	$2.94445+5.95495I$	0
$u=-1.37570-1.13746I$ $a=0.343201+0.086947I$ $b=0.494532-0.264029I$	$2.94445-5.95495I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.86067 + 1.57235I$ $a = -0.189648 - 0.206082I$ $b = -0.706358 + 0.149717I$	$-0.35296 + 3.20640I$	0
$u = 0.86067 - 1.57235I$ $a = -0.189648 + 0.206082I$ $b = -0.706358 - 0.149717I$	$-0.35296 - 3.20640I$	0
$u = -1.37352 + 1.15204I$ $a = -0.245395 - 0.409533I$ $b = 0.735383 - 0.690609I$	$-3.49598 - 5.30010I$	0
$u = -1.37352 - 1.15204I$ $a = -0.245395 + 0.409533I$ $b = 0.735383 + 0.690609I$	$-3.49598 + 5.30010I$	0
$u = -0.80044 + 1.61028I$ $a = -0.329436 + 0.057168I$ $b = -1.020160 - 0.485867I$	$2.22153 + 7.08409I$	0
$u = -0.80044 - 1.61028I$ $a = -0.329436 - 0.057168I$ $b = -1.020160 + 0.485867I$	$2.22153 - 7.08409I$	0
$u = -0.178230 + 0.033701I$ $a = 1.11029 + 3.71933I$ $b = -1.86267 + 0.14300I$	$2.41267 - 7.83325I$	$6.48424 + 11.64262I$
$u = -0.178230 - 0.033701I$ $a = 1.11029 - 3.71933I$ $b = -1.86267 - 0.14300I$	$2.41267 + 7.83325I$	$6.48424 - 11.64262I$
$u = 1.55208 + 0.95936I$ $a = 0.382662 + 0.210818I$ $b = 0.442784 - 0.506491I$	$1.0870 - 14.1748I$	0
$u = 1.55208 - 0.95936I$ $a = 0.382662 - 0.210818I$ $b = 0.442784 + 0.506491I$	$1.0870 + 14.1748I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.13684 + 1.44206I$ $a = -0.162391 - 0.558801I$ $b = -0.743611 - 0.831193I$	$-2.94911 + 3.94406I$	0
$u = 1.13684 - 1.44206I$ $a = -0.162391 + 0.558801I$ $b = -0.743611 + 0.831193I$	$-2.94911 - 3.94406I$	0
$u = 0.048068 + 0.145094I$ $a = 5.31887 - 4.10726I$ $b = -0.874388 - 0.358411I$	$-0.95651 - 1.30346I$	$-3.61682 + 3.03857I$
$u = 0.048068 - 0.145094I$ $a = 5.31887 + 4.10726I$ $b = -0.874388 + 0.358411I$	$-0.95651 + 1.30346I$	$-3.61682 - 3.03857I$
$u = 0.0343846 + 0.1199490I$ $a = -5.25746 - 7.11730I$ $b = 0.171978 + 0.565057I$	$0.31028 + 2.82362I$	$1.14418 - 5.12869I$
$u = 0.0343846 - 0.1199490I$ $a = -5.25746 + 7.11730I$ $b = 0.171978 - 0.565057I$	$0.31028 - 2.82362I$	$1.14418 + 5.12869I$
$u = -1.68637 + 0.90310I$ $a = 0.219381 - 0.211945I$ $b = 0.456885 + 0.477304I$	$-1.39813 + 5.53123I$	0
$u = -1.68637 - 0.90310I$ $a = 0.219381 + 0.211945I$ $b = 0.456885 - 0.477304I$	$-1.39813 - 5.53123I$	0
$u = 1.72951 + 0.89926I$ $a = -0.284002 - 0.200868I$ $b = -0.296198 + 0.267736I$	$3.36622 - 5.19098I$	0
$u = 1.72951 - 0.89926I$ $a = -0.284002 + 0.200868I$ $b = -0.296198 - 0.267736I$	$3.36622 + 5.19098I$	0

II. $\boldsymbol{I_2^u = \langle -2.64 \times 10^{167} u^{63} + 8.31 \times 10^{167} u^{62} + \cdots + 4.36 \times 10^{167} b + 2.47 \times 10^{167},\ 8.17 \times 10^{164} u^{63} - 2.19 \times 10^{165} u^{62} + \cdots + 1.84 \times 10^{164} a - 3.02 \times 10^{164},\ u^{64} - 3u^{63} + \cdots - 2u + 1 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4.43420u^{63} + 11.8819u^{62} + \cdots - 22.6415u + 1.64053 \\ 0.605026u^{63} - 1.90528u^{62} + \cdots + 0.105146u - 0.565679 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -5.82995u^{63} + 15.6992u^{62} + \cdots - 24.3393u + 0.785468 \\ 0.215076u^{63} - 0.811059u^{62} + \cdots - 0.550826u - 0.935566 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -5.03923u^{63} + 13.7872u^{62} + \cdots - 22.7466u + 2.20621 \\ 0.605026u^{63} - 1.90528u^{62} + \cdots + 0.105146u - 0.565679 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.896314u^{63} - 2.73319u^{62} + \cdots + 9.40304u + 13.5698 \\ -0.0782911u^{63} - 0.0457473u^{62} + \cdots - 2.42001u - 0.479972 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.260828u^{63} - 0.205566u^{62} + \cdots - 2.59111u + 7.97569 \\ -0.357960u^{63} + 0.881441u^{62} + \cdots - 1.47920u - 0.335812 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.28530u^{63} - 4.64254u^{62} + \cdots + 5.72708u + 11.7296 \\ 0.467274u^{63} - 1.86360u^{62} + \cdots + 0.744040u - 1.36016 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 3.73922u^{63} - 10.9612u^{62} + \cdots - 11.1085u - 10.3464 \\ 1.24424u^{63} - 3.71670u^{62} + \cdots + 7.13559u - 0.789788 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.00151u^{63} - 7.42097u^{62} + \cdots + 6.94478u + 6.77656 \\ 0.398785u^{63} - 1.77040u^{62} + \cdots + 2.19885u - 1.63959 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.45184u^{63} - 19.6318u^{62} + \cdots + 72.4083u + 1.22293 \\ 0.311292u^{63} - 1.31404u^{62} + \cdots + 1.74953u - 0.379624 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8.11682u^{63} + 17.3408u^{62} + \cdots + 6.48192u - 36.5042$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{64} - 16u^{63} + \cdots + 20u + 4$
c_2	$u^{64} + 15u^{62} + \cdots + 7u + 1$
c_3	$u^{64} + 15u^{62} + \cdots - 7u + 1$
c_4	$u^{64} - 2u^{63} + \cdots - 5u + 1$
c_5	$u^{64} + 2u^{63} + \cdots + 5u + 1$
c_6	$u^{64} + 3u^{63} + \cdots + 2u + 1$
c_7	$u^{64} + 2u^{63} + \cdots + 856u + 92$
c_8	$u^{64} + u^{63} + \cdots + 4u + 1$
c_9	$u^{64} + 16u^{63} + \cdots - 20u + 4$
c_{10}	$u^{64} - 3u^{63} + \cdots - 2u + 1$
c_{11}	$u^{64} - 2u^{63} + \cdots - 856u + 92$
c_{12}	$u^{64} - u^{63} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_9	$y^{64} + 2y^{63} + \cdots + 112y + 16$
c_2, c_3	$y^{64} + 30y^{63} + \cdots + 5y + 1$
c_4, c_5	$y^{64} + 4y^{63} + \cdots + 27y + 1$
c_6, c_{10}	$y^{64} + 3y^{63} + \cdots + 32y + 1$
c_7, c_{11}	$y^{64} + 14y^{63} + \cdots + 53312y + 8464$
c_8, c_{12}	$y^{64} + 5y^{63} + \cdots + 68y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.215314 + 0.958734I$ $a = -1.068630 - 0.563535I$ $b = 0.136762 - 0.229327I$	$-2.82276 + 1.30642I$	$-5.54719 - 3.99508I$
$u = 0.215314 - 0.958734I$ $a = -1.068630 + 0.563535I$ $b = 0.136762 + 0.229327I$	$-2.82276 - 1.30642I$	$-5.54719 + 3.99508I$
$u = 0.150897 + 1.024370I$ $a = -0.515343 - 1.086570I$ $b = -0.058522 - 0.703493I$	$-2.20927 + 2.49016I$	$0. - 2.14892I$
$u = 0.150897 - 1.024370I$ $a = -0.515343 + 1.086570I$ $b = -0.058522 + 0.703493I$	$-2.20927 - 2.49016I$	$0. + 2.14892I$
$u = -0.922149 + 0.258657I$ $a = 0.644740 - 0.061851I$ $b = -0.582852 + 0.878271I$	$-2.32521 - 5.14518I$	$-3.40432 + 6.11990I$
$u = -0.922149 - 0.258657I$ $a = 0.644740 + 0.061851I$ $b = -0.582852 - 0.878271I$	$-2.32521 + 5.14518I$	$-3.40432 - 6.11990I$
$u = 0.983087 + 0.412452I$ $a = -0.412160 - 0.151682I$ $b = -0.389330 - 0.943152I$	$2.90609 - 4.45425I$	$0. + 4.60250I$
$u = 0.983087 - 0.412452I$ $a = -0.412160 + 0.151682I$ $b = -0.389330 + 0.943152I$	$2.90609 + 4.45425I$	$0. - 4.60250I$
$u = 0.616551 + 0.687329I$ $a = 0.23902 + 1.94108I$ $b = 0.940515 + 0.783645I$	$2.56515 + 4.27262I$	$0. - 7.99934I$
$u = 0.616551 - 0.687329I$ $a = 0.23902 - 1.94108I$ $b = 0.940515 - 0.783645I$	$2.56515 - 4.27262I$	$0. + 7.99934I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.634452+0.631480I$ $a=-0.17693-1.52034I$ $b=\ \ 0.72838-1.61585I$	$1.13459-5.88809I$	$-0.32235+9.12464I$
$u=-0.634452-0.631480I$ $a=-0.17693+1.52034I$ $b=\ \ 0.72838+1.61585I$	$1.13459+5.88809I$	$-0.32235-9.12464I$
$u=\ \ 0.907415+0.648311I$ $a=\ \ 0.024498+1.144020I$ $b=\ \ 0.410499+0.753123I$	$5.17873+4.63097I$	0
$u=\ \ 0.907415-0.648311I$ $a=\ \ 0.024498-1.144020I$ $b=\ \ 0.410499-0.753123I$	$5.17873-4.63097I$	0
$u=\ \ 0.310188+1.145870I$ $a=-0.732168-0.386103I$ $b=-1.302130-0.178661I$	$2.82276+1.30642I$	0
$u=\ \ 0.310188-1.145870I$ $a=-0.732168+0.386103I$ $b=-1.302130+0.178661I$	$2.82276-1.30642I$	0
$u=\ \ 1.008340+0.691705I$ $a=-0.124773+1.309100I$ $b=\ \ 1.297600+0.268191I$	$2.30418+4.50675I$	0
$u=\ \ 1.008340-0.691705I$ $a=-0.124773-1.309100I$ $b=\ \ 1.297600-0.268191I$	$2.30418-4.50675I$	0
$u=-1.217020+0.131844I$ $a=-0.005490-0.599709I$ $b=\ \ 0.289833-1.269700I$	$2.90292-5.42838I$	0
$u=-1.217020-0.131844I$ $a=-0.005490+0.599709I$ $b=\ \ 0.289833+1.269700I$	$2.90292+5.42838I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.035290 + 0.691862I$ $a = -0.356338 - 0.751319I$ $b = -0.806421 + 0.252621I$	$2.20927 + 2.49016I$	0
$u = 1.035290 - 0.691862I$ $a = -0.356338 + 0.751319I$ $b = -0.806421 - 0.252621I$	$2.20927 - 2.49016I$	0
$u = 0.085750 + 0.729132I$ $a = -0.01526 + 1.66734I$ $b = -0.08934 + 2.14576I$	$-2.90292 + 5.42838I$	$-5.94739 - 8.86843I$
$u = 0.085750 - 0.729132I$ $a = -0.01526 - 1.66734I$ $b = -0.08934 - 2.14576I$	$-2.90292 - 5.42838I$	$-5.94739 + 8.86843I$
$u = -0.719449 + 1.053980I$ $a = 0.018710 - 0.873712I$ $b = 0.92565 - 1.24309I$	$-5.17873 - 4.63097I$	0
$u = -0.719449 - 1.053980I$ $a = 0.018710 + 0.873712I$ $b = 0.92565 + 1.24309I$	$-5.17873 + 4.63097I$	0
$u = -0.649156 + 1.105740I$ $a = 0.383755 - 0.130233I$ $b = 1.172330 + 0.384228I$	$1.92381 + 6.91368I$	0
$u = -0.649156 - 1.105740I$ $a = 0.383755 + 0.130233I$ $b = 1.172330 - 0.384228I$	$1.92381 - 6.91368I$	0
$u = 1.004460 + 0.830647I$ $a = -0.280602 - 0.353797I$ $b = -0.525340 - 0.634404I$	$3.61684 + 1.51034I$	0
$u = 1.004460 - 0.830647I$ $a = -0.280602 + 0.353797I$ $b = -0.525340 + 0.634404I$	$3.61684 - 1.51034I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.921014 + 0.956827I$ $a = -0.038128 - 0.999273I$ $b = -0.88189 - 1.56572I$	$6.25435I$	0
$u = 0.921014 - 0.956827I$ $a = -0.038128 + 0.999273I$ $b = -0.88189 + 1.56572I$	$-6.25435I$	0
$u = -0.292337 + 0.576784I$ $a = 1.80717 + 1.98279I$ $b = -0.533545 + 1.093780I$	$-1.99462 - 6.00349I$	$-7.5120 + 14.1146I$
$u = -0.292337 - 0.576784I$ $a = 1.80717 - 1.98279I$ $b = -0.533545 - 1.093780I$	$-1.99462 + 6.00349I$	$-7.5120 - 14.1146I$
$u = 1.072320 + 0.852856I$ $a = -0.075523 + 0.648958I$ $b = 0.49051 + 1.47980I$	$-1.13459 + 5.88809I$	0
$u = 1.072320 - 0.852856I$ $a = -0.075523 - 0.648958I$ $b = 0.49051 - 1.47980I$	$-1.13459 - 5.88809I$	0
$u = -0.578548 + 0.223802I$ $a = 1.53687 + 0.14743I$ $b = 0.107232 - 0.522246I$	$2.32521 + 5.14518I$	$3.40432 - 6.11990I$
$u = -0.578548 - 0.223802I$ $a = 1.53687 - 0.14743I$ $b = 0.107232 + 0.522246I$	$2.32521 - 5.14518I$	$3.40432 + 6.11990I$
$u = 0.961251 + 1.006880I$ $a = -0.046339 - 0.998926I$ $b = -0.968902 - 0.430381I$	$4.45064I$	0
$u = 0.961251 - 1.006880I$ $a = -0.046339 + 0.998926I$ $b = -0.968902 + 0.430381I$	$-4.45064I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.012027 + 0.588457I$ $a = -1.37611 - 1.73506I$ $b = 0.024459 - 1.215500I$	$-3.61684 + 1.51034I$	$-3.97229 - 3.46471I$
$u = 0.012027 - 0.588457I$ $a = -1.37611 + 1.73506I$ $b = 0.024459 + 1.215500I$	$-3.61684 - 1.51034I$	$-3.97229 + 3.46471I$
$u = 0.011397 + 0.560658I$ $a = -2.69691 - 0.88775I$ $b = 0.092178 - 0.484133I$	$-3.14925 + 1.27234I$	$-11.24654 - 0.93768I$
$u = 0.011397 - 0.560658I$ $a = -2.69691 + 0.88775I$ $b = 0.092178 + 0.484133I$	$-3.14925 - 1.27234I$	$-11.24654 + 0.93768I$
$u = -0.105112 + 0.508876I$ $a = 2.33671 + 0.79300I$ $b = -0.677879 + 0.062339I$	$-1.92381 - 6.91368I$	$3.10763 + 2.65829I$
$u = -0.105112 - 0.508876I$ $a = 2.33671 - 0.79300I$ $b = -0.677879 - 0.062339I$	$-1.92381 + 6.91368I$	$3.10763 - 2.65829I$
$u = 0.515354 + 0.044814I$ $a = 0.984990 - 0.172612I$ $b = -0.13380 + 1.89583I$	$-12.4816I$	$0. + 11.51775I$
$u = 0.515354 - 0.044814I$ $a = 0.984990 + 0.172612I$ $b = -0.13380 - 1.89583I$	$12.4816I$	$0. - 11.51775I$
$u = -0.342627 + 0.319113I$ $a = -2.13684 - 0.78639I$ $b = 0.59454 - 1.39818I$	$-2.90609 - 4.45425I$	$-4.07414 + 4.60250I$
$u = -0.342627 - 0.319113I$ $a = -2.13684 + 0.78639I$ $b = 0.59454 + 1.39818I$	$-2.90609 + 4.45425I$	$-4.07414 - 4.60250I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.95604+1.20297I$ $a=-0.225789+0.974176I$ $b=-1.18058+0.98751I$	$-14.1328I$	0
$u=-0.95604-1.20297I$ $a=-0.225789-0.974176I$ $b=-1.18058-0.98751I$	$14.1328I$	0
$u=0.46699+1.52216I$ $a=-0.334544-0.110123I$ $b=-0.950912-0.239659I$	$3.14925+1.27234I$	0
$u=0.46699-1.52216I$ $a=-0.334544+0.110123I$ $b=-0.950912+0.239659I$	$3.14925-1.27234I$	0
$u=-1.03133+1.23371I$ $a=-0.072152-0.757006I$ $b=0.595686-0.798814I$	$-2.30418-4.50675I$	0
$u=-1.03133-1.23371I$ $a=-0.072152+0.757006I$ $b=0.595686+0.798814I$	$-2.30418+4.50675I$	0
$u=0.100719+0.271199I$ $a=6.26923-2.93942I$ $b=-0.360362-0.466023I$	$0.31152-2.86377I$	$-10.57565-7.33390I$
$u=0.100719-0.271199I$ $a=6.26923+2.93942I$ $b=-0.360362+0.466023I$	$0.31152+2.86377I$	$-10.57565+7.33390I$
$u=-1.67195+0.46270I$ $a=0.251089-0.275490I$ $b=0.311651+0.005833I$	$1.99462+6.00349I$	0
$u=-1.67195-0.46270I$ $a=0.251089+0.275490I$ $b=0.311651-0.005833I$	$1.99462-6.00349I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.18679+1.36106I$ $a=\quad 0.062491-0.507483I$ $b=\quad 0.726698-0.807092I$	$-2.56515-4.27262I$	0
$u=-1.18679-1.36106I$ $a=\quad 0.062491+0.507483I$ $b=\quad 0.726698+0.807092I$	$-2.56515+4.27262I$	0
$u=\quad 1.42860+1.40415I$ $a=\quad 0.130763+0.061310I$ $b=\quad 0.597280-0.062836I$	$-0.31152+2.86377I$	0
$u=\quad 1.42860-1.40415I$ $a=\quad 0.130763-0.061310I$ $b=\quad 0.597280+0.062836I$	$-0.31152-2.86377I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{64}-16u^{63}+\cdots+20u+4)(u^{240}+11u^{239}+\cdots-149360u+19984)$
c_2	$(u^{64}+15u^{62}+\cdots+7u+1)(u^{240}+u^{239}+\cdots+81u+1)$
c_3	$(u^{64}+15u^{62}+\cdots-7u+1)(u^{240}-u^{239}+\cdots-81u+1)$
c_4	$(u^{64}-2u^{63}+\cdots-5u+1)(u^{240}+3u^{239}+\cdots+2694745u+109393)$
c_5	$(u^{64}+2u^{63}+\cdots+5u+1)(u^{240}-3u^{239}+\cdots-2694745u+109393)$
c_6	$(u^{64}+3u^{63}+\cdots+2u+1)(u^{240}+6u^{239}+\cdots-10u+1)$
c_7	$(u^{64}+2u^{63}+\cdots+856u+92)$ $\cdot(u^{240}+u^{239}+\cdots+412134229504u+89704305664)$
c_8	$(u^{64}+u^{63}+\cdots+4u+1)(u^{240}+17u^{238}+\cdots-455354u+53269)$
c_9	$(u^{64}+16u^{63}+\cdots-20u+4)(u^{240}-11u^{239}+\cdots+149360u+19984)$
c_{10}	$(u^{64}-3u^{63}+\cdots-2u+1)(u^{240}-6u^{239}+\cdots+10u+1)$
c_{11}	$(u^{64}-2u^{63}+\cdots-856u+92)$ $\cdot(u^{240}-u^{239}+\cdots-412134229504u+89704305664)$
c_{12}	$(u^{64}-u^{63}+\cdots-4u+1)(u^{240}+17u^{238}+\cdots+455354u+53269)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_9	$(y^{64}+2y^{63}+\cdots+112y+16)$ $\cdot(y^{240}+19y^{239}+\cdots+58000092160y+399360256)$
c_2, c_3	$(y^{64}+30y^{63}+\cdots+5y+1)(y^{240}+31y^{239}+\cdots-443y+1)$
c_4, c_5	$(y^{64}+4y^{63}+\cdots+27y+1)$ $\cdot(y^{240}-31y^{239}+\cdots-2123917792621y+11966828449)$
c_6, c_{10}	$(y^{64}+3y^{63}+\cdots+32y+1)(y^{240}+24y^{239}+\cdots+176y+1)$
c_7, c_{11}	$(y^{64}+14y^{63}+\cdots+53312y+8464)$ $\cdot(y^{240}+79y^{239}+\cdots-5.06\times10^{23}y+8.05\times10^{21})$
c_8, c_{12}	$(y^{64}+5y^{63}+\cdots+68y+1)$ $\cdot(y^{240}+34y^{239}+\cdots+461228757544y+2837586361)$