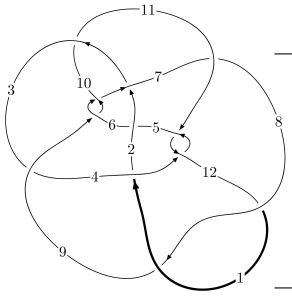
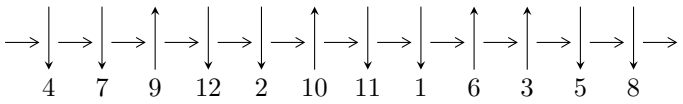
$12a_{1061}$ $(K12a_{1061})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -3.43650 \times 10^{1121} u^{176} + 7.56229 \times 10^{1121} u^{175} + \cdots + 7.16415 \times 10^{1120} b - 1.78638 \times 10^{1125}, \\
&\quad 1.87678 \times 10^{1125} u^{176} - 4.17003 \times 10^{1125} u^{175} + \cdots + 3.00966 \times 10^{1124} a + 1.00424 \times 10^{1129}, \\
&\quad u^{177} - 3u^{176} + \cdots + 99313u - 4201 \rangle \\
I_2^u &= \langle 1.31741 \times 10^{47} u^{40} - 3.05294 \times 10^{47} u^{39} + \cdots + 3.87165 \times 10^{46} b - 2.49858 \times 10^{47}, \\
&\quad 1.95215 \times 10^{46} u^{40} - 6.23390 \times 10^{46} u^{39} + \cdots + 3.87165 \times 10^{46} a - 1.19738 \times 10^{47},\ u^{41} - 3u^{40} + \cdots - 7u + 1 \rangle \\
I_3^u &= \langle b - 1,\ a,\ u + 1 \rangle \\
I_4^u &= \langle b + a + 2,\ a^2 + 3a + 3,\ u + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 221 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. $I_1^u = \langle -3.44 \times 10^{1121} u^{176} + 7.56 \times 10^{1121} u^{175} + \cdots + 7.16 \times 10^{1120} b - 1.79 \times 10^{1125},\ 1.88 \times 10^{1125} u^{176} - 4.17 \times 10^{1125} u^{175} + \cdots + 3.01 \times 10^{1124} a + 1.00 \times 10^{1129},\ u^{177} - 3u^{176} + \cdots + 99313u - 4201 \rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -6.23586u^{176} + 13.8555u^{175} + \cdots + 746239.u - 33367.2 \\ 4.79679u^{176} - 10.5557u^{175} + \cdots - 558500.u + 24935.0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.43906u^{176} + 3.29974u^{175} + \cdots + 187738.u - 8432.18 \\ 4.79679u^{176} - 10.5557u^{175} + \cdots - 558500.u + 24935.0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 7.39483u^{176} - 16.3425u^{175} + \cdots - 883940.u + 39499.8 \\ 5.95064u^{176} - 12.5957u^{175} + \cdots - 634341.u + 28159.7 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -3.66260u^{176} + 7.48021u^{175} + \cdots + 351755.u - 15523.3 \\ 2.55481u^{176} - 5.37588u^{175} + \cdots - 263974.u + 11698.7 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4.07792u^{176} + 9.10767u^{175} + \cdots + 494085.u - 22108.6 \\ 5.74228u^{176} - 12.6241u^{175} + \cdots - 666518.u + 29753.1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 4.74044u^{176} - 9.94666u^{175} + \cdots - 492414.u + 21828.5 \\ -8.52570u^{176} + 18.2057u^{175} + \cdots + 925988.u - 41169.2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.33544u^{176} - 2.95521u^{175} + \cdots - 152453.u + 6810.67 \\ 4.62485u^{176} - 9.86075u^{175} + \cdots - 502238.u + 22311.0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.03076u^{176} - 3.92794u^{175} + \cdots - 167606.u + 7302.95 \\ -4.32743u^{176} + 9.10927u^{175} + \cdots + 454536.u - 20152.1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.576507u^{176} - 1.54492u^{175} + \cdots - 73177.9u + 3324.73$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{177} + 12u^{176} + \cdots + 594886u - 71806$
c_2	$u^{177} - 2u^{176} + \cdots - 307u + 29$
c_3	$u^{177} - u^{176} + \cdots + 20299788u - 41864904$
c_4, c_{11}	$u^{177} + 57u^{175} + \cdots - 3987u - 577$
c_5	$u^{177} - 3u^{176} + \cdots + 571133u + 16391$
c_6, c_9	$u^{177} + u^{176} + \cdots - 4688u - 248$
c_7	$u^{177} + 5u^{176} + \cdots + 575187597u + 140105457$
c_8, c_{12}	$u^{177} - 3u^{176} + \cdots + 99313u - 4201$
c_{10}	$u^{177} + 3u^{176} + \cdots - 2447u + 211$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{177} - 24y^{176} + \cdots + 59480875472y - 5156101636$
c_2	$y^{177} + 14y^{176} + \cdots + 22677y - 841$
c_3	$y^{177} + 93y^{176} + \cdots - 69206595705210672y - 1752670186929216$
c_4, c_{11}	$y^{177} + 114y^{176} + \cdots - 9098317y - 332929$
c_5	$y^{177} + 5y^{176} + \cdots - 252864312125y - 268664881$
c_6, c_9	$y^{177} - 107y^{176} + \cdots + 3350560y - 61504$
c_7	$y^{177} - 71y^{176} + \cdots + 1502416853582876793y - 19629539081178849$
c_8, c_{12}	$y^{177} - 109y^{176} + \cdots + 3935864265y - 17648401$
c_{10}	$y^{177} + 13y^{176} + \cdots + 3237213y - 44521$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.391552 + 0.918289I$ $a = -0.02443 - 1.43307I$ $b = 0.311790 + 1.248170I$	$3.99925 - 5.25642I$	0
$u = 0.391552 - 0.918289I$ $a = -0.02443 + 1.43307I$ $b = 0.311790 - 1.248170I$	$3.99925 + 5.25642I$	0
$u = -1.012290 + 0.102932I$ $a = 1.28657 + 2.53369I$ $b = 0.283305 - 1.151170I$	$-2.77341 + 4.32190I$	0
$u = -1.012290 - 0.102932I$ $a = 1.28657 - 2.53369I$ $b = 0.283305 + 1.151170I$	$-2.77341 - 4.32190I$	0
$u = -1.005330 + 0.205847I$ $a = 0.594212 + 0.562437I$ $b = 1.15485 - 1.02978I$	$-2.46905 + 1.67974I$	0
$u = -1.005330 - 0.205847I$ $a = 0.594212 - 0.562437I$ $b = 1.15485 + 1.02978I$	$-2.46905 - 1.67974I$	0
$u = -0.357186 + 0.902669I$ $a = 0.01351 + 1.56060I$ $b = -0.097222 - 1.287070I$	$9.03240 + 3.28339I$	0
$u = -0.357186 - 0.902669I$ $a = 0.01351 - 1.56060I$ $b = -0.097222 + 1.287070I$	$9.03240 - 3.28339I$	0
$u = 1.009020 + 0.221811I$ $a = -1.002600 - 0.124917I$ $b = -0.491454 - 1.138300I$	$4.31608 - 4.96383I$	0
$u = 1.009020 - 0.221811I$ $a = -1.002600 + 0.124917I$ $b = -0.491454 + 1.138300I$	$4.31608 + 4.96383I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.954921 + 0.131917I$ $a = -0.165525 + 0.847085I$ $b = 0.15331 - 1.99846I$	$3.09098 - 7.15631I$	0
$u = 0.954921 - 0.131917I$ $a = -0.165525 - 0.847085I$ $b = 0.15331 + 1.99846I$	$3.09098 + 7.15631I$	0
$u = -0.601828 + 0.848506I$ $a = -0.474569 - 0.879284I$ $b = 0.546943 + 1.187910I$	$5.13827 - 6.39341I$	0
$u = -0.601828 - 0.848506I$ $a = -0.474569 + 0.879284I$ $b = 0.546943 - 1.187910I$	$5.13827 + 6.39341I$	0
$u = -0.940544 + 0.156825I$ $a = -0.841523 - 0.353184I$ $b = 0.10065 + 2.46271I$	$-0.014440 + 0.601529I$	0
$u = -0.940544 - 0.156825I$ $a = -0.841523 + 0.353184I$ $b = 0.10065 - 2.46271I$	$-0.014440 - 0.601529I$	0
$u = -1.047200 + 0.040846I$ $a = -1.32597 + 0.71142I$ $b = -0.583943 - 0.997112I$	$-2.69528 - 1.02232I$	0
$u = -1.047200 - 0.040846I$ $a = -1.32597 - 0.71142I$ $b = -0.583943 + 0.997112I$	$-2.69528 + 1.02232I$	0
$u = -0.947260 + 0.087408I$ $a = -0.657882 - 1.027030I$ $b = -0.17504 + 1.71746I$	$-0.310754 + 0.951044I$	0
$u = -0.947260 - 0.087408I$ $a = -0.657882 + 1.027030I$ $b = -0.17504 - 1.71746I$	$-0.310754 - 0.951044I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.946237 + 0.090615I$ $a = -1.61285 - 0.57839I$ $b = -0.647048 + 0.811473I$	$-2.16420 - 1.16727I$	0
$u = 0.946237 - 0.090615I$ $a = -1.61285 + 0.57839I$ $b = -0.647048 - 0.811473I$	$-2.16420 + 1.16727I$	0
$u = 0.945673 + 0.457721I$ $a = -1.58538 + 1.27224I$ $b = -0.102125 - 0.727054I$	$-2.33271 - 1.50229I$	0
$u = 0.945673 - 0.457721I$ $a = -1.58538 - 1.27224I$ $b = -0.102125 + 0.727054I$	$-2.33271 + 1.50229I$	0
$u = -0.915295 + 0.098878I$ $a = -1.168990 - 0.165690I$ $b = -0.314651 + 1.249200I$	$-0.273272 + 0.052849I$	0
$u = -0.915295 - 0.098878I$ $a = -1.168990 + 0.165690I$ $b = -0.314651 - 1.249200I$	$-0.273272 - 0.052849I$	0
$u = -0.353857 + 1.019980I$ $a = -0.18650 - 1.57502I$ $b = 0.319256 + 0.686065I$	$-0.221550 - 1.267490I$	0
$u = -0.353857 - 1.019980I$ $a = -0.18650 + 1.57502I$ $b = 0.319256 - 0.686065I$	$-0.221550 + 1.267490I$	0
$u = 0.531566 + 0.747089I$ $a = 0.87660 - 1.28314I$ $b = -0.123206 + 1.042790I$	$3.34181 + 0.08527I$	0
$u = 0.531566 - 0.747089I$ $a = 0.87660 + 1.28314I$ $b = -0.123206 - 1.042790I$	$3.34181 - 0.08527I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.09324$ $a=\ \ 0.220975$ $b=\ \ 0.820855$	-2.10948	0
$u=\ \ 1.086460+0.145851I$ $a=-1.44175+1.27828I$ $b=-0.368075-0.833229I$	$-3.80034-1.23674I$	0
$u=\ \ 1.086460-0.145851I$ $a=-1.44175-1.27828I$ $b=-0.368075+0.833229I$	$-3.80034+1.23674I$	0
$u=-0.908512+0.619518I$ $a=\ \ 0.51159+1.40686I$ $b=\ \ 0.472021-1.307320I$	$2.51715+5.30103I$	0
$u=-0.908512-0.619518I$ $a=\ \ 0.51159-1.40686I$ $b=\ \ 0.472021+1.307320I$	$2.51715-5.30103I$	0
$u=\ \ 0.734045+0.520091I$ $a=\ \ 0.900884-0.967272I$ $b=\ \ 0.831074+0.426101I$	$2.50002+1.14829I$	0
$u=\ \ 0.734045-0.520091I$ $a=\ \ 0.900884+0.967272I$ $b=\ \ 0.831074-0.426101I$	$2.50002-1.14829I$	0
$u=\ \ 1.094880+0.127112I$ $a=\ \ 1.64009-1.96992I$ $b=\ \ 0.363366+1.097080I$	$-0.84195-9.84986I$	0
$u=\ \ 1.094880-0.127112I$ $a=\ \ 1.64009+1.96992I$ $b=\ \ 0.363366-1.097080I$	$-0.84195+9.84986I$	0
$u=\ \ 0.376374+0.794396I$ $a=\ \ 0.42046-1.90181I$ $b=-0.246271+1.212780I$	$3.77458+0.22570I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.376374 - 0.794396I$ $a = 0.42046 + 1.90181I$ $b = -0.246271 - 1.212780I$	$3.77458 - 0.22570I$	0
$u = 0.757057 + 0.439147I$ $a = -0.303022 - 0.744920I$ $b = -0.021061 + 0.962905I$	$2.31246 - 4.69016I$	0
$u = 0.757057 - 0.439147I$ $a = -0.303022 + 0.744920I$ $b = -0.021061 - 0.962905I$	$2.31246 + 4.69016I$	0
$u = -0.301218 + 0.821230I$ $a = 0.798874 + 0.911540I$ $b = -0.668001 - 0.228977I$	$-3.41573 + 3.86998I$	0
$u = -0.301218 - 0.821230I$ $a = 0.798874 - 0.911540I$ $b = -0.668001 + 0.228977I$	$-3.41573 - 3.86998I$	0
$u = 1.062430 + 0.374783I$ $a = -1.018740 + 0.955399I$ $b = -0.83890 - 1.26580I$	$-0.99687 - 7.87321I$	0
$u = 1.062430 - 0.374783I$ $a = -1.018740 - 0.955399I$ $b = -0.83890 + 1.26580I$	$-0.99687 + 7.87321I$	0
$u = -1.128480 + 0.004016I$ $a = -1.24252 - 1.11842I$ $b = -0.347344 + 0.876242I$	$-3.05337 - 2.03135I$	0
$u = -1.128480 - 0.004016I$ $a = -1.24252 + 1.11842I$ $b = -0.347344 - 0.876242I$	$-3.05337 + 2.03135I$	0
$u = 0.855379$ $a = -0.0787454$ $b = 1.05081$	-1.76038	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.528790+1.018590I$ $a=\ \ 0.675767+1.062200I$ $b=-0.125160-1.163730I$	$3.75788+0.64628I$	0
$u=-0.528790-1.018590I$ $a=\ \ 0.675767-1.062200I$ $b=-0.125160+1.163730I$	$3.75788-0.64628I$	0
$u=\ \ 0.246315+1.127760I$ $a=-0.231005+1.156490I$ $b=\ \ 0.478466-1.045810I$	$1.36757+5.18436I$	0
$u=\ \ 0.246315-1.127760I$ $a=-0.231005-1.156490I$ $b=\ \ 0.478466+1.045810I$	$1.36757-5.18436I$	0
$u=-1.002010+0.588485I$ $a=-0.95049-1.14708I$ $b=-0.82139+1.16510I$	$3.83121+11.73540I$	0
$u=-1.002010-0.588485I$ $a=-0.95049+1.14708I$ $b=-0.82139-1.16510I$	$3.83121-11.73540I$	0
$u=\ \ 0.836072+0.055491I$ $a=\ \ 0.06630+1.54620I$ $b=\ \ 0.26188-1.54214I$	$5.30380+3.62693I$	0
$u=\ \ 0.836072-0.055491I$ $a=\ \ 0.06630-1.54620I$ $b=\ \ 0.26188+1.54214I$	$5.30380-3.62693I$	0
$u=\ \ 0.236989+0.801613I$ $a=\ \ 0.679542-0.281396I$ $b=-0.737005+0.266318I$	$1.15113+3.41241I$	0
$u=\ \ 0.236989-0.801613I$ $a=\ \ 0.679542+0.281396I$ $b=-0.737005-0.266318I$	$1.15113-3.41241I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.084080 + 0.447020I$ $a = 0.97770 - 1.26705I$ $b = 0.458533 + 1.204500I$	$1.43428 - 4.53147I$	0
$u = 1.084080 - 0.447020I$ $a = 0.97770 + 1.26705I$ $b = 0.458533 - 1.204500I$	$1.43428 + 4.53147I$	0
$u = -0.823083 + 0.082071I$ $a = 2.46000 - 0.71621I$ $b = -0.097261 - 0.714128I$	$-2.17701 - 3.32276I$	0
$u = -0.823083 - 0.082071I$ $a = 2.46000 + 0.71621I$ $b = -0.097261 + 0.714128I$	$-2.17701 + 3.32276I$	0
$u = 0.619532 + 0.532278I$ $a = 1.40729 - 1.05444I$ $b = -0.103957 + 0.860539I$	$3.26068 + 0.10586I$	0
$u = 0.619532 - 0.532278I$ $a = 1.40729 + 1.05444I$ $b = -0.103957 - 0.860539I$	$3.26068 - 0.10586I$	0
$u = 0.235191 + 0.767589I$ $a = 0.663443 - 1.134910I$ $b = -0.672235 + 0.108136I$	$0.22989 - 9.90375I$	0
$u = 0.235191 - 0.767589I$ $a = 0.663443 + 1.134910I$ $b = -0.672235 - 0.108136I$	$0.22989 + 9.90375I$	0
$u = -0.094807 + 1.196770I$ $a = 0.54562 - 1.40762I$ $b = -0.270772 + 1.077630I$	$5.17093 + 1.54430I$	0
$u = -0.094807 - 1.196770I$ $a = 0.54562 + 1.40762I$ $b = -0.270772 - 1.077630I$	$5.17093 - 1.54430I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.758171 + 0.196350I$ $a = -1.001890 - 0.051419I$ $b = -0.52968 - 1.33624I$	$3.43079 + 5.49485I$	0
$u = 0.758171 - 0.196350I$ $a = -1.001890 + 0.051419I$ $b = -0.52968 + 1.33624I$	$3.43079 - 5.49485I$	0
$u = -0.139158 + 1.211960I$ $a = 0.39126 + 1.50443I$ $b = -0.501028 - 1.155610I$	$-0.69121 - 8.40329I$	0
$u = -0.139158 - 1.211960I$ $a = 0.39126 - 1.50443I$ $b = -0.501028 + 1.155610I$	$-0.69121 + 8.40329I$	0
$u = -1.211060 + 0.170569I$ $a = -0.242241 + 0.041438I$ $b = -1.40337 - 0.27601I$	$-5.49092 + 1.00302I$	0
$u = -1.211060 - 0.170569I$ $a = -0.242241 - 0.041438I$ $b = -1.40337 + 0.27601I$	$-5.49092 - 1.00302I$	0
$u = 0.775060 + 0.053357I$ $a = 2.95172 - 0.60530I$ $b = -0.044043 - 0.639776I$	$0.61289 - 9.15609I$	0
$u = 0.775060 - 0.053357I$ $a = 2.95172 + 0.60530I$ $b = -0.044043 + 0.639776I$	$0.61289 + 9.15609I$	0
$u = 1.145010 + 0.455939I$ $a = 1.37527 - 1.22765I$ $b = 0.392644 + 1.231740I$	$1.30786 - 4.87319I$	0
$u = 1.145010 - 0.455939I$ $a = 1.37527 + 1.22765I$ $b = 0.392644 - 1.231740I$	$1.30786 + 4.87319I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.274998+0.714815I$ $a=-0.24924+2.24897I$ $b=-0.229992-1.328320I$	$6.25952-6.72620I$	0
$u=-0.274998-0.714815I$ $a=-0.24924-2.24897I$ $b=-0.229992+1.328320I$	$6.25952+6.72620I$	0
$u=-1.225960+0.288342I$ $a=-0.192662-0.093947I$ $b=1.166860+0.459301I$	$-1.56928+1.41784I$	0
$u=-1.225960-0.288342I$ $a=-0.192662+0.093947I$ $b=1.166860-0.459301I$	$-1.56928-1.41784I$	0
$u=-1.187910+0.424934I$ $a=1.68999+0.79683I$ $b=0.336471-1.178650I$	$3.39460+11.05100I$	0
$u=-1.187910-0.424934I$ $a=1.68999-0.79683I$ $b=0.336471+1.178650I$	$3.39460-11.05100I$	0
$u=0.182314+0.714742I$ $a=-0.58197+1.32586I$ $b=0.447162-1.173780I$	$1.59912+4.11982I$	0
$u=0.182314-0.714742I$ $a=-0.58197-1.32586I$ $b=0.447162+1.173780I$	$1.59912-4.11982I$	0
$u=1.232390+0.278106I$ $a=0.410103-0.833928I$ $b=0.70988+1.33585I$	$0.29249-6.31462I$	0
$u=1.232390-0.278106I$ $a=0.410103+0.833928I$ $b=0.70988-1.33585I$	$0.29249+6.31462I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.098370 + 0.627505I$ $a = -0.66043 + 1.76322I$ $b = -0.347388 - 1.026310I$	$-2.97291 - 2.92847I$	0
$u = 1.098370 - 0.627505I$ $a = -0.66043 - 1.76322I$ $b = -0.347388 + 1.026310I$	$-2.97291 + 2.92847I$	0
$u = -0.124925 + 0.722095I$ $a = 0.70437 + 1.70376I$ $b = 0.572944 - 0.399539I$	$-0.517939 - 0.978819I$	0
$u = -0.124925 - 0.722095I$ $a = 0.70437 - 1.70376I$ $b = 0.572944 + 0.399539I$	$-0.517939 + 0.978819I$	0
$u = 0.543119 + 0.490315I$ $a = 0.246827 + 0.177103I$ $b = -0.702628 + 0.738329I$	$2.87974 - 5.20445I$	0
$u = 0.543119 - 0.490315I$ $a = 0.246827 - 0.177103I$ $b = -0.702628 - 0.738329I$	$2.87974 + 5.20445I$	0
$u = -1.152640 + 0.540968I$ $a = 1.137750 + 0.807895I$ $b = 0.370179 - 1.155300I$	$6.49684 + 1.93738I$	0
$u = -1.152640 - 0.540968I$ $a = 1.137750 - 0.807895I$ $b = 0.370179 + 1.155300I$	$6.49684 - 1.93738I$	0
$u = 0.107306 + 1.271460I$ $a = 0.32723 - 1.42891I$ $b = -0.492004 + 1.182390I$	$3.2933 + 14.3973I$	0
$u = 0.107306 - 1.271460I$ $a = 0.32723 + 1.42891I$ $b = -0.492004 - 1.182390I$	$3.2933 - 14.3973I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.252820+0.316784I$ $a=\ \ 0.076789+0.527867I$ $b=\ \ 1.132240-0.170850I$	$-3.46425+0.33068I$	0
$u=-1.252820-0.316784I$ $a=\ \ 0.076789-0.527867I$ $b=\ \ 1.132240+0.170850I$	$-3.46425-0.33068I$	0
$u=\ \ 0.355755+1.243510I$ $a=\ \ 0.70116-1.34099I$ $b=-0.514190+1.026670I$	$4.63769+2.06605I$	0
$u=\ \ 0.355755-1.243510I$ $a=\ \ 0.70116+1.34099I$ $b=-0.514190-1.026670I$	$4.63769-2.06605I$	0
$u=-0.182168+1.287970I$ $a=-0.177013-1.253200I$ $b=\ \ 0.363450+0.949948I$	$0.60719-1.85923I$	0
$u=-0.182168-1.287970I$ $a=-0.177013+1.253200I$ $b=\ \ 0.363450-0.949948I$	$0.60719+1.85923I$	0
$u=\ \ 0.497777+0.490191I$ $a=\ \ 1.48662-0.50289I$ $b=-0.057522+0.179889I$	$2.94812+0.70661I$	0
$u=\ \ 0.497777-0.490191I$ $a=\ \ 1.48662+0.50289I$ $b=-0.057522-0.179889I$	$2.94812-0.70661I$	0
$u=-1.227350+0.443081I$ $a=-0.146778+0.083924I$ $b=-0.973424-0.570582I$	$-3.91843+5.40607I$	0
$u=-1.227350-0.443081I$ $a=-0.146778-0.083924I$ $b=-0.973424+0.570582I$	$-3.91843-5.40607I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.164530 + 0.620582I$ $a = 0.400114 - 1.153230I$ $b = 0.789888 + 0.673648I$	$-1.37204 - 8.61618I$	0
$u = 1.164530 - 0.620582I$ $a = 0.400114 + 1.153230I$ $b = 0.789888 - 0.673648I$	$-1.37204 + 8.61618I$	0
$u = 1.318740 + 0.133547I$ $a = -0.610613 - 0.953253I$ $b = -0.021525 - 0.649875I$	$-5.19688 - 2.57234I$	0
$u = 1.318740 - 0.133547I$ $a = -0.610613 + 0.953253I$ $b = -0.021525 + 0.649875I$	$-5.19688 + 2.57234I$	0
$u = 1.322550 + 0.228120I$ $a = -0.275131 - 0.104075I$ $b = -1.113780 + 0.027037I$	$-5.73521 - 4.13201I$	0
$u = 1.322550 - 0.228120I$ $a = -0.275131 + 0.104075I$ $b = -1.113780 - 0.027037I$	$-5.73521 + 4.13201I$	0
$u = 1.292340 + 0.369099I$ $a = -0.038874 - 0.199794I$ $b = 1.306490 - 0.210271I$	$-8.11844 - 7.90462I$	0
$u = 1.292340 - 0.369099I$ $a = -0.038874 + 0.199794I$ $b = 1.306490 + 0.210271I$	$-8.11844 + 7.90462I$	0
$u = -1.289770 + 0.401924I$ $a = -0.000596 + 0.154801I$ $b = 1.298980 + 0.239200I$	$-4.2028 + 14.0904I$	0
$u = -1.289770 - 0.401924I$ $a = -0.000596 - 0.154801I$ $b = 1.298980 - 0.239200I$	$-4.2028 - 14.0904I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.331190+0.231099I$ $a=-0.436919+0.260861I$ $b=-0.664267+0.489664I$	$-2.92537+6.19540I$	0
$u=-1.331190-0.231099I$ $a=-0.436919-0.260861I$ $b=-0.664267-0.489664I$	$-2.92537-6.19540I$	0
$u=-0.646961$ $a=-2.52113$ $b=-1.02651$	1.39617	0
$u=-1.362610+0.029040I$ $a=-0.401319+0.341758I$ $b=-0.323128+0.796792I$	$-3.98636+1.89468I$	0
$u=-1.362610-0.029040I$ $a=-0.401319-0.341758I$ $b=-0.323128-0.796792I$	$-3.98636-1.89468I$	0
$u=1.332320+0.417410I$ $a=-0.781880+0.904937I$ $b=-0.72106-1.29014I$	$-2.30386-8.15382I$	0
$u=1.332320-0.417410I$ $a=-0.781880-0.904937I$ $b=-0.72106+1.29014I$	$-2.30386+8.15382I$	0
$u=-1.406380+0.095621I$ $a=0.014083+0.684162I$ $b=0.245039+0.372203I$	$-3.08455+6.79519I$	0
$u=-1.406380-0.095621I$ $a=0.014083-0.684162I$ $b=0.245039-0.372203I$	$-3.08455-6.79519I$	0
$u=1.38335+0.29769I$ $a=-0.175659-0.192721I$ $b=-0.661759+0.231613I$	$-5.65223-3.43719I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.38335 - 0.29769I$ $a = -0.175659 + 0.192721I$ $b = -0.661759 - 0.231613I$	$-5.65223 + 3.43719I$	0
$u = 1.38244 + 0.37149I$ $a = -0.143920 - 0.134597I$ $b = -0.734836 + 0.463195I$	$-5.57305 - 3.30766I$	0
$u = 1.38244 - 0.37149I$ $a = -0.143920 + 0.134597I$ $b = -0.734836 - 0.463195I$	$-5.57305 + 3.30766I$	0
$u = 1.30335 + 0.62376I$ $a = 0.57308 - 1.39773I$ $b = 0.72169 + 1.33593I$	$1.32646 - 8.55782I$	0
$u = 1.30335 - 0.62376I$ $a = 0.57308 + 1.39773I$ $b = 0.72169 - 1.33593I$	$1.32646 + 8.55782I$	0
$u = -1.28036 + 0.67497I$ $a = 0.299549 + 1.279940I$ $b = 0.613916 - 0.884658I$	$-5.98799 + 2.01174I$	0
$u = -1.28036 - 0.67497I$ $a = 0.299549 - 1.279940I$ $b = 0.613916 + 0.884658I$	$-5.98799 - 2.01174I$	0
$u = -1.42354 + 0.34128I$ $a = 0.0707625 + 0.0911755I$ $b = -0.347276 - 0.607669I$	$-4.31450 - 0.17453I$	0
$u = -1.42354 - 0.34128I$ $a = 0.0707625 - 0.0911755I$ $b = -0.347276 + 0.607669I$	$-4.31450 + 0.17453I$	0
$u = 1.32237 + 0.63101I$ $a = -0.793108 + 1.087440I$ $b = -0.688269 - 1.140110I$	$-2.05823 - 11.49980I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.32237 - 0.63101I$ $a = -0.793108 - 1.087440I$ $b = -0.688269 + 1.140110I$	$-2.05823 + 11.49980I$	0
$u = -1.34825 + 0.60489I$ $a = 0.76177 + 1.31250I$ $b = 0.67835 - 1.33972I$	$-4.5477 + 14.7393I$	0
$u = -1.34825 - 0.60489I$ $a = 0.76177 - 1.31250I$ $b = 0.67835 + 1.33972I$	$-4.5477 - 14.7393I$	0
$u = -1.32288 + 0.66915I$ $a = -0.903929 - 0.692723I$ $b = -0.023747 + 0.854023I$	$1.33826 + 5.01804I$	0
$u = -1.32288 - 0.66915I$ $a = -0.903929 + 0.692723I$ $b = -0.023747 - 0.854023I$	$1.33826 - 5.01804I$	0
$u = -1.33566 + 0.65285I$ $a = -0.65202 - 1.33393I$ $b = -0.458880 + 1.098460I$	$-3.31320 + 7.69765I$	0
$u = -1.33566 - 0.65285I$ $a = -0.65202 + 1.33393I$ $b = -0.458880 - 1.098460I$	$-3.31320 - 7.69765I$	0
$u = 1.47887 + 0.16081I$ $a = -0.594434 - 0.121015I$ $b = -0.243349 - 0.838695I$	$-3.39242 - 4.68956I$	0
$u = 1.47887 - 0.16081I$ $a = -0.594434 + 0.121015I$ $b = -0.243349 + 0.838695I$	$-3.39242 + 4.68956I$	0
$u = 1.31051 + 0.72533I$ $a = 0.239192 - 1.313250I$ $b = 0.479588 + 0.890960I$	$-2.21722 + 4.06625I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.31051 - 0.72533I$ $a = 0.239192 + 1.313250I$ $b = 0.479588 - 0.890960I$	$-2.21722 - 4.06625I$	0
$u = 1.37360 + 0.61985I$ $a = 0.75629 - 1.24842I$ $b = 0.68569 + 1.33453I$	$-0.7250 - 20.9492I$	0
$u = 1.37360 - 0.61985I$ $a = 0.75629 + 1.24842I$ $b = 0.68569 - 1.33453I$	$-0.7250 + 20.9492I$	0
$u = -1.37879 + 0.61013I$ $a = -0.723226 - 1.136500I$ $b = -0.591153 + 1.147680I$	$-3.34668 + 8.46676I$	0
$u = -1.37879 - 0.61013I$ $a = -0.723226 + 1.136500I$ $b = -0.591153 - 1.147680I$	$-3.34668 - 8.46676I$	0
$u = -0.149239 + 0.465968I$ $a = 2.95141 - 1.26247I$ $b = 0.159460 - 0.000710I$	$-0.059643 - 0.675636I$	$2.4579 - 30.9439I$
$u = -0.149239 - 0.465968I$ $a = 2.95141 + 1.26247I$ $b = 0.159460 + 0.000710I$	$-0.059643 + 0.675636I$	$2.4579 + 30.9439I$
$u = 1.51224 + 0.25420I$ $a = -0.141405 + 0.395179I$ $b = 0.558384 - 0.606909I$	$-6.77481 + 2.64301I$	0
$u = 1.51224 - 0.25420I$ $a = -0.141405 - 0.395179I$ $b = 0.558384 + 0.606909I$	$-6.77481 - 2.64301I$	0
$u = -1.46098 + 0.46770I$ $a = -0.634911 - 0.909395I$ $b = -0.63646 + 1.34306I$	$-1.71406 + 10.39730I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.46098-0.46770I$ $a=-0.634911+0.909395I$ $b=-0.63646-1.34306I$	$-1.71406-10.39730I$	0
$u=-0.275663+0.359888I$ $a=\ \ 0.538661-0.443613I$ $b=\ \ 0.061815-0.462289I$	$-0.336605+1.084720I$	$-5.22595-5.66533I$
$u=-0.275663-0.359888I$ $a=\ \ 0.538661+0.443613I$ $b=\ \ 0.061815+0.462289I$	$-0.336605-1.084720I$	$-5.22595+5.66533I$
$u=-0.218766+0.393502I$ $a=\ \ 1.46537-0.17122I$ $b=-0.338185-0.975463I$	$-0.534583+0.783220I$	$-4.52573-1.25513I$
$u=-0.218766-0.393502I$ $a=\ \ 1.46537+0.17122I$ $b=-0.338185+0.975463I$	$-0.534583-0.783220I$	$-4.52573+1.25513I$
$u=-0.249302+0.287710I$ $a=\ \ 0.093593-1.068990I$ $b=\ \ 0.649723-0.379912I$	$-0.89258+2.05598I$	$-10.4495-9.7448I$
$u=-0.249302-0.287710I$ $a=\ \ 0.093593+1.068990I$ $b=\ \ 0.649723+0.379912I$	$-0.89258-2.05598I$	$-10.4495+9.7448I$
$u=\ \ 0.326923$ $a=-1.05460$ $b=\ \ 0.818662$	-1.50297	-12.3050
$u=\ \ 1.55099+0.69493I$ $a=-0.410810+1.110090I$ $b=-0.403020-1.284840I$	$1.87905-9.75004I$	0
$u=\ \ 1.55099-0.69493I$ $a=-0.410810-1.110090I$ $b=-0.403020+1.284840I$	$1.87905+9.75004I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.77574+0.26793I$ $a=-0.126853-0.493272I$ $b=\ \ 0.326955+0.701169I$	$-2.95177-7.67669I$	0
$u=-1.77574-0.26793I$ $a=-0.126853+0.493272I$ $b=\ \ 0.326955-0.701169I$	$-2.95177+7.67669I$	0
$u=\ \ 0.121888+0.153034I$ $a=-3.13541+1.59452I$ $b=\ \ 0.459776-1.139850I$	$1.69239+4.64275I$	$-7.42416-6.69331I$
$u=\ \ 0.121888-0.153034I$ $a=-3.13541-1.59452I$ $b=\ \ 0.459776+1.139850I$	$1.69239-4.64275I$	$-7.42416+6.69331I$
$u=\ \ 0.0709405$ $a=-8.57591$ $b=\ \ 0.684916$	-1.69587	-6.88590
$u=\ \ 0.28551+2.07261I$ $a=-0.196374+1.142190I$ $b=\ \ 0.180695-0.958724I$	$6.94064+0.75116I$	0
$u=\ \ 0.28551-2.07261I$ $a=-0.196374-1.142190I$ $b=\ \ 0.180695+0.958724I$	$6.94064-0.75116I$	0

II.

$\boldsymbol{I_2^u = \langle 1.32\times 10^{47}u^{40} - 3.05\times 10^{47}u^{39} + \cdots + 3.87\times 10^{46}b - 2.50\times 10^{47},\ 1.95\times 10^{46}u^{40} - 6.23\times 10^{46}u^{39} + \cdots + 3.87\times 10^{46}a - 1.20\times 10^{47},\ u^{41} - 3u^{40} + \cdots - 7u + 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.504218u^{40} + 1.61014u^{39} + \cdots - 16.4471u + 3.09269 \\ -3.40270u^{40} + 7.88537u^{39} + \cdots - 32.2784u + 6.45352 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3.90692u^{40} + 9.49551u^{39} + \cdots - 48.7255u + 9.54621 \\ -3.40270u^{40} + 7.88537u^{39} + \cdots - 32.2784u + 6.45352 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.285944u^{40} + 0.280571u^{39} + \cdots - 3.17838u - 2.66948 \\ 0.583683u^{40} - 1.23482u^{39} + \cdots + 1.31405u - 1.84434 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.66939u^{40} - 4.24518u^{39} + \cdots + 15.5680u - 6.91436 \\ -2.18576u^{40} + 4.79514u^{39} + \cdots - 17.7344u + 1.26433 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.59769u^{40} + 4.35538u^{39} + \cdots - 30.3258u + 6.07269 \\ -4.35834u^{40} + 10.0597u^{39} + \cdots - 40.4743u + 8.13946 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.57757u^{40} - 3.22648u^{39} + \cdots + 14.1231u + 1.41052 \\ 1.09108u^{40} - 2.38574u^{39} + \cdots + 12.7733u - 0.549375 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.35977u^{40} - 5.74149u^{39} + \cdots + 29.5778u - 2.58868 \\ 5.03805u^{40} - 11.7021u^{39} + \cdots + 44.5403u - 7.01700 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.645977u^{40} - 0.869514u^{39} + \cdots + 4.53158u + 4.61515 \\ -3.23140u^{40} + 7.08931u^{39} + \cdots - 17.4520u + 5.42626 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4.08577u^{40} - 2.63599u^{39} + \cdots + 50.6024u - 1.81203$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{41} - 12u^{40} + \cdots + 60u - 3$
c_2	$u^{41} + 2u^{40} + \cdots - 11u + 1$
c_3	$u^{41} + 19u^{39} + \cdots - 8u + 8$
c_4	$u^{41} - u^{40} + \cdots - 2u + 1$
c_5	$u^{41} - 7u^{40} + \cdots + 11u + 1$
c_6	$u^{41} - 2u^{40} + \cdots - 27u + 27$
c_7	$u^{41} + 2u^{40} + \cdots - 12u + 1$
c_8	$u^{41} + 3u^{40} + \cdots - 7u - 1$
c_9	$u^{41} + 2u^{40} + \cdots - 27u - 27$
c_{10}	$u^{41} + 9u^{39} + \cdots + 2u + 1$
c_{11}	$u^{41} + u^{40} + \cdots - 2u - 1$
c_{12}	$u^{41} - 3u^{40} + \cdots - 7u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{41} + 4y^{39} + \cdots + 468y - 9$
c_2	$y^{41} + 6y^{40} + \cdots + 15y - 1$
c_3	$y^{41} + 38y^{40} + \cdots - 2592y - 64$
c_4, c_{11}	$y^{41} + 43y^{40} + \cdots - 24y - 1$
c_5	$y^{41} + 33y^{40} + \cdots - 115y - 1$
c_6, c_9	$y^{41} - 26y^{40} + \cdots + 6561y - 729$
c_7	$y^{41} - 22y^{40} + \cdots - 22y - 1$
c_8, c_{12}	$y^{41} - 21y^{40} + \cdots + 19y - 1$
c_{10}	$y^{41} + 18y^{40} + \cdots - 14y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.942240+0.148783I$ $a=\ \ 0.855059+0.354655I$ $b=-0.04023-2.55342I$	$-0.005457+0.590715I$	$172.243+269.675I$
$u=-0.942240-0.148783I$ $a=\ \ 0.855059-0.354655I$ $b=-0.04023+2.55342I$	$-0.005457-0.590715I$	$172.243-269.675I$
$u=-0.839460+0.382742I$ $a=\ \ 2.01764+2.22806I$ $b=\ \ 0.352341-0.883957I$	$0.87089+10.17560I$	$-2.32863-11.26713I$
$u=-0.839460-0.382742I$ $a=\ \ 2.01764-2.22806I$ $b=\ \ 0.352341+0.883957I$	$0.87089-10.17560I$	$-2.32863+11.26713I$
$u=-0.200442+0.817891I$ $a=\ \ 0.80084+1.42042I$ $b=-0.011404-1.119450I$	$1.82916+0.26615I$	$-2.59108-0.20098I$
$u=-0.200442-0.817891I$ $a=\ \ 0.80084-1.42042I$ $b=-0.011404+1.119450I$	$1.82916-0.26615I$	$-2.59108+0.20098I$
$u=-1.135010+0.277776I$ $a=-0.599264-0.513344I$ $b=-0.803300+0.174775I$	$-3.87785+0.93606I$	$-11.42964-1.06677I$
$u=-1.135010-0.277776I$ $a=-0.599264+0.513344I$ $b=-0.803300-0.174775I$	$-3.87785-0.93606I$	$-11.42964+1.06677I$
$u=\ \ 0.756809+0.335499I$ $a=\ \ 1.36861-2.97141I$ $b=\ \ 0.306019+1.026790I$	$-1.57385-4.47564I$	$-2.63829+7.19328I$
$u=\ \ 0.756809-0.335499I$ $a=\ \ 1.36861+2.97141I$ $b=\ \ 0.306019-1.026790I$	$-1.57385+4.47564I$	$-2.63829-7.19328I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.798928 + 0.039430I$ $a = 0.606852 + 0.274369I$ $b = 0.19252 - 1.76128I$	$3.55362 - 6.55918I$	$1.84399 + 5.69845I$
$u = 0.798928 - 0.039430I$ $a = 0.606852 - 0.274369I$ $b = 0.19252 + 1.76128I$	$3.55362 + 6.55918I$	$1.84399 - 5.69845I$
$u = 1.185260 + 0.272986I$ $a = 0.560631 - 1.006050I$ $b = 0.37500 + 1.49220I$	$1.35213 - 7.25347I$	$-4.00000 + 9.57572I$
$u = 1.185260 - 0.272986I$ $a = 0.560631 + 1.006050I$ $b = 0.37500 - 1.49220I$	$1.35213 + 7.25347I$	$-4.00000 - 9.57572I$
$u = -0.134329 + 0.747022I$ $a = -0.273623 - 1.291960I$ $b = 0.465423 + 1.157100I$	$2.49057 - 4.77549I$	$2.88491 + 6.22928I$
$u = -0.134329 - 0.747022I$ $a = -0.273623 + 1.291960I$ $b = 0.465423 - 1.157100I$	$2.49057 + 4.77549I$	$2.88491 - 6.22928I$
$u = -1.246080 + 0.218675I$ $a = -0.757596 - 0.115633I$ $b = -0.185439 + 0.361833I$	$-4.10767 + 0.78746I$	$-8.36492 + 0.I$
$u = -1.246080 - 0.218675I$ $a = -0.757596 + 0.115633I$ $b = -0.185439 - 0.361833I$	$-4.10767 - 0.78746I$	$-8.36492 + 0.I$
$u = 0.301221 + 0.651288I$ $a = 0.48226 + 2.30421I$ $b = 0.098701 - 0.502488I$	$0.137829 + 0.885702I$	$6.02120 + 3.60405I$
$u = 0.301221 - 0.651288I$ $a = 0.48226 - 2.30421I$ $b = 0.098701 + 0.502488I$	$0.137829 - 0.885702I$	$6.02120 - 3.60405I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.240992 + 1.277560I$ $a = -0.59548 + 1.38985I$ $b = 0.450236 - 1.024540I$	$4.50491 + 1.90830I$	$-13.3625 + 6.4868I$
$u = 0.240992 - 1.277560I$ $a = -0.59548 - 1.38985I$ $b = 0.450236 + 1.024540I$	$4.50491 - 1.90830I$	$-13.3625 - 6.4868I$
$u = 1.358020 + 0.197631I$ $a = -0.837170 - 0.066399I$ $b = -0.384380 - 0.659771I$	$-4.09788 - 4.36966I$	0
$u = 1.358020 - 0.197631I$ $a = -0.837170 + 0.066399I$ $b = -0.384380 + 0.659771I$	$-4.09788 + 4.36966I$	0
$u = 1.374230 + 0.055257I$ $a = -0.155270 - 0.777971I$ $b = -0.146751 - 0.783930I$	$-4.88723 - 3.01586I$	0
$u = 1.374230 - 0.055257I$ $a = -0.155270 + 0.777971I$ $b = -0.146751 + 0.783930I$	$-4.88723 + 3.01586I$	0
$u = 1.354000 + 0.299765I$ $a = -0.298939 - 0.194967I$ $b = -0.802871 + 0.273020I$	$-4.84027 - 4.01187I$	0
$u = 1.354000 - 0.299765I$ $a = -0.298939 + 0.194967I$ $b = -0.802871 - 0.273020I$	$-4.84027 + 4.01187I$	0
$u = 0.053513 + 0.522502I$ $a = 1.65505 - 1.91973I$ $b = 0.481662 + 0.232463I$	$-0.348489 + 0.729896I$	$-3.1504 + 14.8763I$
$u = 0.053513 - 0.522502I$ $a = 1.65505 + 1.91973I$ $b = 0.481662 - 0.232463I$	$-0.348489 - 0.729896I$	$-3.1504 - 14.8763I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.39819+0.49898I$ $a=-0.732903-0.911273I$ $b=-0.652341+1.242110I$	$-1.83128+9.73283I$	0
$u=-1.39819-0.49898I$ $a=-0.732903+0.911273I$ $b=-0.652341-1.242110I$	$-1.83128-9.73283I$	0
$u=1.35397+0.62214I$ $a=-0.472610+1.204680I$ $b=-0.671924-1.220120I$	$0.56785-8.53887I$	0
$u=1.35397-0.62214I$ $a=-0.472610-1.204680I$ $b=-0.671924+1.220120I$	$0.56785+8.53887I$	0
$u=-0.404812$ $a=3.62419$ $b=0.866229$	1.67521	3.97030
$u=-1.59471+0.06485I$ $a=0.331493+0.004241I$ $b=-0.088440-0.744162I$	$-2.22372-7.21885I$	0
$u=-1.59471-0.06485I$ $a=0.331493-0.004241I$ $b=-0.088440+0.744162I$	$-2.22372+7.21885I$	0
$u=0.216803+0.139905I$ $a=-0.51478-1.80816I$ $b=0.26483-1.39242I$	$6.25017+3.84475I$	$4.87043-3.52195I$
$u=0.216803-0.139905I$ $a=-0.51478+1.80816I$ $b=0.26483+1.39242I$	$6.25017-3.84475I$	$4.87043+3.52195I$
$u=0.19911+1.99869I$ $a=0.247119-1.147090I$ $b=-0.132764+0.978246I$	$7.04391+0.54108I$	0

	Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.19911-1.99869I$		
$a=$	$0.247119+1.147090I$	$7.04391-0.54108I$	0
$b=$	$-0.132764-0.978246I$		

III. $I_3^u = \langle b-1,\ a,\ u+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0$ $b = 1.00000$	-3.28987	-12.0000

IV. $I_4^u = \langle b+a+2,\ a^2+3a+3,\ u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^2 - 3u + 3$
c_2, c_8	$(u-1)^2$
c_3, c_4	$u^2 - u + 1$
c_5, c_{12}	$(u+1)^2$
c_6, c_9	u^2
c_7, c_{10}, c_{11}	$u^2 + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^2 - 3y + 9$
c_2, c_5, c_8 c_{12}	$(y-1)^2$
c_3, c_4, c_7 c_{10}, c_{11}	$y^2 + y + 1$
c_6, c_9	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=-1.50000+0.86603I$ $b=-0.500000-0.866025I$	-3.28987	-9.00000
$u=-1.00000$ $a=-1.50000-0.86603I$ $b=-0.500000+0.866025I$	-3.28987	-9.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u^2-3u+3)(u^{41}-12u^{40}+\cdots+60u-3)$ $\cdot(u^{177}+12u^{176}+\cdots+594886u-71806)$
c_2	$((u-1)^3)(u^{41}+2u^{40}+\cdots-11u+1)(u^{177}-2u^{176}+\cdots-307u+29)$
c_3	$(u+1)(u^2-u+1)(u^{41}+19u^{39}+\cdots-8u+8)$ $\cdot(u^{177}-u^{176}+\cdots+20299788u-41864904)$
c_4	$(u+1)(u^2-u+1)(u^{41}-u^{40}+\cdots-2u+1)$ $\cdot(u^{177}+57u^{175}+\cdots-3987u-577)$
c_5	$((u+1)^3)(u^{41}-7u^{40}+\cdots+11u+1)$ $\cdot(u^{177}-3u^{176}+\cdots+571133u+16391)$
c_6	$u^3(u^{41}-2u^{40}+\cdots-27u+27)(u^{177}+u^{176}+\cdots-4688u-248)$
c_7	$(u-1)(u^2+u+1)(u^{41}+2u^{40}+\cdots-12u+1)$ $\cdot(u^{177}+5u^{176}+\cdots+575187597u+140105457)$
c_8	$((u-1)^3)(u^{41}+3u^{40}+\cdots-7u-1)$ $\cdot(u^{177}-3u^{176}+\cdots+99313u-4201)$
c_9	$u^3(u^{41}+2u^{40}+\cdots-27u-27)(u^{177}+u^{176}+\cdots-4688u-248)$
c_{10}	$(u-1)(u^2+u+1)(u^{41}+9u^{39}+\cdots+2u+1)$ $\cdot(u^{177}+3u^{176}+\cdots-2447u+211)$
c_{11}	$(u-1)(u^2+u+1)(u^{41}+u^{40}+\cdots-2u-1)$ $\cdot(u^{177}+57u^{175}+\cdots-3987u-577)$
c_{12}	$((u+1)^3)(u^{41}-3u^{40}+\cdots-7u+1)$ $\cdot(u^{177}-3u^{176}+\cdots+99313u-4201)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y(y^2-3y+9)(y^{41}+4y^{39}+\cdots+468y-9)$ $\cdot(y^{177}-24y^{176}+\cdots+59480875472y-5156101636)$
c_2	$((y-1)^3)(y^{41}+6y^{40}+\cdots+15y-1)$ $\cdot(y^{177}+14y^{176}+\cdots+22677y-841)$
c_3	$(y-1)(y^2+y+1)(y^{41}+38y^{40}+\cdots-2592y-64)$ $\cdot(y^{177}+93y^{176}+\cdots-69206595705210672y-1752670186929216)$
c_4, c_{11}	$(y-1)(y^2+y+1)(y^{41}+43y^{40}+\cdots-24y-1)$ $\cdot(y^{177}+114y^{176}+\cdots-9098317y-332929)$
c_5	$((y-1)^3)(y^{41}+33y^{40}+\cdots-115y-1)$ $\cdot(y^{177}+5y^{176}+\cdots-252864312125y-268664881)$
c_6, c_9	$y^3(y^{41}-26y^{40}+\cdots+6561y-729)$ $\cdot(y^{177}-107y^{176}+\cdots+3350560y-61504)$
c_7	$(y-1)(y^2+y+1)(y^{41}-22y^{40}+\cdots-22y-1)$ $\cdot(y^{177}-71y^{176}+\cdots+1502416853582876793y-19629539081178849)$
c_8, c_{12}	$((y-1)^3)(y^{41}-21y^{40}+\cdots+19y-1)$ $\cdot(y^{177}-109y^{176}+\cdots+3935864265y-17648401)$
c_{10}	$(y-1)(y^2+y+1)(y^{41}+18y^{40}+\cdots-14y-1)$ $\cdot(y^{177}+13y^{176}+\cdots+3237213y-44521)$