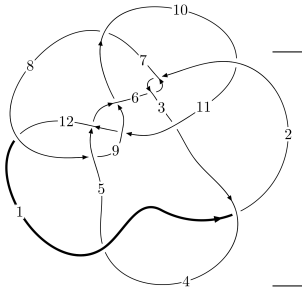
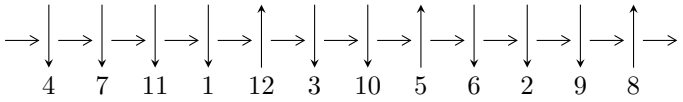
$12a_{1110}$ $(K12a_{1110})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.04121 \times 10^{1911} u^{192} - 2.94515 \times 10^{1911} u^{191} + \cdots + 4.61076 \times 10^{1912} b - 7.76576 \times 10^{1911}, \\ & - 2.94044 \times 10^{1913} u^{192} - 4.69682 \times 10^{1913} u^{191} + \cdots + 5.48680 \times 10^{1914} a - 2.38829 \times 10^{1916}, \\ & u^{193} + 3u^{192} + \cdots + 1523u - 119 \rangle \\ I_2^u = \langle & -1.57865 \times 10^{116} u^{51} - 2.29335 \times 10^{116} u^{50} + \cdots + 9.68988 \times 10^{115} b - 5.77826 \times 10^{116}, \\ & - 5.73748 \times 10^{116} u^{51} + 3.04708 \times 10^{116} u^{50} + \cdots + 9.68988 \times 10^{115} a + 4.52810 \times 10^{116}, \\ & u^{52} - 4u^{50} + \cdots - 4u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 245 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. $\boldsymbol{I_1^u = \langle -1.04 \times 10^{1911} u^{192} - 2.95 \times 10^{1911} u^{191} + \cdots + 4.61 \times 10^{1912} b - 7.77 \times 10^{1911},\ -2.94 \times 10^{1913} u^{192} - 4.70 \times 10^{1913} u^{191} + \cdots + 5.49 \times 10^{1914} a - 2.39 \times 10^{1916},\ u^{193} + 3u^{192} + \cdots + 1523u - 119 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0535911u^{192} + 0.0856021u^{191} + \cdots - 543.246u + 43.5280 \\ 0.0225821u^{192} + 0.0638757u^{191} + \cdots - 33.0712u + 0.168427 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0761733u^{192} + 0.149478u^{191} + \cdots - 576.317u + 43.6964 \\ 0.0225821u^{192} + 0.0638757u^{191} + \cdots - 33.0712u + 0.168427 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0863457u^{192} + 0.169045u^{191} + \cdots - 672.692u + 52.9340 \\ 0.0294198u^{192} + 0.0826882u^{191} + \cdots - 50.9591u + 1.47152 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0642413u^{192} + 0.291640u^{191} + \cdots + 836.760u - 76.0046 \\ -0.00576962u^{192} - 0.00872474u^{191} + \cdots + 45.0307u - 3.65749 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.412073u^{192} + 1.23966u^{191} + \cdots - 977.632u + 59.6963 \\ -0.0178693u^{192} - 0.0567235u^{191} + \cdots + 63.3657u - 5.88625 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.165086u^{192} - 0.670371u^{191} + \cdots - 693.144u + 70.2498 \\ 0.0165588u^{192} + 0.0422727u^{191} + \cdots - 94.7746u + 5.91355 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.255540u^{192} - 0.816600u^{191} + \cdots + 132.364u + 1.18893 \\ -0.0165383u^{192} - 0.0395895u^{191} + \cdots + 89.7596u - 8.46992 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0793911u^{192} + 0.335477u^{191} + \cdots + 762.122u - 70.3606 \\ 0.0209194u^{192} + 0.0525618u^{191} + \cdots - 117.668u + 9.30155 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00837962u^{192} + 0.0846030u^{191} + \cdots + 909.256u - 84.1823 \\ -0.0173126u^{192} - 0.0527161u^{191} + \cdots + 57.7225u - 4.57325 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.491202u^{192} - 1.60985u^{191} + \cdots - 92.7171u + 27.7140$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{193} - 9u^{192} + \cdots - 25294392u + 821143$
c_2, c_6	$u^{193} + 3u^{192} + \cdots - 9488u + 1279$
c_3	$u^{193} - u^{192} + \cdots - 84164118u + 75604697$
c_5	$u^{193} - 3u^{192} + \cdots + 1523u + 119$
c_7	$u^{193} + 4u^{192} + \cdots - 136105380u + 161762888$
c_8	$u^{193} - 4u^{192} + \cdots + 66807u + 16531$
c_9	$u^{193} + 2u^{192} + \cdots - 19697810u + 389851$
c_{10}	$u^{193} - 5u^{192} + \cdots - 885248946u + 70940957$
c_{11}	$u^{193} + 6u^{192} + \cdots - 3800155u + 329741$
c_{12}	$u^{193} - 24u^{191} + \cdots + 71854u + 6323$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{193} + 149y^{192} + \cdots + 91423314119834y - 674275826449$
c_2, c_6	$y^{193} + 115y^{192} + \cdots + 62705262y - 1635841$
c_3	$y^{193} + 81y^{192} + \cdots - 246539706104330476y - 5716070208461809$
c_5	$y^{193} + 7y^{192} + \cdots - 804935y - 14161$
c_7	$y^{193} + 22y^{192} + \cdots + 1403258281552618544y - 26167231934100544$
c_8	$y^{193} - 46y^{192} + \cdots + 29373639963y - 273273961$
c_9	$y^{193} - 48y^{192} + \cdots + 204957052058088y - 151983802201$
c_{10}	$y^{193} + 71y^{192} + \cdots - 122129491189476726y - 5032619380075849$
c_{11}	$y^{193} + 86y^{191} + \cdots - 7760857914797y - 108729127081$
c_{12}	$y^{193} - 48y^{192} + \cdots + 3821977538y - 39980329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.497238 + 0.867067I$ $a = 0.342922 + 0.745631I$ $b = 0.766058 - 0.204781I$	$4.22094 - 3.31943I$	0
$u = 0.497238 - 0.867067I$ $a = 0.342922 - 0.745631I$ $b = 0.766058 + 0.204781I$	$4.22094 + 3.31943I$	0
$u = -1.002190 + 0.090826I$ $a = 1.26913 - 0.92294I$ $b = -1.002540 + 0.366203I$	$7.64125 - 4.06324I$	0
$u = -1.002190 - 0.090826I$ $a = 1.26913 + 0.92294I$ $b = -1.002540 - 0.366203I$	$7.64125 + 4.06324I$	0
$u = -0.523190 + 0.839731I$ $a = 0.611273 - 0.989258I$ $b = 0.438938 - 0.201154I$	$2.63803 - 4.74363I$	0
$u = -0.523190 - 0.839731I$ $a = 0.611273 + 0.989258I$ $b = 0.438938 + 0.201154I$	$2.63803 + 4.74363I$	0
$u = 0.886144 + 0.508299I$ $a = -0.821468 + 0.607193I$ $b = 0.881728 + 0.546357I$	$6.25595 - 0.94873I$	0
$u = 0.886144 - 0.508299I$ $a = -0.821468 - 0.607193I$ $b = 0.881728 - 0.546357I$	$6.25595 + 0.94873I$	0
$u = -0.793213 + 0.557530I$ $a = 0.974293 + 0.051565I$ $b = -0.794389 + 0.462012I$	$1.25526 - 1.43426I$	0
$u = -0.793213 - 0.557530I$ $a = 0.974293 - 0.051565I$ $b = -0.794389 - 0.462012I$	$1.25526 + 1.43426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.782743 + 0.569579I$ $a = 1.274100 + 0.182530I$ $b = -1.38722 - 1.02429I$	$5.57186 + 7.41914I$	0
$u = 0.782743 - 0.569579I$ $a = 1.274100 - 0.182530I$ $b = -1.38722 + 1.02429I$	$5.57186 - 7.41914I$	0
$u = -0.851088 + 0.458366I$ $a = 1.49827 + 0.77108I$ $b = -0.736769 + 0.465369I$	$0.74560 - 2.43904I$	0
$u = -0.851088 - 0.458366I$ $a = 1.49827 - 0.77108I$ $b = -0.736769 - 0.465369I$	$0.74560 + 2.43904I$	0
$u = 0.779871 + 0.529450I$ $a = -1.13842 + 1.20231I$ $b = 0.660187 + 0.567217I$	$3.48058 + 8.67580I$	0
$u = 0.779871 - 0.529450I$ $a = -1.13842 - 1.20231I$ $b = 0.660187 - 0.567217I$	$3.48058 - 8.67580I$	0
$u = 0.453131 + 0.806446I$ $a = -0.297623 + 0.200067I$ $b = 0.440139 - 1.248480I$	$0.183860 + 0.947346I$	0
$u = 0.453131 - 0.806446I$ $a = -0.297623 - 0.200067I$ $b = 0.440139 + 1.248480I$	$0.183860 - 0.947346I$	0
$u = -0.630913 + 0.672528I$ $a = 1.84382 + 0.30274I$ $b = -0.945622 + 0.822813I$	$7.03056 - 3.49193I$	0
$u = -0.630913 - 0.672528I$ $a = 1.84382 - 0.30274I$ $b = -0.945622 - 0.822813I$	$7.03056 + 3.49193I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.776522 + 0.752682I$ $a = -1.299440 + 0.428593I$ $b = 1.13141 + 1.06210I$	$8.60089 + 7.20452I$	0
$u = 0.776522 - 0.752682I$ $a = -1.299440 - 0.428593I$ $b = 1.13141 - 1.06210I$	$8.60089 - 7.20452I$	0
$u = 0.195212 + 0.888065I$ $a = -0.715216 - 0.818022I$ $b = 0.011872 - 0.684290I$	$-1.77741 + 2.64700I$	0
$u = 0.195212 - 0.888065I$ $a = -0.715216 + 0.818022I$ $b = 0.011872 + 0.684290I$	$-1.77741 - 2.64700I$	0
$u = -0.790986 + 0.753719I$ $a = 1.217110 + 0.188763I$ $b = -1.32910 + 0.93706I$	$6.07885 - 2.57363I$	0
$u = -0.790986 - 0.753719I$ $a = 1.217110 - 0.188763I$ $b = -1.32910 - 0.93706I$	$6.07885 + 2.57363I$	0
$u = 0.797521 + 0.752341I$ $a = -1.059590 + 0.244506I$ $b = 1.44584 + 1.10749I$	$9.93565 - 1.33558I$	0
$u = 0.797521 - 0.752341I$ $a = -1.059590 - 0.244506I$ $b = 1.44584 - 1.10749I$	$9.93565 + 1.33558I$	0
$u = -0.951939 + 0.544515I$ $a = 0.489202 + 0.357652I$ $b = -1.123300 - 0.502790I$	$2.50050 + 1.59976I$	0
$u = -0.951939 - 0.544515I$ $a = 0.489202 - 0.357652I$ $b = -1.123300 + 0.502790I$	$2.50050 - 1.59976I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.126973 + 0.893867I$ $a = -0.077761 + 0.155141I$ $b = 0.02011 - 1.78711I$	$-0.49385 + 1.44634I$	0
$u = 0.126973 - 0.893867I$ $a = -0.077761 - 0.155141I$ $b = 0.02011 + 1.78711I$	$-0.49385 - 1.44634I$	0
$u = -0.007647 + 1.106220I$ $a = 0.743541 - 0.075769I$ $b = -0.949225 + 0.668062I$	$0.63290 - 4.78567I$	0
$u = -0.007647 - 1.106220I$ $a = 0.743541 + 0.075769I$ $b = -0.949225 - 0.668062I$	$0.63290 + 4.78567I$	0
$u = -0.853441 + 0.260269I$ $a = -1.147830 + 0.526623I$ $b = 1.26617 - 1.05813I$	$8.51652 - 1.44069I$	0
$u = -0.853441 - 0.260269I$ $a = -1.147830 - 0.526623I$ $b = 1.26617 + 1.05813I$	$8.51652 + 1.44069I$	0
$u = -0.876499 + 0.061956I$ $a = 0.573900 + 0.422916I$ $b = -0.930012 - 0.080698I$	$2.16628 + 1.75332I$	0
$u = -0.876499 - 0.061956I$ $a = 0.573900 - 0.422916I$ $b = -0.930012 + 0.080698I$	$2.16628 - 1.75332I$	0
$u = 0.165929 + 0.848786I$ $a = -1.41513 - 0.11976I$ $b = 1.58164 + 0.24148I$	$-0.67690 + 2.98996I$	0
$u = 0.165929 - 0.848786I$ $a = -1.41513 + 0.11976I$ $b = 1.58164 - 0.24148I$	$-0.67690 - 2.98996I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.803737 + 0.317029I$ $a = -1.49987 + 2.33986I$ $b = 0.575461 - 0.082402I$	$7.26083 + 11.03510I$	0
$u = 0.803737 - 0.317029I$ $a = -1.49987 - 2.33986I$ $b = 0.575461 + 0.082402I$	$7.26083 - 11.03510I$	0
$u = 0.649043 + 0.952767I$ $a = 0.781237 - 0.141581I$ $b = -0.901277 - 0.981986I$	$-1.77817 + 4.15644I$	0
$u = 0.649043 - 0.952767I$ $a = 0.781237 + 0.141581I$ $b = -0.901277 + 0.981986I$	$-1.77817 - 4.15644I$	0
$u = 0.573211 + 0.620217I$ $a = -0.37608 - 2.05342I$ $b = -0.414764 + 0.050057I$	$0.994026 + 0.137447I$	0
$u = 0.573211 - 0.620217I$ $a = -0.37608 + 2.05342I$ $b = -0.414764 - 0.050057I$	$0.994026 - 0.137447I$	0
$u = 0.921411 + 0.713068I$ $a = 1.64042 - 0.40033I$ $b = -0.724146 - 0.731262I$	$1.19042 + 3.64605I$	0
$u = 0.921411 - 0.713068I$ $a = 1.64042 + 0.40033I$ $b = -0.724146 + 0.731262I$	$1.19042 - 3.64605I$	0
$u = -0.825514 + 0.123471I$ $a = 2.31676 + 1.77210I$ $b = -0.596108 - 0.196613I$	$3.81726 - 4.73968I$	0
$u = -0.825514 - 0.123471I$ $a = 2.31676 - 1.77210I$ $b = -0.596108 + 0.196613I$	$3.81726 + 4.73968I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.139188 + 0.816122I$ $a = 0.937503 - 0.580994I$ $b = -0.077951 - 0.659096I$	$-2.19429 - 0.01698I$	0
$u = 0.139188 - 0.816122I$ $a = 0.937503 + 0.580994I$ $b = -0.077951 + 0.659096I$	$-2.19429 + 0.01698I$	0
$u = 1.171430 + 0.072628I$ $a = -1.52428 + 0.87247I$ $b = 0.785423 - 0.206755I$	$9.81622 - 0.34797I$	0
$u = 1.171430 - 0.072628I$ $a = -1.52428 - 0.87247I$ $b = 0.785423 + 0.206755I$	$9.81622 + 0.34797I$	0
$u = -0.133692 + 1.175910I$ $a = 1.312150 + 0.015195I$ $b = -1.49715 + 0.23346I$	$3.01136 - 7.70054I$	0
$u = -0.133692 - 1.175910I$ $a = 1.312150 - 0.015195I$ $b = -1.49715 - 0.23346I$	$3.01136 + 7.70054I$	0
$u = 0.441030 + 1.099470I$ $a = 0.116560 - 0.489882I$ $b = -0.951543 + 0.580989I$	$7.47534 - 2.11083I$	0
$u = 0.441030 - 1.099470I$ $a = 0.116560 + 0.489882I$ $b = -0.951543 - 0.580989I$	$7.47534 + 2.11083I$	0
$u = -0.463152 + 1.094350I$ $a = 0.027504 - 0.529615I$ $b = 0.898045 + 0.196218I$	$5.01813 - 2.63269I$	0
$u = -0.463152 - 1.094350I$ $a = 0.027504 + 0.529615I$ $b = 0.898045 - 0.196218I$	$5.01813 + 2.63269I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.088256 + 0.806160I$ $a = -0.708291 - 0.331551I$ $b = 0.727895 + 0.928715I$	$-2.45003 - 0.79596I$	0
$u = 0.088256 - 0.806160I$ $a = -0.708291 + 0.331551I$ $b = 0.727895 - 0.928715I$	$-2.45003 + 0.79596I$	0
$u = 0.450658 + 1.101640I$ $a = -0.032820 - 0.395267I$ $b = -1.216170 + 0.126684I$	$8.87783 + 6.48175I$	0
$u = 0.450658 - 1.101640I$ $a = -0.032820 + 0.395267I$ $b = -1.216170 - 0.126684I$	$8.87783 - 6.48175I$	0
$u = -0.572026 + 1.061560I$ $a = 0.575727 - 0.252604I$ $b = 0.044850 - 0.309132I$	$2.71678 - 4.55421I$	0
$u = -0.572026 - 1.061560I$ $a = 0.575727 + 0.252604I$ $b = 0.044850 + 0.309132I$	$2.71678 + 4.55421I$	0
$u = 0.384659 + 0.690356I$ $a = 0.549022 - 0.287216I$ $b = -0.62026 + 1.81306I$	$5.00288 + 12.48190I$	0
$u = 0.384659 - 0.690356I$ $a = 0.549022 + 0.287216I$ $b = -0.62026 - 1.81306I$	$5.00288 - 12.48190I$	0
$u = -0.189988 + 0.766916I$ $a = 1.83626 + 0.68218I$ $b = -0.350538 + 0.601281I$	$0.08290 - 7.67658I$	0
$u = -0.189988 - 0.766916I$ $a = 1.83626 - 0.68218I$ $b = -0.350538 - 0.601281I$	$0.08290 + 7.67658I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.509411+0.594685I$ $a=\ \ 1.086050-0.284729I$ $b=-1.88307+0.40041I$	$3.15731+0.59915I$	0
$u=-0.509411-0.594685I$ $a=\ \ 1.086050+0.284729I$ $b=-1.88307-0.40041I$	$3.15731-0.59915I$	0
$u=-1.028350+0.656856I$ $a=-1.043240+0.144329I$ $b=\ \ 1.39115-0.98329I$	$10.4059-11.6137I$	0
$u=-1.028350-0.656856I$ $a=-1.043240-0.144329I$ $b=\ \ 1.39115+0.98329I$	$10.4059+11.6137I$	0
$u=-0.318620+0.706869I$ $a=-0.555493-0.359034I$ $b=\ \ 0.56663+1.67029I$	$1.39988-6.81659I$	0
$u=-0.318620-0.706869I$ $a=-0.555493+0.359034I$ $b=\ \ 0.56663-1.67029I$	$1.39988+6.81659I$	0
$u=\ \ 0.660774+1.056300I$ $a=\ \ 1.132000-0.208741I$ $b=-1.44104-0.96969I$	$3.55642+7.82089I$	0
$u=\ \ 0.660774-1.056300I$ $a=\ \ 1.132000+0.208741I$ $b=-1.44104+0.96969I$	$3.55642-7.82089I$	0
$u=\ \ 1.088800+0.625231I$ $a=-1.269830-0.279353I$ $b=\ \ 1.214680+0.561620I$	$7.50739+4.54303I$	0
$u=\ \ 1.088800-0.625231I$ $a=-1.269830+0.279353I$ $b=\ \ 1.214680-0.561620I$	$7.50739-4.54303I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.459806+1.178840I$ $a=\ \ 0.287699-0.074862I$ $b=\ \ 0.352696-0.647795I$	$2.64925-4.48301I$	0
$u=-0.459806-1.178840I$ $a=\ \ 0.287699+0.074862I$ $b=\ \ 0.352696+0.647795I$	$2.64925+4.48301I$	0
$u=\ \ 1.180090+0.481702I$ $a=-0.646109-0.202589I$ $b=\ \ 0.994019+0.448982I$	$2.05102+1.14955I$	0
$u=\ \ 1.180090-0.481702I$ $a=-0.646109+0.202589I$ $b=\ \ 0.994019-0.448982I$	$2.05102-1.14955I$	0
$u=-0.810075+1.005450I$ $a=\ \ 1.132610+0.087829I$ $b=-0.845222+0.747687I$	$0.335352-0.698527I$	0
$u=-0.810075-1.005450I$ $a=\ \ 1.132610-0.087829I$ $b=-0.845222-0.747687I$	$0.335352+0.698527I$	0
$u=\ \ 0.113438+0.679220I$ $a=\ \ 0.39029-2.28438I$ $b=-0.049904-1.157790I$	$-0.39576+1.86685I$	0
$u=\ \ 0.113438-0.679220I$ $a=\ \ 0.39029+2.28438I$ $b=-0.049904+1.157790I$	$-0.39576-1.86685I$	0
$u=\ \ 0.270853+0.630701I$ $a=\ \ 1.192930-0.324289I$ $b=-0.824645-1.084070I$	$-1.89359+3.29036I$	0
$u=\ \ 0.270853-0.630701I$ $a=\ \ 1.192930+0.324289I$ $b=-0.824645+1.084070I$	$-1.89359-3.29036I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.249700 + 0.483836I$ $a = 0.027862 - 0.464579I$ $b = 0.012957 + 0.942140I$	$-1.33939 - 0.46183I$	0
$u = 1.249700 - 0.483836I$ $a = 0.027862 + 0.464579I$ $b = 0.012957 - 0.942140I$	$-1.33939 + 0.46183I$	0
$u = 0.198879 + 0.627841I$ $a = -0.93845 - 1.06628I$ $b = 0.329089 - 0.842535I$	$-2.30616 + 0.69623I$	0
$u = 0.198879 - 0.627841I$ $a = -0.93845 + 1.06628I$ $b = 0.329089 + 0.842535I$	$-2.30616 - 0.69623I$	0
$u = 0.234810 + 0.594580I$ $a = 0.699284 - 0.439200I$ $b = -0.28788 + 1.63460I$	$6.37252 + 1.88736I$	0
$u = 0.234810 - 0.594580I$ $a = 0.699284 + 0.439200I$ $b = -0.28788 - 1.63460I$	$6.37252 - 1.88736I$	0
$u = -1.196320 + 0.653256I$ $a = 0.539985 + 0.542395I$ $b = -0.935854 - 0.230450I$	$3.56908 + 1.42482I$	0
$u = -1.196320 - 0.653256I$ $a = 0.539985 - 0.542395I$ $b = -0.935854 + 0.230450I$	$3.56908 - 1.42482I$	0
$u = -0.571868 + 1.244750I$ $a = -0.052126 - 0.704537I$ $b = 0.525083 + 0.065371I$	$4.67594 - 1.60702I$	0
$u = -0.571868 - 1.244750I$ $a = -0.052126 + 0.704537I$ $b = 0.525083 - 0.065371I$	$4.67594 + 1.60702I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.082015+0.624626I$ $a=\ \ 1.99806+2.54536I$ $b=-0.422827+0.896036I$	$5.16738-11.08160I$	0
$u=-0.082015-0.624626I$ $a=\ \ 1.99806-2.54536I$ $b=-0.422827-0.896036I$	$5.16738+11.08160I$	0
$u=\ \ 1.048920+0.887312I$ $a=\ \ 0.718992-0.155244I$ $b=-0.458347-0.284024I$	$-1.146850+0.515605I$	0
$u=\ \ 1.048920-0.887312I$ $a=\ \ 0.718992+0.155244I$ $b=-0.458347+0.284024I$	$-1.146850-0.515605I$	0
$u=-0.674877+1.215160I$ $a=-0.679582-0.182493I$ $b=\ \ 1.072240-0.877831I$	$-1.00920-7.01715I$	0
$u=-0.674877-1.215160I$ $a=-0.679582+0.182493I$ $b=\ \ 1.072240+0.877831I$	$-1.00920+7.01715I$	0
$u=\ \ 0.329101+0.512505I$ $a=\ \ 1.39840+0.35885I$ $b=-1.09071+1.03027I$	$1.34850+8.22817I$	0
$u=\ \ 0.329101-0.512505I$ $a=\ \ 1.39840-0.35885I$ $b=-1.09071-1.03027I$	$1.34850-8.22817I$	0
$u=\ \ 0.213699+0.555593I$ $a=-2.58812+0.04387I$ $b=\ \ 0.363580+0.397114I$	$-2.41555+2.59991I$	0
$u=\ \ 0.213699-0.555593I$ $a=-2.58812-0.04387I$ $b=\ \ 0.363580-0.397114I$	$-2.41555-2.59991I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.928383+1.054640I$ $a=-1.183450-0.351800I$ $b=\ \ 1.018230-0.890684I$	$1.48007-8.30449I$	0
$u=-0.928383-1.054640I$ $a=-1.183450+0.351800I$ $b=\ \ 1.018230+0.890684I$	$1.48007+8.30449I$	0
$u=\ \ 1.370000+0.316679I$ $a=\ \ 0.375017-0.215288I$ $b=-0.264978-0.152912I$	$-0.707719-0.212768I$	0
$u=\ \ 1.370000-0.316679I$ $a=\ \ 0.375017+0.215288I$ $b=-0.264978+0.152912I$	$-0.707719+0.212768I$	0
$u=\ \ 0.076449+0.587912I$ $a=-1.18140-0.91338I$ $b=\ \ 0.693366-0.860054I$	$-2.22052+0.45644I$	0
$u=\ \ 0.076449-0.587912I$ $a=-1.18140+0.91338I$ $b=\ \ 0.693366+0.860054I$	$-2.22052-0.45644I$	0
$u=-1.33485+0.47247I$ $a=-0.500932+0.148751I$ $b=\ \ 0.615179-0.793847I$	$4.96716-5.58609I$	0
$u=-1.33485-0.47247I$ $a=-0.500932-0.148751I$ $b=\ \ 0.615179+0.793847I$	$4.96716+5.58609I$	0
$u=-0.260837+0.522363I$ $a=\ \ 0.86196-1.29213I$ $b=\ \ 0.002227-0.994823I$	$-1.12220-3.04961I$	0
$u=-0.260837-0.522363I$ $a=\ \ 0.86196+1.29213I$ $b=\ \ 0.002227+0.994823I$	$-1.12220+3.04961I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.97388 + 1.04906I$ $a = -1.140630 - 0.034420I$ $b = 1.023870 + 0.809512I$	$-1.57515 + 7.17248I$	0
$u = 0.97388 - 1.04906I$ $a = -1.140630 + 0.034420I$ $b = 1.023870 - 0.809512I$	$-1.57515 - 7.17248I$	0
$u = 0.95812 + 1.10032I$ $a = 0.983941 - 0.167141I$ $b = -1.34233 - 1.02505I$	$3.92072 + 11.91970I$	0
$u = 0.95812 - 1.10032I$ $a = 0.983941 + 0.167141I$ $b = -1.34233 + 1.02505I$	$3.92072 - 11.91970I$	0
$u = 0.536947 + 0.055139I$ $a = -0.504239 + 0.538024I$ $b = 2.44190 - 0.89914I$	$1.200280 - 0.033666I$	0
$u = 0.536947 - 0.055139I$ $a = -0.504239 - 0.538024I$ $b = 2.44190 + 0.89914I$	$1.200280 + 0.033666I$	0
$u = -0.71028 + 1.28440I$ $a = -1.052390 - 0.209074I$ $b = 1.47967 - 0.85828I$	$3.83042 - 10.00390I$	0
$u = -0.71028 - 1.28440I$ $a = -1.052390 + 0.209074I$ $b = 1.47967 + 0.85828I$	$3.83042 + 10.00390I$	0
$u = -0.91146 + 1.15130I$ $a = -1.052810 - 0.230629I$ $b = 1.26120 - 0.94083I$	$2.10429 - 8.85677I$	0
$u = -0.91146 - 1.15130I$ $a = -1.052810 + 0.230629I$ $b = 1.26120 + 0.94083I$	$2.10429 + 8.85677I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.522684$ $a = 0.739691$ $b = 0.147403$	-0.991668	-6.00000
$u = 1.19036 + 0.90160I$ $a = -0.272547 + 0.492812I$ $b = 0.931114 - 0.104387I$	$4.68520 - 4.30704I$	0
$u = 1.19036 - 0.90160I$ $a = -0.272547 - 0.492812I$ $b = 0.931114 + 0.104387I$	$4.68520 + 4.30704I$	0
$u = -0.168936 + 0.475759I$ $a = -1.75244 + 0.01342I$ $b = 1.14760 + 0.96305I$	$-2.18875 - 2.06561I$	$0. + 13.90473I$
$u = -0.168936 - 0.475759I$ $a = -1.75244 - 0.01342I$ $b = 1.14760 - 0.96305I$	$-2.18875 + 2.06561I$	$0. - 13.90473I$
$u = 0.79363 + 1.27567I$ $a = -0.535170 - 0.066287I$ $b = 0.638188 + 0.606242I$	$-2.88255 + 0.45269I$	0
$u = 0.79363 - 1.27567I$ $a = -0.535170 + 0.066287I$ $b = 0.638188 - 0.606242I$	$-2.88255 - 0.45269I$	0
$u = 0.84161 + 1.24799I$ $a = 0.156749 - 0.755082I$ $b = -0.584189 - 0.029478I$	$5.64953 + 2.69612I$	0
$u = 0.84161 - 1.24799I$ $a = 0.156749 + 0.755082I$ $b = -0.584189 + 0.029478I$	$5.64953 - 2.69612I$	0
$u = -1.08599 + 1.06802I$ $a = 0.685907 - 0.134970I$ $b = -0.893320 + 0.793773I$	$3.81101 - 3.55020I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.08599-1.06802I$ $a=\ \ 0.685907+0.134970I$ $b=-0.893320-0.793773I$	$3.81101+3.55020I$	0
$u=\ \ 0.076296+0.460170I$ $a=-0.46040-2.18152I$ $b=\ \ 0.48415-1.56645I$	$1.42683-0.79922I$	$1.79915+0.I$
$u=\ \ 0.076296-0.460170I$ $a=-0.46040+2.18152I$ $b=\ \ 0.48415+1.56645I$	$1.42683+0.79922I$	$1.79915+0.I$
$u=-1.05854+1.11019I$ $a=\ \ 1.129740+0.044866I$ $b=-1.25798+0.86187I$	$9.05785-9.80115I$	0
$u=-1.05854-1.11019I$ $a=\ \ 1.129740-0.044866I$ $b=-1.25798-0.86187I$	$9.05785+9.80115I$	0
$u=\ \ 1.00737+1.16017I$ $a=-1.129640+0.120909I$ $b=\ \ 1.26471+0.93612I$	$3.5902+15.2524I$	0
$u=\ \ 1.00737-1.16017I$ $a=-1.129640-0.120909I$ $b=\ \ 1.26471-0.93612I$	$3.5902-15.2524I$	0
$u=-0.90315+1.26548I$ $a=-0.665747-0.183236I$ $b=\ \ 0.755808-0.582975I$	$-1.35004-4.95976I$	0
$u=-0.90315-1.26548I$ $a=-0.665747+0.183236I$ $b=\ \ 0.755808+0.582975I$	$-1.35004+4.95976I$	0
$u=-0.91070+1.26284I$ $a=-0.640223-0.165784I$ $b=\ \ 0.802920-0.718681I$	$-1.43582-5.09973I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.91070-1.26284I$ $a=-0.640223+0.165784I$ $b=\ \ 0.802920+0.718681I$	$-1.43582+5.09973I$	0
$u=\ \ 0.310962+0.292239I$ $a=\ \ 3.34143+1.42313I$ $b=-1.175180-0.140103I$	$6.73769+4.22220I$	$3.29822-3.01810I$
$u=\ \ 0.310962-0.292239I$ $a=\ \ 3.34143-1.42313I$ $b=-1.175180+0.140103I$	$6.73769-4.22220I$	$3.29822+3.01810I$
$u=-1.01444+1.20454I$ $a=\ \ 1.089120+0.138383I$ $b=-1.29973+0.95567I$	$7.2945-21.2922I$	0
$u=-1.01444-1.20454I$ $a=\ \ 1.089120-0.138383I$ $b=-1.29973-0.95567I$	$7.2945+21.2922I$	0
$u=\ \ 0.105289+0.411754I$ $a=-4.29058+3.35565I$ $b=\ \ 0.422384+0.649931I$	$2.60428+5.69832I$	$-13.7910-10.3368I$
$u=\ \ 0.105289-0.411754I$ $a=-4.29058-3.35565I$ $b=\ \ 0.422384-0.649931I$	$2.60428-5.69832I$	$-13.7910+10.3368I$
$u=\ \ 1.03948+1.18586I$ $a=-0.805008-0.092198I$ $b=\ \ 0.916827+0.901188I$	$-2.51496+8.91759I$	0
$u=\ \ 1.03948-1.18586I$ $a=-0.805008+0.092198I$ $b=\ \ 0.916827-0.901188I$	$-2.51496-8.91759I$	0
$u=\ \ 1.07565+1.17728I$ $a=\ \ 0.598047-0.108914I$ $b=-0.809534-0.827187I$	$0.00055+7.25591I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.07565 - 1.17728I$ $a = 0.598047 + 0.108914I$ $b = -0.809534 + 0.827187I$	$0.00055 - 7.25591I$	0
$u = -0.64121 + 1.47319I$ $a = 0.561477 + 0.020815I$ $b = -0.612922 + 0.509087I$	$0.58367 + 4.89227I$	0
$u = -0.64121 - 1.47319I$ $a = 0.561477 - 0.020815I$ $b = -0.612922 - 0.509087I$	$0.58367 - 4.89227I$	0
$u = -1.07035 + 1.24169I$ $a = 0.772925 - 0.033987I$ $b = -0.944605 + 0.910734I$	$1.2093 - 15.2500I$	0
$u = -1.07035 - 1.24169I$ $a = 0.772925 + 0.033987I$ $b = -0.944605 - 0.910734I$	$1.2093 + 15.2500I$	0
$u = 1.38697 + 0.88744I$ $a = 0.476746 - 0.530613I$ $b = -0.810422 + 0.330310I$	$4.61289 - 7.01205I$	0
$u = 1.38697 - 0.88744I$ $a = 0.476746 + 0.530613I$ $b = -0.810422 - 0.330310I$	$4.61289 + 7.01205I$	0
$u = 0.315155 + 0.127482I$ $a = -0.95483 - 4.29279I$ $b = -0.881633 - 0.213035I$	$8.69417 + 5.56353I$	$3.57185 - 5.56353I$
$u = 0.315155 - 0.127482I$ $a = -0.95483 + 4.29279I$ $b = -0.881633 + 0.213035I$	$8.69417 - 5.56353I$	$3.57185 + 5.56353I$
$u = 0.85147 + 1.43593I$ $a = 0.671594 - 0.138563I$ $b = -1.084320 - 0.414989I$	$3.12882 + 7.34162I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.85147 - 1.43593I$ $a = \ 0.671594 + 0.138563I$ $b = -1.084320 + 0.414989I$	$3.12882 - 7.34162I$	0
$u = -1.46692 + 0.84077I$ $a = -0.482607 - 0.525005I$ $b = \ 0.892058 + 0.306368I$	$8.5921 + 12.8241I$	0
$u = -1.46692 - 0.84077I$ $a = -0.482607 + 0.525005I$ $b = \ 0.892058 - 0.306368I$	$8.5921 - 12.8241I$	0
$u = \ 1.04060 + 1.37203I$ $a = \ 1.107420 - 0.124554I$ $b = -1.30741 - 0.62958I$	$6.68334 + 9.48244I$	0
$u = \ 1.04060 - 1.37203I$ $a = \ 1.107420 + 0.124554I$ $b = -1.30741 + 0.62958I$	$6.68334 - 9.48244I$	0
$u = -1.71320 + 0.20744I$ $a = -1.164480 - 0.491622I$ $b = \ 0.752818 + 0.234780I$	$8.77787 + 1.37130I$	0
$u = -1.71320 - 0.20744I$ $a = -1.164480 + 0.491622I$ $b = \ 0.752818 - 0.234780I$	$8.77787 - 1.37130I$	0
$u = \ 0.216083 + 0.159292I$ $a = \ 2.63631 + 1.81118I$ $b = -0.792274 + 0.862850I$	$3.56259 - 2.38834I$	$-1.36830 + 1.16639I$
$u = \ 0.216083 - 0.159292I$ $a = \ 2.63631 - 1.81118I$ $b = -0.792274 - 0.862850I$	$3.56259 + 2.38834I$	$-1.36830 - 1.16639I$
$u = -0.133796 + 0.218771I$ $a = \ 0.33941 - 2.09324I$ $b = -1.13216 - 2.10843I$	$1.72773 - 0.48367I$	$-7.0248 - 13.7824I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.133796-0.218771I$ $a=\ \ 0.33941+2.09324I$ $b=-1.13216+2.10843I$	$1.72773+0.48367I$	$-7.0248+13.7824I$
$u=-1.44609+0.98060I$ $a=-0.511905-0.522294I$ $b=\ \ 0.732497+0.201400I$	$9.62828+1.32097I$	0
$u=-1.44609-0.98060I$ $a=-0.511905+0.522294I$ $b=\ \ 0.732497-0.201400I$	$9.62828-1.32097I$	0
$u=\ \ 1.71302+0.44992I$ $a=-0.967223+0.424577I$ $b=\ \ 0.888696-0.206850I$	$9.38851-0.46175I$	0
$u=\ \ 1.71302-0.44992I$ $a=-0.967223-0.424577I$ $b=\ \ 0.888696+0.206850I$	$9.38851+0.46175I$	0
$u=-0.142820+0.158352I$ $a=-8.68705+3.54256I$ $b=\ \ 0.785768-0.110859I$	$3.75898+1.42577I$	$2.52127+1.45054I$
$u=-0.142820-0.158352I$ $a=-8.68705-3.54256I$ $b=\ \ 0.785768+0.110859I$	$3.75898-1.42577I$	$2.52127-1.45054I$
$u=-1.77506+0.26748I$ $a=-0.340926-0.010436I$ $b=\ \ 0.503453-0.274067I$	$3.28248+5.87892I$	0
$u=-1.77506-0.26748I$ $a=-0.340926+0.010436I$ $b=\ \ 0.503453+0.274067I$	$3.28248-5.87892I$	0
$u=-0.99405+1.63092I$ $a=\ \ 0.045247+0.255209I$ $b=-0.686496+0.055881I$	$7.92057+4.36588I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.99405-1.63092I$ $a=\ \ 0.045247-0.255209I$ $b=-0.686496-0.055881I$	$7.92057-4.36588I$	0
$u=-1.52577+1.36798I$ $a=\ \ 0.198786-0.098219I$ $b=-0.359169+0.560692I$	$2.80907-6.70498I$	0
$u=-1.52577-1.36798I$ $a=\ \ 0.198786+0.098219I$ $b=-0.359169-0.560692I$	$2.80907+6.70498I$	0

II. $I_2^u = \langle -1.58 \times 10^{116} u^{51} - 2.29 \times 10^{116} u^{50} + \cdots + 9.69 \times 10^{115} b - 5.78 \times 10^{116},\ -5.74 \times 10^{116} u^{51} + 3.05 \times 10^{116} u^{50} + \cdots + 9.69 \times 10^{115} a + 4.53 \times 10^{116},\ u^{52} - 4u^{50} + \cdots - 4u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 5.92110u^{51} - 3.14460u^{50} + \cdots + 24.5449u - 4.67302 \\ 1.62918u^{51} + 2.36674u^{50} + \cdots - 13.7043u + 5.96318 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 7.55028u^{51} - 0.777852u^{50} + \cdots + 10.8406u + 1.29017 \\ 1.62918u^{51} + 2.36674u^{50} + \cdots - 13.7043u + 5.96318 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 10.0629u^{51} - 2.36362u^{50} + \cdots + 35.2066u - 5.45087 \\ 2.69502u^{51} + 1.83226u^{50} + \cdots - 4.84860u + 4.37742 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 6.63529u^{51} + 0.855566u^{50} + \cdots + 37.6434u - 6.37438 \\ 4.78657u^{51} - 1.50194u^{50} + \cdots + 17.7116u - 2.60956 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.326115u^{51} - 7.53201u^{50} + \cdots + 2.79677u - 1.08640 \\ 0.293490u^{51} - 4.99854u^{50} + \cdots + 32.3032u - 8.21039 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -3.15740u^{51} + 2.59830u^{50} + \cdots - 69.3840u + 15.0376 \\ -2.42482u^{51} - 2.23273u^{50} + \cdots + 13.7764u - 4.69159 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -19.4617u^{51} - 7.00940u^{50} + \cdots - 38.5132u - 1.71009 \\ -5.98765u^{51} - 1.30763u^{50} + \cdots - 9.76296u - 1.01027 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 20.6027u^{51} + 0.847073u^{50} + \cdots + 59.3495u - 5.42101 \\ 9.18083u^{51} + 1.49344u^{50} + \cdots + 5.99447u + 3.56293 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -5.89314u^{51} + 15.2708u^{50} + \cdots - 159.019u + 41.0271 \\ -4.16919u^{51} + 2.82627u^{50} + \cdots - 34.0410u + 7.45539 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2.38867u^{51} - 7.32514u^{50} + \cdots + 70.1991u - 17.6572$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{52} - 4u^{51} + \cdots - 129u + 13$
c_2	$u^{52} - 2u^{51} + \cdots - 15u + 3$
c_3	$u^{52} + 23u^{50} + \cdots + 9u + 1$
c_4	$u^{52} + 4u^{51} + \cdots + 129u + 13$
c_5	$u^{52} - 4u^{50} + \cdots - 4u + 1$
c_6	$u^{52} + 2u^{51} + \cdots + 15u + 3$
c_7	$u^{52} - 11u^{51} + \cdots - 116u + 8$
c_8	$u^{52} + 3u^{51} + \cdots - 6u + 3$
c_9	$u^{52} - u^{51} + \cdots + 23u + 1$
c_{10}	$u^{52} - 2u^{51} + \cdots - 7u + 1$
c_{11}	$u^{52} + 19u^{51} + \cdots - 4u^2 + 1$
c_{12}	$u^{52} + 3u^{51} + \cdots - 13u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{52} + 34y^{51} + \cdots + 2833y + 169$
c_2, c_6	$y^{52} + 28y^{51} + \cdots + 69y + 9$
c_3	$y^{52} + 46y^{51} + \cdots - 17y + 1$
c_5	$y^{52} - 8y^{51} + \cdots + 6y + 1$
c_7	$y^{52} - 21y^{51} + \cdots - 1808y + 64$
c_8	$y^{52} - 13y^{51} + \cdots - 84y + 9$
c_9	$y^{52} - 23y^{51} + \cdots - 113y + 1$
c_{10}	$y^{52} + 16y^{51} + \cdots + 41y + 1$
c_{11}	$y^{52} - 19y^{51} + \cdots - 8y + 1$
c_{12}	$y^{52} - 31y^{51} + \cdots - 23y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.652960+0.637860I$ $a=\ \ 1.65784-0.16878I$ $b=-1.29519+0.61815I$	$6.13332-5.72099I$	$-1.24537+7.61544I$
$u=-0.652960-0.637860I$ $a=\ \ 1.65784+0.16878I$ $b=-1.29519-0.61815I$	$6.13332+5.72099I$	$-1.24537-7.61544I$
$u=\ \ 0.008768+1.126750I$ $a=\ \ 0.928497+0.329012I$ $b=-0.777988-0.013359I$	$0.97362-6.45846I$	$-6.65600+6.42245I$
$u=\ \ 0.008768-1.126750I$ $a=\ \ 0.928497-0.329012I$ $b=-0.777988+0.013359I$	$0.97362+6.45846I$	$-6.65600-6.42245I$
$u=\ \ 0.415510+0.752390I$ $a=-0.58392-1.72986I$ $b=-0.504563+0.061587I$	$3.20238+2.07273I$	$-5.97199-4.60101I$
$u=\ \ 0.415510-0.752390I$ $a=-0.58392+1.72986I$ $b=-0.504563-0.061587I$	$3.20238-2.07273I$	$-5.97199+4.60101I$
$u=\ \ 0.133505+0.809896I$ $a=-0.215701-0.613899I$ $b=-0.021188-1.056420I$	$-2.43060+1.77269I$	$-14.8037-3.9064I$
$u=\ \ 0.133505-0.809896I$ $a=-0.215701+0.613899I$ $b=-0.021188+1.056420I$	$-2.43060-1.77269I$	$-14.8037+3.9064I$
$u=-0.708968+0.947872I$ $a=-0.007398+0.590674I$ $b=-0.900567-0.234899I$	$4.91982+3.50804I$	0
$u=-0.708968-0.947872I$ $a=-0.007398-0.590674I$ $b=-0.900567+0.234899I$	$4.91982-3.50804I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.930537 + 0.757158I$ $a = 1.239660 - 0.459607I$ $b = -0.768895 - 0.598246I$	$-0.52373 + 2.28579I$	0
$u = 0.930537 - 0.757158I$ $a = 1.239660 + 0.459607I$ $b = -0.768895 + 0.598246I$	$-0.52373 - 2.28579I$	0
$u = 0.731570 + 0.235096I$ $a = -1.46009 - 0.31188I$ $b = 0.917670 + 1.072620I$	$7.77777 + 1.78740I$	$-0.18562 - 3.40756I$
$u = 0.731570 - 0.235096I$ $a = -1.46009 + 0.31188I$ $b = 0.917670 - 1.072620I$	$7.77777 - 1.78740I$	$-0.18562 + 3.40756I$
$u = 0.108049 + 0.682637I$ $a = -1.345570 + 0.150323I$ $b = 0.879304 - 0.499691I$	$-2.39082 + 1.58407I$	$-11.67294 - 1.24133I$
$u = 0.108049 - 0.682637I$ $a = -1.345570 - 0.150323I$ $b = 0.879304 + 0.499691I$	$-2.39082 - 1.58407I$	$-11.67294 + 1.24133I$
$u = 0.079691 + 0.673680I$ $a = -1.119420 - 0.307973I$ $b = 0.367437 - 0.780502I$	$-2.51435 + 1.53915I$	$-12.83361 - 5.15230I$
$u = 0.079691 - 0.673680I$ $a = -1.119420 + 0.307973I$ $b = 0.367437 + 0.780502I$	$-2.51435 - 1.53915I$	$-12.83361 + 5.15230I$
$u = 0.112601 + 0.663694I$ $a = 0.35724 - 1.92716I$ $b = -0.12664 - 1.48355I$	$0.96177 + 1.32095I$	$-7.63034 - 6.78269I$
$u = 0.112601 - 0.663694I$ $a = 0.35724 + 1.92716I$ $b = -0.12664 + 1.48355I$	$0.96177 - 1.32095I$	$-7.63034 + 6.78269I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.768674+1.173050I$ $a=-1.056860-0.236192I$ $b=\ \ 1.41025-0.95482I$	$3.65449-9.20344I$	0
$u=-0.768674-1.173050I$ $a=-1.056860+0.236192I$ $b=\ \ 1.41025+0.95482I$	$3.65449+9.20344I$	0
$u=-1.296460+0.535567I$ $a=-0.004083+0.413710I$ $b=\ \ 0.064206-0.841764I$	$-1.43826+0.59411I$	0
$u=-1.296460-0.535567I$ $a=-0.004083-0.413710I$ $b=\ \ 0.064206+0.841764I$	$-1.43826-0.59411I$	0
$u=-0.788532+1.169340I$ $a=-0.611349-0.238696I$ $b=\ \ 0.901179-0.842970I$	$-0.80665-6.26401I$	0
$u=-0.788532-1.169340I$ $a=-0.611349+0.238696I$ $b=\ \ 0.901179+0.842970I$	$-0.80665+6.26401I$	0
$u=\ \ 0.556458+0.178895I$ $a=-2.69524+0.83414I$ $b=\ \ 0.169311+0.891518I$	$6.16572+11.26960I$	$-1.18664-9.37557I$
$u=\ \ 0.556458-0.178895I$ $a=-2.69524-0.83414I$ $b=\ \ 0.169311-0.891518I$	$6.16572-11.26960I$	$-1.18664+9.37557I$
$u=-0.564885+0.007919I$ $a=\ \ 3.29341+1.03445I$ $b=-0.326827-0.607832I$	$3.13550+5.53920I$	$-0.22401-6.41610I$
$u=-0.564885-0.007919I$ $a=\ \ 3.29341-1.03445I$ $b=-0.326827+0.607832I$	$3.13550-5.53920I$	$-0.22401+6.41610I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.68525 + 1.26227I$ $a = 0.219150 + 0.281359I$ $b = 0.696480 + 0.152507I$	$7.56683 - 4.19889I$	0
$u = 0.68525 - 1.26227I$ $a = 0.219150 - 0.281359I$ $b = 0.696480 - 0.152507I$	$7.56683 + 4.19889I$	0
$u = -0.539511 + 0.146069I$ $a = 0.718317 - 0.486945I$ $b = -2.10985 + 0.76525I$	$2.09469 + 0.51606I$	$1.91091 + 6.71605I$
$u = -0.539511 - 0.146069I$ $a = 0.718317 + 0.486945I$ $b = -2.10985 - 0.76525I$	$2.09469 - 0.51606I$	$1.91091 - 6.71605I$
$u = -0.99796 + 1.09420I$ $a = -1.044810 - 0.016097I$ $b = 1.001740 - 0.808653I$	$-1.61393 - 7.64882I$	0
$u = -0.99796 - 1.09420I$ $a = -1.044810 + 0.016097I$ $b = 1.001740 + 0.808653I$	$-1.61393 + 7.64882I$	0
$u = -1.45279 + 0.51555I$ $a = 0.535414 + 0.003141I$ $b = -0.475903 + 0.226704I$	$-0.651729 - 0.700633I$	0
$u = -1.45279 - 0.51555I$ $a = 0.535414 - 0.003141I$ $b = -0.475903 - 0.226704I$	$-0.651729 + 0.700633I$	0
$u = 0.362270 + 0.273257I$ $a = -0.288363 + 0.533618I$ $b = 2.21304 - 2.07319I$	$1.383160 - 0.234885I$	$24.3161 - 7.3652I$
$u = 0.362270 - 0.273257I$ $a = -0.288363 - 0.533618I$ $b = 2.21304 + 2.07319I$	$1.383160 + 0.234885I$	$24.3161 + 7.3652I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.86392 + 1.29358I$ $a = 1.052630 - 0.114187I$ $b = -1.41415 - 0.71494I$	$5.60098 + 9.63542I$	0
$u = 0.86392 - 1.29358I$ $a = 1.052630 + 0.114187I$ $b = -1.41415 + 0.71494I$	$5.60098 - 9.63542I$	0
$u = 0.137815 + 0.334327I$ $a = -1.12974 - 3.44901I$ $b = 0.575894 - 1.017770I$	$0.230026 - 0.884298I$	$-9.25686 + 2.16133I$
$u = 0.137815 - 0.334327I$ $a = -1.12974 + 3.44901I$ $b = 0.575894 + 1.017770I$	$0.230026 + 0.884298I$	$-9.25686 - 2.16133I$
$u = 1.67925 + 0.41336I$ $a = -0.940604 + 0.440820I$ $b = 0.783595 - 0.273961I$	$9.01130 - 1.78456I$	0
$u = 1.67925 - 0.41336I$ $a = -0.940604 - 0.440820I$ $b = 0.783595 + 0.273961I$	$9.01130 + 1.78456I$	0
$u = 1.09728 + 1.35237I$ $a = 0.404986 + 0.011522I$ $b = -0.718859 - 0.535107I$	$3.29384 + 5.68340I$	0
$u = 1.09728 - 1.35237I$ $a = 0.404986 - 0.011522I$ $b = -0.718859 + 0.535107I$	$3.29384 - 5.68340I$	0
$u = -1.73224 + 0.24392I$ $a = -1.220780 - 0.418144I$ $b = 0.797281 + 0.217402I$	$8.88816 + 0.25478I$	0
$u = -1.73224 - 0.24392I$ $a = -1.220780 + 0.418144I$ $b = 0.797281 - 0.217402I$	$8.88816 - 0.25478I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.60051 + 0.76066I$		
$a = -0.183211 + 0.134674I$	$3.17404 + 6.50362I$	0
$b = 0.163229 + 0.383408I$		
$u = 1.60051 - 0.76066I$		
$a = -0.183211 - 0.134674I$	$3.17404 - 6.50362I$	0
$b = 0.163229 - 0.383408I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{52}-4u^{51}+\cdots-129u+13)$ $\cdot(u^{193}-9u^{192}+\cdots-25294392u+821143)$
c_2	$(u^{52}-2u^{51}+\cdots-15u+3)(u^{193}+3u^{192}+\cdots-9488u+1279)$
c_3	$(u^{52}+23u^{50}+\cdots+9u+1)$ $\cdot(u^{193}-u^{192}+\cdots-84164118u+75604697)$
c_4	$(u^{52}+4u^{51}+\cdots+129u+13)$ $\cdot(u^{193}-9u^{192}+\cdots-25294392u+821143)$
c_5	$(u^{52}-4u^{50}+\cdots-4u+1)(u^{193}-3u^{192}+\cdots+1523u+119)$
c_6	$(u^{52}+2u^{51}+\cdots+15u+3)(u^{193}+3u^{192}+\cdots-9488u+1279)$
c_7	$(u^{52}-11u^{51}+\cdots-116u+8)$ $\cdot(u^{193}+4u^{192}+\cdots-136105380u+161762888)$
c_8	$(u^{52}+3u^{51}+\cdots-6u+3)(u^{193}-4u^{192}+\cdots+66807u+16531)$
c_9	$(u^{52}-u^{51}+\cdots+23u+1)(u^{193}+2u^{192}+\cdots-1.96978\times10^{7}u+389851)$
c_{10}	$(u^{52}-2u^{51}+\cdots-7u+1)$ $\cdot(u^{193}-5u^{192}+\cdots-885248946u+70940957)$
c_{11}	$(u^{52}+19u^{51}+\cdots-4u^{2}+1)(u^{193}+6u^{192}+\cdots-3800155u+329741)$
c_{12}	$(u^{52}+3u^{51}+\cdots-13u+1)(u^{193}-24u^{191}+\cdots+71854u+6323)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{52}+34y^{51}+\cdots+2833y+169)$ $\cdot(y^{193}+149y^{192}+\cdots+91423314119834y-674275826449)$
c_2, c_6	$(y^{52}+28y^{51}+\cdots+69y+9)$ $\cdot(y^{193}+115y^{192}+\cdots+62705262y-1635841)$
c_3	$(y^{52}+46y^{51}+\cdots-17y+1)$ $\cdot(y^{193}+81y^{192}+\cdots-246539706104330476y-5716070208461809)$
c_5	$(y^{52}-8y^{51}+\cdots+6y+1)(y^{193}+7y^{192}+\cdots-804935y-14161)$
c_7	$(y^{52}-21y^{51}+\cdots-1808y+64)$ $\cdot(y^{193}+22y^{192}+\cdots+1403258281552618544y-26167231934100544)$
c_8	$(y^{52}-13y^{51}+\cdots-84y+9)$ $\cdot(y^{193}-46y^{192}+\cdots+29373639963y-273273961)$
c_9	$(y^{52}-23y^{51}+\cdots-113y+1)$ $\cdot(y^{193}-48y^{192}+\cdots+204957052058088y-151983802201)$
c_{10}	$(y^{52}+16y^{51}+\cdots+41y+1)$ $\cdot(y^{193}+71y^{192}+\cdots-122129491189476726y-5032619380075849)$
c_{11}	$(y^{52}-19y^{51}+\cdots-8y+1)$ $\cdot(y^{193}+86y^{191}+\cdots-7760857914797y-108729127081)$
c_{12}	$(y^{52}-31y^{51}+\cdots-23y+1)$ $\cdot(y^{193}-48y^{192}+\cdots+3821977538y-39980329)$