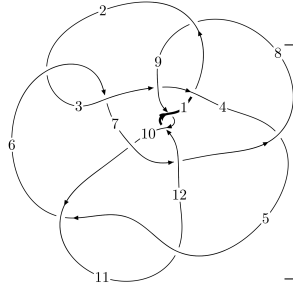
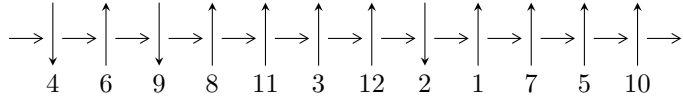


12a₀₉₁₄ (K12a₀₉₁₄)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 6.28945 \times 10^{1120} u^{177} + 3.30828 \times 10^{1120} u^{176} + \dots + 3.69271 \times 10^{1123} b + 1.15920 \times 10^{1124}, \\ - 4.00966 \times 10^{1124} u^{177} + 3.02679 \times 10^{1124} u^{176} + \dots + 2.68460 \times 10^{1126} a - 2.52671 \times 10^{1126}, \\ u^{178} - 42u^{176} + \dots - 9456u - 727 \rangle$$

$$I_2^u = \langle -1.53640 \times 10^{55} u^{50} - 3.87380 \times 10^{55} u^{49} + \dots + 1.01569 \times 10^{52} b + 3.06717 \times 10^{55}, \\ 4.87270 \times 10^{55} u^{50} + 1.19332 \times 10^{56} u^{49} + \dots + 1.01569 \times 10^{52} a - 8.34046 \times 10^{55}, u^{51} + 3u^{50} + \dots - 4u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 229 representations.

¹The 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>).

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

$$\mathbf{I. } I_1^u = \langle 6.29 \times 10^{1120} u^{177} + 3.31 \times 10^{1120} u^{176} + \dots + 3.69 \times 10^{1123} b + 1.16 \times 10^{1124}, -4.01 \times 10^{1124} u^{177} + 3.03 \times 10^{1124} u^{176} + \dots + 2.68 \times 10^{1126} a - 2.53 \times 10^{1126}, u^{178} - 42u^{176} + \dots - 9456u - 727 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0149358u^{177} - 0.0112746u^{176} + \dots - 51.2712u + 0.941186 \\ -0.00170321u^{177} - 0.000895896u^{176} + \dots + 8.48698u - 3.13915 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.00483437u^{177} + 0.00344005u^{176} + \dots + 89.7759u + 16.1715 \\ -0.0108380u^{177} + 0.00366179u^{176} + \dots + 223.707u + 18.2334 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00222129u^{177} - 0.00327035u^{176} + \dots - 54.5037u - 8.44973 \\ -0.0135021u^{177} + 0.00556319u^{176} + \dots + 317.850u + 34.3124 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0143040u^{177} - 0.000899404u^{176} + \dots - 563.005u - 69.6296 \\ 0.00417733u^{177} - 0.00495239u^{176} + \dots + 100.248u + 23.4775 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0216072u^{177} + 0.00944757u^{176} + \dots + 570.318u + 51.1929 \\ 0.0147707u^{177} - 0.00294898u^{176} + \dots - 562.222u - 60.1550 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0101121u^{177} - 0.00862272u^{176} + \dots + 35.9964u + 12.2770 \\ -0.0000760491u^{177} - 0.00120178u^{176} + \dots - 13.0826u - 5.06709 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0120824u^{177} - 0.000905418u^{176} + \dots - 335.404u - 27.8449 \\ -0.0108050u^{177} + 0.00165084u^{176} + \dots + 369.418u + 38.8534 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0134274u^{177} - 0.00115207u^{176} + \dots - 521.107u - 65.3754 \\ 0.00505391u^{177} - 0.00469973u^{176} + \dots + 58.3488u + 19.2233 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-0.0300055u^{177} - 0.0175349u^{176} + \dots + 1810.06u + 228.305$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{178} - 11u^{177} + \dots + 484886u + 16630$
c_2, c_6	$u^{178} - 42u^{176} + \dots - 9456u - 727$
c_3	$u^{178} - 3u^{177} + \dots - 6074908u + 521284$
c_4	$u^{178} - 5u^{177} + \dots - 534111527848u + 12234606751$
c_5, c_{11}	$u^{178} + u^{177} + \dots - 79956u - 25406$
c_7	$u^{178} - 11u^{177} + \dots + 10511353546u + 2936241116$
c_8	$u^{178} + 4u^{177} + \dots - 162199u + 18811$
c_9, c_{12}	$u^{178} + 10u^{177} + \dots + 51945823u + 3103757$
c_{10}	$u^{178} - 2u^{177} + \dots + 7464600509u + 1577563033$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{178} - 37y^{177} + \dots - 272210308796y + 276556900$
c_2, c_6	$y^{178} - 84y^{177} + \dots - 43018796y + 528529$
c_3	$y^{178} - 51y^{177} + \dots - 21326040167832y + 271737008656$
c_4	$y^{178} + 99y^{177} + \dots - 4.90 \times 10^{23}y + 1.50 \times 10^{20}$
c_5, c_{11}	$y^{178} + 121y^{177} + \dots + 19611196928y + 645464836$
c_7	$y^{178} + 59y^{177} + \dots + 4.34 \times 10^{20}y + 8.62 \times 10^{18}$
c_8	$y^{178} - 26y^{177} + \dots - 35205027563y + 353853721$
c_9, c_{12}	$y^{178} + 150y^{177} + \dots - 369428626219007y + 9633307515049$
c_{10}	$y^{178} + 62y^{177} + \dots + 6.12 \times 10^{19}y + 2.49 \times 10^{18}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.947667 + 0.379567I$		
$a = 1.42134 - 0.60528I$	$-3.38009 - 1.54141I$	0
$b = -0.014422 + 1.121210I$		
$u = -0.947667 - 0.379567I$		
$a = 1.42134 + 0.60528I$	$-3.38009 + 1.54141I$	0
$b = -0.014422 - 1.121210I$		
$u = 0.926334 + 0.444741I$		
$a = 1.50332 - 0.69935I$	$-1.56305 + 6.11918I$	0
$b = -0.697530 + 0.601342I$		
$u = 0.926334 - 0.444741I$		
$a = 1.50332 + 0.69935I$	$-1.56305 - 6.11918I$	0
$b = -0.697530 - 0.601342I$		
$u = 0.809819 + 0.632534I$		
$a = -0.445712 - 0.596758I$	$-6.47665 - 0.76175I$	0
$b = -0.68310 + 1.53067I$		
$u = 0.809819 - 0.632534I$		
$a = -0.445712 + 0.596758I$	$-6.47665 + 0.76175I$	0
$b = -0.68310 - 1.53067I$		
$u = 0.924597 + 0.473780I$		
$a = 1.91212 + 0.18474I$	$-2.96311 - 2.56203I$	0
$b = 0.060030 - 1.042480I$		
$u = 0.924597 - 0.473780I$		
$a = 1.91212 - 0.18474I$	$-2.96311 + 2.56203I$	0
$b = 0.060030 + 1.042480I$		
$u = 0.449068 + 0.944421I$		
$a = 0.128688 - 0.325894I$	$-4.70991 - 8.60785I$	0
$b = 0.46742 - 1.36176I$		
$u = 0.449068 - 0.944421I$		
$a = 0.128688 + 0.325894I$	$-4.70991 + 8.60785I$	0
$b = 0.46742 + 1.36176I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.924161 + 0.517314I$ $a = -2.25069 - 0.15388I$ $b = 0.50604 + 1.44308I$	$-4.09570 + 3.29574I$	0
$u = 0.924161 - 0.517314I$ $a = -2.25069 + 0.15388I$ $b = 0.50604 - 1.44308I$	$-4.09570 - 3.29574I$	0
$u = -1.060090 + 0.016903I$ $a = -1.54719 - 0.15027I$ $b = 0.634517 - 0.460967I$	$4.33491 + 0.24862I$	0
$u = -1.060090 - 0.016903I$ $a = -1.54719 + 0.15027I$ $b = 0.634517 + 0.460967I$	$4.33491 - 0.24862I$	0
$u = 0.836311 + 0.419010I$ $a = 0.38767 - 1.37963I$ $b = -0.147077 - 1.297050I$	$-3.31973 + 6.22541I$	0
$u = 0.836311 - 0.419010I$ $a = 0.38767 + 1.37963I$ $b = -0.147077 + 1.297050I$	$-3.31973 - 6.22541I$	0
$u = -0.808382 + 0.700683I$ $a = 1.44536 + 0.90906I$ $b = -0.252204 + 0.781227I$	$-3.25871 - 5.80862I$	0
$u = -0.808382 - 0.700683I$ $a = 1.44536 - 0.90906I$ $b = -0.252204 - 0.781227I$	$-3.25871 + 5.80862I$	0
$u = 0.781314 + 0.496599I$ $a = -0.449043 - 0.076592I$ $b = -0.32539 + 1.60708I$	$-4.58588 + 0.84097I$	0
$u = 0.781314 - 0.496599I$ $a = -0.449043 + 0.076592I$ $b = -0.32539 - 1.60708I$	$-4.58588 - 0.84097I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.058190 + 0.191699I$ $a = 1.08570 - 1.00416I$ $b = -0.701552 + 0.319777I$	$-1.079410 - 0.575584I$	0
$u = 1.058190 - 0.191699I$ $a = 1.08570 + 1.00416I$ $b = -0.701552 - 0.319777I$	$-1.079410 + 0.575584I$	0
$u = 0.972245 + 0.470105I$ $a = 1.51111 - 0.65538I$ $b = -1.082680 + 0.199899I$	$-3.43359 + 4.61844I$	0
$u = 0.972245 - 0.470105I$ $a = 1.51111 + 0.65538I$ $b = -1.082680 - 0.199899I$	$-3.43359 - 4.61844I$	0
$u = -0.954395 + 0.508473I$ $a = 0.021135 + 0.544296I$ $b = 0.015236 + 0.384864I$	$-3.54566 - 1.02725I$	0
$u = -0.954395 - 0.508473I$ $a = 0.021135 - 0.544296I$ $b = 0.015236 - 0.384864I$	$-3.54566 + 1.02725I$	0
$u = 0.822117 + 0.402520I$ $a = -1.119350 - 0.696683I$ $b = 0.609474 + 0.140591I$	$-1.96166 - 2.57986I$	0
$u = 0.822117 - 0.402520I$ $a = -1.119350 + 0.696683I$ $b = 0.609474 - 0.140591I$	$-1.96166 + 2.57986I$	0
$u = 0.898887 + 0.611419I$ $a = -1.97910 + 0.36133I$ $b = 0.87473 + 1.44747I$	$-6.19054 + 5.63955I$	0
$u = 0.898887 - 0.611419I$ $a = -1.97910 - 0.36133I$ $b = 0.87473 - 1.44747I$	$-6.19054 - 5.63955I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.380457 + 1.031100I$		
$a = 0.402217 + 0.710582I$	$-6.45632 + 8.43471I$	0
$b = -0.976391 + 0.004940I$		
$u = -0.380457 - 1.031100I$		
$a = 0.402217 - 0.710582I$	$-6.45632 - 8.43471I$	0
$b = -0.976391 - 0.004940I$		
$u = -0.029036 + 1.106290I$		
$a = -0.714582 - 0.338765I$	$-9.12938 + 0.59289I$	0
$b = -0.135825 - 1.067320I$		
$u = -0.029036 - 1.106290I$		
$a = -0.714582 + 0.338765I$	$-9.12938 - 0.59289I$	0
$b = -0.135825 + 1.067320I$		
$u = -0.956885 + 0.556639I$		
$a = 1.50918 + 0.71619I$	$-3.44555 - 6.30338I$	0
$b = -0.912027 + 0.319180I$		
$u = -0.956885 - 0.556639I$		
$a = 1.50918 - 0.71619I$	$-3.44555 + 6.30338I$	0
$b = -0.912027 - 0.319180I$		
$u = 0.631351 + 0.631249I$		
$a = 2.71693 - 0.41430I$	$-10.33440 - 3.16208I$	0
$b = -0.546921 - 1.300510I$		
$u = 0.631351 - 0.631249I$		
$a = 2.71693 + 0.41430I$	$-10.33440 + 3.16208I$	0
$b = -0.546921 + 1.300510I$		
$u = -0.969339 + 0.537826I$		
$a = -2.07389 + 0.28246I$	$-3.59585 - 7.82267I$	0
$b = 0.60288 - 1.28646I$		
$u = -0.969339 - 0.537826I$		
$a = -2.07389 - 0.28246I$	$-3.59585 + 7.82267I$	0
$b = 0.60288 + 1.28646I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.048130 + 0.360997I$ $a = -1.202110 + 0.624225I$ $b = 0.719536 - 0.542905I$	$3.01331 + 2.90550I$	0
$u = 1.048130 - 0.360997I$ $a = -1.202110 - 0.624225I$ $b = 0.719536 + 0.542905I$	$3.01331 - 2.90550I$	0
$u = -0.114827 + 0.882969I$ $a = -0.0127833 + 0.0844290I$ $b = 0.326135 + 1.328610I$	$-9.88982 + 5.35873I$	0
$u = -0.114827 - 0.882969I$ $a = -0.0127833 - 0.0844290I$ $b = 0.326135 - 1.328610I$	$-9.88982 - 5.35873I$	0
$u = -1.092470 + 0.198121I$ $a = 1.51423 + 0.11291I$ $b = -0.950087 + 0.762070I$	$3.36048 - 5.82580I$	0
$u = -1.092470 - 0.198121I$ $a = 1.51423 - 0.11291I$ $b = -0.950087 - 0.762070I$	$3.36048 + 5.82580I$	0
$u = -0.808263 + 0.308054I$ $a = 1.26209 + 0.77653I$ $b = 0.044147 - 0.482200I$	$-4.32456 - 2.55086I$	0
$u = -0.808263 - 0.308054I$ $a = 1.26209 - 0.77653I$ $b = 0.044147 + 0.482200I$	$-4.32456 + 2.55086I$	0
$u = -0.655202 + 0.563352I$ $a = 0.115464 + 0.119092I$ $b = -0.37811 - 1.39811I$	$-4.54033 + 3.42006I$	0
$u = -0.655202 - 0.563352I$ $a = 0.115464 - 0.119092I$ $b = -0.37811 + 1.39811I$	$-4.54033 - 3.42006I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.014490 + 0.530224I$ $a = 0.908974 + 0.862160I$ $b = -0.131011 + 1.035530I$	$-2.27629 + 0.87176I$	0
$u = -1.014490 - 0.530224I$ $a = 0.908974 - 0.862160I$ $b = -0.131011 - 1.035530I$	$-2.27629 - 0.87176I$	0
$u = -0.943727 + 0.669146I$ $a = -1.082320 - 0.855634I$ $b = 0.170005 - 1.013660I$	$1.27616 - 2.63741I$	0
$u = -0.943727 - 0.669146I$ $a = -1.082320 + 0.855634I$ $b = 0.170005 + 1.013660I$	$1.27616 + 2.63741I$	0
$u = 0.751036 + 0.374110I$ $a = -1.313110 + 0.523190I$ $b = 1.075420 - 0.284539I$	$-4.29974 - 0.99331I$	0
$u = 0.751036 - 0.374110I$ $a = -1.313110 - 0.523190I$ $b = 1.075420 + 0.284539I$	$-4.29974 + 0.99331I$	0
$u = -1.031050 + 0.537736I$ $a = 1.20834 + 0.83176I$ $b = -1.42347 - 0.09857I$	$1.84331 - 7.55297I$	0
$u = -1.031050 - 0.537736I$ $a = 1.20834 - 0.83176I$ $b = -1.42347 + 0.09857I$	$1.84331 + 7.55297I$	0
$u = 0.780725 + 0.865884I$ $a = -0.828541 + 0.882667I$ $b = 0.881199 + 0.534004I$	$-1.69298 + 4.69284I$	0
$u = 0.780725 - 0.865884I$ $a = -0.828541 - 0.882667I$ $b = 0.881199 - 0.534004I$	$-1.69298 - 4.69284I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.111410 + 0.355404I$ $a = -0.174586 + 0.661924I$ $b = 0.182500 - 0.563894I$	$2.54596 + 0.79149I$	0
$u = 1.111410 - 0.355404I$ $a = -0.174586 - 0.661924I$ $b = 0.182500 + 0.563894I$	$2.54596 - 0.79149I$	0
$u = -0.513117 + 0.653335I$ $a = -0.466255 + 0.583888I$ $b = -0.282176 - 1.359300I$	$-8.92158 + 0.13770I$	0
$u = -0.513117 - 0.653335I$ $a = -0.466255 - 0.583888I$ $b = -0.282176 + 1.359300I$	$-8.92158 - 0.13770I$	0
$u = 1.007550 + 0.600676I$ $a = -0.025885 + 0.339012I$ $b = 0.49191 - 1.56949I$	$-9.16806 + 8.02351I$	0
$u = 1.007550 - 0.600676I$ $a = -0.025885 - 0.339012I$ $b = 0.49191 + 1.56949I$	$-9.16806 - 8.02351I$	0
$u = 1.154000 + 0.238602I$ $a = 1.223730 - 0.260558I$ $b = -0.887826 - 0.568921I$	$3.54911 - 0.58151I$	0
$u = 1.154000 - 0.238602I$ $a = 1.223730 + 0.260558I$ $b = -0.887826 + 0.568921I$	$3.54911 + 0.58151I$	0
$u = -0.783587 + 0.244056I$ $a = 2.02710 + 0.73020I$ $b = -0.354733 + 1.283260I$	$-4.33625 - 3.75187I$	0
$u = -0.783587 - 0.244056I$ $a = 2.02710 - 0.73020I$ $b = -0.354733 - 1.283260I$	$-4.33625 + 3.75187I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.057070 + 0.532257I$		
$a = 2.41823 - 0.26547I$	$-6.51880 + 3.49580I$	0
$b = -0.127009 - 1.143050I$		
$u = 1.057070 - 0.532257I$		
$a = 2.41823 + 0.26547I$	$-6.51880 - 3.49580I$	0
$b = -0.127009 + 1.143050I$		
$u = 1.082730 + 0.491385I$		
$a = 1.071400 - 0.544451I$	$1.07181 + 1.71954I$	0
$b = -1.201520 + 0.235263I$		
$u = 1.082730 - 0.491385I$		
$a = 1.071400 + 0.544451I$	$1.07181 - 1.71954I$	0
$b = -1.201520 - 0.235263I$		
$u = 0.311847 + 0.748441I$		
$a = -0.241082 - 0.410147I$	$-10.69170 - 5.86905I$	0
$b = 0.27410 - 1.41704I$		
$u = 0.311847 - 0.748441I$		
$a = -0.241082 + 0.410147I$	$-10.69170 + 5.86905I$	0
$b = 0.27410 + 1.41704I$		
$u = 1.092210 + 0.472786I$		
$a = -0.82807 + 1.80986I$	$-6.47257 + 8.92477I$	0
$b = 0.095846 + 1.264100I$		
$u = 1.092210 - 0.472786I$		
$a = -0.82807 - 1.80986I$	$-6.47257 - 8.92477I$	0
$b = 0.095846 - 1.264100I$		
$u = -0.691686 + 0.417148I$		
$a = -0.190947 - 0.812444I$	$-4.39631 + 2.05619I$	0
$b = 0.902425 + 0.668823I$		
$u = -0.691686 - 0.417148I$		
$a = -0.190947 + 0.812444I$	$-4.39631 - 2.05619I$	0
$b = 0.902425 - 0.668823I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.198360 + 0.042819I$ $a = 0.886174 + 0.610418I$ $b = -0.627004 - 0.816665I$	$2.86323 - 0.15819I$	0
$u = 1.198360 - 0.042819I$ $a = 0.886174 - 0.610418I$ $b = -0.627004 + 0.816665I$	$2.86323 + 0.15819I$	0
$u = -0.188249 + 0.777185I$ $a = 0.413459 - 0.160180I$ $b = -0.185165 - 1.030810I$	$-1.39804 + 2.57312I$	0
$u = -0.188249 - 0.777185I$ $a = 0.413459 + 0.160180I$ $b = -0.185165 + 1.030810I$	$-1.39804 - 2.57312I$	0
$u = -1.028400 + 0.626041I$ $a = -1.49423 + 0.10849I$ $b = 0.64879 - 1.29451I$	$-7.43636 - 5.22012I$	0
$u = -1.028400 - 0.626041I$ $a = -1.49423 - 0.10849I$ $b = 0.64879 + 1.29451I$	$-7.43636 + 5.22012I$	0
$u = -0.458954 + 0.649679I$ $a = 3.30551 + 0.88960I$ $b = -0.485724 + 1.155790I$	$-9.24289 - 5.89563I$	0
$u = -0.458954 - 0.649679I$ $a = 3.30551 - 0.88960I$ $b = -0.485724 - 1.155790I$	$-9.24289 + 5.89563I$	0
$u = -0.769276 + 0.938958I$ $a = 0.231990 + 0.161515I$ $b = 0.154553 + 1.028400I$	$-3.76430 - 0.56463I$	0
$u = -0.769276 - 0.938958I$ $a = 0.231990 - 0.161515I$ $b = 0.154553 - 1.028400I$	$-3.76430 + 0.56463I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.144260 + 0.460872I$ $a = -0.420761 + 0.114595I$ $b = 0.095792 + 0.182216I$	$1.25568 - 5.27981I$	0
$u = -1.144260 - 0.460872I$ $a = -0.420761 - 0.114595I$ $b = 0.095792 - 0.182216I$	$1.25568 + 5.27981I$	0
$u = -0.637799 + 0.413395I$ $a = -1.17200 - 1.93486I$ $b = 1.307180 + 0.290513I$	$0.41381 + 3.42630I$	0
$u = -0.637799 - 0.413395I$ $a = -1.17200 + 1.93486I$ $b = 1.307180 - 0.290513I$	$0.41381 - 3.42630I$	0
$u = -1.126130 + 0.532039I$ $a = 2.11531 - 0.74953I$ $b = -0.364419 + 1.002440I$	$-2.78753 - 10.24430I$	0
$u = -1.126130 - 0.532039I$ $a = 2.11531 + 0.74953I$ $b = -0.364419 - 1.002440I$	$-2.78753 + 10.24430I$	0
$u = 0.678943 + 0.323433I$ $a = -1.75422 + 1.38886I$ $b = 1.036610 - 0.389461I$	$-0.55505 + 1.79650I$	0
$u = 0.678943 - 0.323433I$ $a = -1.75422 - 1.38886I$ $b = 1.036610 + 0.389461I$	$-0.55505 - 1.79650I$	0
$u = -1.190750 + 0.378224I$ $a = -0.148933 - 0.923599I$ $b = -0.04683 - 1.45697I$	$-6.88423 + 1.46164I$	0
$u = -1.190750 - 0.378224I$ $a = -0.148933 + 0.923599I$ $b = -0.04683 + 1.45697I$	$-6.88423 - 1.46164I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.647031 + 0.377479I$ $a = 0.550962 + 0.360917I$ $b = -0.04354 + 1.41784I$	$-4.30370 - 1.71887I$	0
$u = -0.647031 - 0.377479I$ $a = 0.550962 - 0.360917I$ $b = -0.04354 - 1.41784I$	$-4.30370 + 1.71887I$	0
$u = -0.506407 + 1.145590I$ $a = 0.112960 + 0.262141I$ $b = 0.475980 + 1.220890I$	$-4.94697 + 1.75759I$	0
$u = -0.506407 - 1.145590I$ $a = 0.112960 - 0.262141I$ $b = 0.475980 - 1.220890I$	$-4.94697 - 1.75759I$	0
$u = -0.050834 + 1.254670I$ $a = 0.185683 - 0.610663I$ $b = -0.592367 - 0.187680I$	$-5.81921 + 2.18125I$	0
$u = -0.050834 - 1.254670I$ $a = 0.185683 + 0.610663I$ $b = -0.592367 + 0.187680I$	$-5.81921 - 2.18125I$	0
$u = -0.976706 + 0.800228I$ $a = 1.172620 + 0.512500I$ $b = -0.392991 + 1.035030I$	$-3.12213 - 5.58772I$	0
$u = -0.976706 - 0.800228I$ $a = 1.172620 - 0.512500I$ $b = -0.392991 - 1.035030I$	$-3.12213 + 5.58772I$	0
$u = -1.170340 + 0.502688I$ $a = -1.71412 + 0.29564I$ $b = 0.422289 - 1.020340I$	$1.52277 - 7.30717I$	0
$u = -1.170340 - 0.502688I$ $a = -1.71412 - 0.29564I$ $b = 0.422289 + 1.020340I$	$1.52277 + 7.30717I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.125060 + 0.611410I$ $a = 1.89830 + 0.11938I$ $b = -0.43146 - 1.36686I$	$-8.42350 + 11.07610I$	0
$u = 1.125060 - 0.611410I$ $a = 1.89830 - 0.11938I$ $b = -0.43146 + 1.36686I$	$-8.42350 - 11.07610I$	0
$u = 1.263760 + 0.221817I$ $a = -1.150620 - 0.821047I$ $b = 0.368746 + 1.036300I$	$2.56169 + 4.12342I$	0
$u = 1.263760 - 0.221817I$ $a = -1.150620 + 0.821047I$ $b = 0.368746 - 1.036300I$	$2.56169 - 4.12342I$	0
$u = -0.715696$ $a = -2.69794$ $b = 0.217823$	2.55324	0
$u = 1.053310 + 0.742684I$ $a = 0.523004 - 0.169211I$ $b = -0.731393 + 0.265735I$	$-0.80782 + 1.50021I$	0
$u = 1.053310 - 0.742684I$ $a = 0.523004 + 0.169211I$ $b = -0.731393 - 0.265735I$	$-0.80782 - 1.50021I$	0
$u = 1.277790 + 0.290220I$ $a = 0.071793 - 1.198630I$ $b = -0.031239 + 0.836342I$	$-1.34661 - 1.72117I$	0
$u = 1.277790 - 0.290220I$ $a = 0.071793 + 1.198630I$ $b = -0.031239 - 0.836342I$	$-1.34661 + 1.72117I$	0
$u = -0.633058 + 0.264992I$ $a = -6.03534 + 0.55211I$ $b = -0.042072 - 1.104690I$	$-8.88965 - 4.39703I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.633058 - 0.264992I$ $a = -6.03534 - 0.55211I$ $b = -0.042072 + 1.104690I$	$-8.88965 + 4.39703I$	0
$u = -1.182030 + 0.588864I$ $a = 1.69550 - 0.30165I$ $b = -0.59260 + 1.30870I$	$-6.94421 - 10.62180I$	0
$u = -1.182030 - 0.588864I$ $a = 1.69550 + 0.30165I$ $b = -0.59260 - 1.30870I$	$-6.94421 + 10.62180I$	0
$u = 1.140840 + 0.675308I$ $a = 1.68781 - 0.11459I$ $b = -0.61162 - 1.43648I$	$-2.6082 + 14.5033I$	0
$u = 1.140840 - 0.675308I$ $a = 1.68781 + 0.11459I$ $b = -0.61162 + 1.43648I$	$-2.6082 - 14.5033I$	0
$u = 0.085961 + 0.667195I$ $a = -0.231513 - 1.006370I$ $b = 0.146162 + 1.147750I$	$-5.45027 + 5.90505I$	0
$u = 0.085961 - 0.667195I$ $a = -0.231513 + 1.006370I$ $b = 0.146162 - 1.147750I$	$-5.45027 - 5.90505I$	0
$u = -1.329330 + 0.085137I$ $a = 0.641780 - 0.566185I$ $b = -0.510889 + 0.945932I$	$2.25963 - 5.75499I$	0
$u = -1.329330 - 0.085137I$ $a = 0.641780 + 0.566185I$ $b = -0.510889 - 0.945932I$	$2.25963 + 5.75499I$	0
$u = 0.560030 + 1.227420I$ $a = 0.155504 + 0.220200I$ $b = -0.499904 + 1.322410I$	$-10.5407 - 13.7267I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.560030 - 1.227420I$ $a = 0.155504 - 0.220200I$ $b = -0.499904 - 1.322410I$	$-10.5407 + 13.7267I$	0
$u = 0.506317 + 0.393732I$ $a = -0.87902 - 2.36283I$ $b = 0.019144 - 1.284060I$	$-8.36220 + 0.68646I$	0
$u = 0.506317 - 0.393732I$ $a = -0.87902 + 2.36283I$ $b = 0.019144 + 1.284060I$	$-8.36220 - 0.68646I$	0
$u = 0.553076 + 0.320300I$ $a = -5.88900 + 2.56323I$ $b = -0.099689 + 1.025750I$	$-8.44351 - 5.28315I$	0
$u = 0.553076 - 0.320300I$ $a = -5.88900 - 2.56323I$ $b = -0.099689 - 1.025750I$	$-8.44351 + 5.28315I$	0
$u = -1.184460 + 0.675751I$ $a = -1.091930 - 0.562231I$ $b = 1.226600 + 0.033044I$	$-3.9939 - 14.5238I$	0
$u = -1.184460 - 0.675751I$ $a = -1.091930 + 0.562231I$ $b = 1.226600 - 0.033044I$	$-3.9939 + 14.5238I$	0
$u = -1.178530 + 0.703664I$ $a = 1.50628 + 0.11011I$ $b = -0.61140 + 1.36937I$	$-2.69087 - 8.21839I$	0
$u = -1.178530 - 0.703664I$ $a = 1.50628 - 0.11011I$ $b = -0.61140 - 1.36937I$	$-2.69087 + 8.21839I$	0
$u = 1.196720 + 0.726024I$ $a = -1.122670 + 0.194563I$ $b = 0.183378 + 1.165320I$	$-1.65736 + 6.88575I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.196720 - 0.726024I$ $a = -1.122670 - 0.194563I$ $b = 0.183378 - 1.165320I$	$-1.65736 - 6.88575I$	0
$u = -1.239760 + 0.661989I$ $a = 0.295379 - 0.343931I$ $b = -0.233977 - 0.105523I$	$-2.30721 - 8.68833I$	0
$u = -1.239760 - 0.661989I$ $a = 0.295379 + 0.343931I$ $b = -0.233977 + 0.105523I$	$-2.30721 + 8.68833I$	0
$u = -1.26487 + 0.66128I$ $a = -0.295853 + 0.061429I$ $b = 0.45862 + 1.50264I$	$-6.89347 + 0.71044I$	0
$u = -1.26487 - 0.66128I$ $a = -0.295853 - 0.061429I$ $b = 0.45862 - 1.50264I$	$-6.89347 - 0.71044I$	0
$u = 0.564461$ $a = 1.34572$ $b = -0.614147$	0.955081	10.7290
$u = -0.205257 + 0.504204I$ $a = 0.983972 + 0.353256I$ $b = 0.287290 - 0.255868I$	$-1.43427 + 1.36564I$	$-0.811598 - 0.827614I$
$u = -0.205257 - 0.504204I$ $a = 0.983972 - 0.353256I$ $b = 0.287290 + 0.255868I$	$-1.43427 - 1.36564I$	$-0.811598 + 0.827614I$
$u = 1.23250 + 0.78875I$ $a = -1.57385 + 0.16119I$ $b = 0.58216 + 1.39524I$	$-8.3100 + 20.8434I$	0
$u = 1.23250 - 0.78875I$ $a = -1.57385 - 0.16119I$ $b = 0.58216 - 1.39524I$	$-8.3100 - 20.8434I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.017536 + 0.516066I$ $a = 1.101900 - 0.408984I$ $b = 0.790632 + 0.117970I$	$-0.01738 + 3.74101I$	$6.40193 - 9.59396I$
$u = 0.017536 - 0.516066I$ $a = 1.101900 + 0.408984I$ $b = 0.790632 - 0.117970I$	$-0.01738 - 3.74101I$	$6.40193 + 9.59396I$
$u = -0.367016 + 0.308318I$ $a = -2.77489 - 0.29056I$ $b = 0.269580 + 1.219690I$	$-5.27083 + 5.97555I$	$2.45765 - 6.90136I$
$u = -0.367016 - 0.308318I$ $a = -2.77489 + 0.29056I$ $b = 0.269580 - 1.219690I$	$-5.27083 - 5.97555I$	$2.45765 + 6.90136I$
$u = -1.22638 + 0.91459I$ $a = -1.49151 - 0.37570I$ $b = 0.54345 - 1.39434I$	$-6.40747 - 11.77110I$	0
$u = -1.22638 - 0.91459I$ $a = -1.49151 + 0.37570I$ $b = 0.54345 + 1.39434I$	$-6.40747 + 11.77110I$	0
$u = 1.23138 + 0.91544I$ $a = -0.823909 + 0.522778I$ $b = 1.210910 + 0.034660I$	$-1.87867 + 5.70557I$	0
$u = 1.23138 - 0.91544I$ $a = -0.823909 - 0.522778I$ $b = 1.210910 - 0.034660I$	$-1.87867 - 5.70557I$	0
$u = 1.54923 + 0.07345I$ $a = -0.924728 - 0.069453I$ $b = 0.868160 - 0.479058I$	$0.88142 + 4.33332I$	0
$u = 1.54923 - 0.07345I$ $a = -0.924728 + 0.069453I$ $b = 0.868160 + 0.479058I$	$0.88142 - 4.33332I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.17386 + 1.02668I$ $a = 0.725530 - 0.223599I$ $b = -0.231528 - 1.168850I$	$-5.41671 + 10.87900I$	0
$u = 1.17386 - 1.02668I$ $a = 0.725530 + 0.223599I$ $b = -0.231528 + 1.168850I$	$-5.41671 - 10.87900I$	0
$u = 0.42690 + 1.58690I$ $a = -0.022093 + 0.303383I$ $b = 0.029767 + 1.044540I$	$-4.14920 + 0.26512I$	0
$u = 0.42690 - 1.58690I$ $a = -0.022093 - 0.303383I$ $b = 0.029767 - 1.044540I$	$-4.14920 - 0.26512I$	0
$u = 0.263279 + 0.240598I$ $a = 1.77540 - 0.07382I$ $b = -0.526899 - 0.149133I$	$1.007240 + 0.107241I$	$10.70929 - 1.66192I$
$u = 0.263279 - 0.240598I$ $a = 1.77540 + 0.07382I$ $b = -0.526899 + 0.149133I$	$1.007240 - 0.107241I$	$10.70929 + 1.66192I$
$u = -0.316701 + 0.132877I$ $a = 0.857760 - 0.490838I$ $b = 0.625443 + 0.542459I$	$-4.36366 + 2.21043I$	$3.41608 - 4.64085I$
$u = -0.316701 - 0.132877I$ $a = 0.857760 + 0.490838I$ $b = 0.625443 - 0.542459I$	$-4.36366 - 2.21043I$	$3.41608 + 4.64085I$
$u = -1.62866 + 0.34867I$ $a = -0.775924 + 0.215922I$ $b = 0.513838 - 0.988346I$	$-0.73333 - 9.40171I$	0
$u = -1.62866 - 0.34867I$ $a = -0.775924 - 0.215922I$ $b = 0.513838 + 0.988346I$	$-0.73333 + 9.40171I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.186172 + 0.086514I$ $a = -1.28053 + 0.91657I$ $b = 0.22118 - 1.50982I$	$-10.57690 - 5.44510I$	$-17.2947 + 17.5796I$
$u = -0.186172 - 0.086514I$ $a = -1.28053 - 0.91657I$ $b = 0.22118 + 1.50982I$	$-10.57690 + 5.44510I$	$-17.2947 - 17.5796I$
$u = -0.93331 + 1.64659I$ $a = 0.172926 - 0.323573I$ $b = -0.68577 - 1.35836I$	$-7.94327 + 3.32581I$	0
$u = -0.93331 - 1.64659I$ $a = 0.172926 + 0.323573I$ $b = -0.68577 + 1.35836I$	$-7.94327 - 3.32581I$	0
$u = -1.58035 + 1.28978I$ $a = -0.315170 + 0.004949I$ $b = 0.102459 - 1.011890I$	$-5.29410 + 0.69462I$	0
$u = -1.58035 - 1.28978I$ $a = -0.315170 - 0.004949I$ $b = 0.102459 + 1.011890I$	$-5.29410 - 0.69462I$	0
$u = 2.21538 + 0.77465I$ $a = -0.141711 - 0.189928I$ $b = -0.034543 + 1.012320I$	$-4.62946 + 0.48468I$	0
$u = 2.21538 - 0.77465I$ $a = -0.141711 + 0.189928I$ $b = -0.034543 - 1.012320I$	$-4.62946 - 0.48468I$	0

II.

$$I_2^u = \langle -1.54 \times 10^{55} u^{50} - 3.87 \times 10^{55} u^{49} + \dots + 1.02 \times 10^{52} b + 3.07 \times 10^{55}, 4.87 \times 10^{55} u^{50} + 1.19 \times 10^{56} u^{49} + \dots + 1.02 \times 10^{52} a - 8.34 \times 10^{55}, u^{51} + 3u^{50} + \dots - 4u - 1 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4797.43u^{50} - 11748.8u^{49} + \dots + 18510.2u + 8211.62 \\ 1512.67u^{50} + 3813.96u^{49} + \dots - 6009.11u - 3019.79 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -12395.6u^{50} - 30974.8u^{49} + \dots + 49611.8u + 24631.7 \\ 1002.72u^{50} + 2473.19u^{49} + \dots - 3970.22u - 1835.50 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -4325.08u^{50} - 10900.4u^{49} + \dots + 17025.0u + 8754.72 \\ -294.800u^{50} - 706.261u^{49} + \dots + 1328.99u + 533.990 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1552.15u^{50} - 4030.64u^{49} + \dots + 5205.84u + 3081.90 \\ -449.685u^{50} - 1047.25u^{49} + \dots + 2182.78u + 790.657 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2513.46u^{50} - 6299.28u^{49} + \dots + 10639.8u + 5488.70 \\ -1046.32u^{50} - 2599.39u^{49} + \dots + 3685.75u + 1685.40 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4782.31u^{50} - 11790.2u^{49} + \dots + 18743.0u + 8587.96 \\ 1400.79u^{50} + 3555.26u^{49} + \dots - 5677.36u - 2933.08 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 9295.00u^{50} + 23233.3u^{49} + \dots - 37469.6u - 18713.8 \\ 247.052u^{50} + 589.830u^{49} + \dots - 826.757u - 240.779 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1043.31u^{50} - 2726.54u^{49} + \dots + 3497.22u + 2154.29 \\ -958.520u^{50} - 2351.35u^{49} + \dots + 3891.40u + 1718.27 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = $-15923.0u^{50} - 38728.2u^{49} + \dots + 71217.8u + 33256.1$

(iv) u -Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{51} - 4u^{50} + \dots + 26u - 2$
c_2	$u^{51} - 3u^{50} + \dots - 4u + 1$
c_3	$u^{51} + 2u^{50} + \dots + 12u - 9$
c_4	$u^{51} + 2u^{50} + \dots + 450u - 27$
c_5	$u^{51} + 17u^{49} + \dots + 4u - 2$
c_6	$u^{51} + 3u^{50} + \dots - 4u - 1$
c_7	$u^{51} - 12u^{50} + \dots - 5u + 1$
c_8	$u^{51} - u^{50} + \dots - 9u + 1$
c_9	$u^{51} + 3u^{50} + \dots + 19u + 1$
c_{10}	$u^{51} + u^{50} + \dots - 261u - 23$
c_{11}	$u^{51} + 17u^{49} + \dots + 4u + 2$
c_{12}	$u^{51} - 3u^{50} + \dots + 19u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} - 4y^{50} + \dots + 128y - 4$
c_2, c_6	$y^{51} - 31y^{50} + \dots + 52y - 1$
c_3	$y^{51} - 26y^{50} + \dots + 1944y - 81$
c_4	$y^{51} + 32y^{50} + \dots + 18630y - 729$
c_5, c_{11}	$y^{51} + 34y^{50} + \dots + 36y - 4$
c_7	$y^{51} + 4y^{50} + \dots - 37y - 1$
c_8	$y^{51} - 13y^{50} + \dots + 47y - 1$
c_9, c_{12}	$y^{51} + 47y^{50} + \dots - 25y - 1$
c_{10}	$y^{51} + 19y^{50} + \dots + 1513y - 529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.873995 + 0.527013I$ $a = 1.68759 - 0.94029I$ $b = -0.398027 - 1.242230I$	$-5.10634 + 4.70188I$	0
$u = 0.873995 - 0.527013I$ $a = 1.68759 + 0.94029I$ $b = -0.398027 + 1.242230I$	$-5.10634 - 4.70188I$	0
$u = 0.788226 + 0.540629I$ $a = 1.41049 - 1.10649I$ $b = -0.595453 + 0.180270I$	$-2.21335 + 5.29740I$	0
$u = 0.788226 - 0.540629I$ $a = 1.41049 + 1.10649I$ $b = -0.595453 - 0.180270I$	$-2.21335 - 5.29740I$	0
$u = 1.015270 + 0.359814I$ $a = -0.857112 + 0.535685I$ $b = 0.285310 - 0.093856I$	$2.96817 + 1.43642I$	0
$u = 1.015270 - 0.359814I$ $a = -0.857112 - 0.535685I$ $b = 0.285310 + 0.093856I$	$2.96817 - 1.43642I$	0
$u = -0.852248 + 0.662474I$ $a = -0.113111 + 0.425370I$ $b = -0.57481 - 1.41846I$	$-5.85812 + 0.61480I$	0
$u = -0.852248 - 0.662474I$ $a = -0.113111 - 0.425370I$ $b = -0.57481 + 1.41846I$	$-5.85812 - 0.61480I$	0
$u = -0.910308 + 0.603358I$ $a = -1.87534 - 0.19937I$ $b = 0.79634 - 1.33102I$	$-5.62870 - 5.50316I$	0
$u = -0.910308 - 0.603358I$ $a = -1.87534 + 0.19937I$ $b = 0.79634 + 1.33102I$	$-5.62870 + 5.50316I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.096460 + 0.162436I$ $a = 0.571416 - 0.514690I$ $b = -0.13679 - 1.44780I$	$-6.71869 - 0.21130I$	0
$u = -1.096460 - 0.162436I$ $a = 0.571416 + 0.514690I$ $b = -0.13679 + 1.44780I$	$-6.71869 + 0.21130I$	0
$u = -1.068120 + 0.427490I$ $a = -1.150360 - 0.414978I$ $b = 1.038280 - 0.320645I$	$2.19560 - 6.50261I$	0
$u = -1.068120 - 0.427490I$ $a = -1.150360 + 0.414978I$ $b = 1.038280 + 0.320645I$	$2.19560 + 6.50261I$	0
$u = 0.780000 + 0.311192I$ $a = -0.935928 + 0.343473I$ $b = 0.917030 - 0.411153I$	$-3.77086 - 1.13141I$	0
$u = 0.780000 - 0.311192I$ $a = -0.935928 - 0.343473I$ $b = 0.917030 + 0.411153I$	$-3.77086 + 1.13141I$	0
$u = 1.013820 + 0.596016I$ $a = -0.319323 + 0.877338I$ $b = 0.044267 + 1.257500I$	$-5.46876 + 8.49566I$	0
$u = 1.013820 - 0.596016I$ $a = -0.319323 - 0.877338I$ $b = 0.044267 - 1.257500I$	$-5.46876 - 8.49566I$	0
$u = 1.143690 + 0.299531I$ $a = 0.440505 - 1.057300I$ $b = -0.156788 + 0.246168I$	$-0.33759 - 1.59921I$	0
$u = 1.143690 - 0.299531I$ $a = 0.440505 + 1.057300I$ $b = -0.156788 - 0.246168I$	$-0.33759 + 1.59921I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.792970 + 0.028128I$ $a = 1.63080 + 1.14695I$ $b = -0.761979 - 0.332753I$	$0.055651 - 1.025080I$	0
$u = 0.792970 - 0.028128I$ $a = 1.63080 - 1.14695I$ $b = -0.761979 + 0.332753I$	$0.055651 + 1.025080I$	0
$u = -0.701975 + 0.316328I$ $a = 1.34520 + 2.03985I$ $b = -1.129040 - 0.362789I$	$0.73218 + 3.31469I$	$16.3714 + 0.I$
$u = -0.701975 - 0.316328I$ $a = 1.34520 - 2.03985I$ $b = -1.129040 + 0.362789I$	$0.73218 - 3.31469I$	$16.3714 + 0.I$
$u = 0.941953 + 0.814978I$ $a = 0.944866 - 0.793598I$ $b = -0.983548 - 0.203403I$	$-1.99850 + 5.19152I$	0
$u = 0.941953 - 0.814978I$ $a = 0.944866 + 0.793598I$ $b = -0.983548 + 0.203403I$	$-1.99850 - 5.19152I$	0
$u = 1.209070 + 0.300612I$ $a = -0.998797 + 0.350910I$ $b = 0.896155 - 0.564646I$	$2.17472 + 2.18644I$	0
$u = 1.209070 - 0.300612I$ $a = -0.998797 - 0.350910I$ $b = 0.896155 + 0.564646I$	$2.17472 - 2.18644I$	0
$u = 0.740539$ $a = -2.67065$ $b = 0.367890$	2.66230	40.8050
$u = 0.166582 + 0.708607I$ $a = 0.177631 - 0.960047I$ $b = -0.155641 - 1.307510I$	$-4.62096 + 0.79242I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.166582 - 0.708607I$ $a = 0.177631 + 0.960047I$ $b = -0.155641 + 1.307510I$	$-4.62096 - 0.79242I$	0
$u = -1.152160 + 0.669493I$ $a = 1.78042 - 0.06542I$ $b = -0.527966 + 1.304420I$	$-5.97273 - 10.27720I$	0
$u = -1.152160 - 0.669493I$ $a = 1.78042 + 0.06542I$ $b = -0.527966 - 1.304420I$	$-5.97273 + 10.27720I$	0
$u = -1.276110 + 0.482569I$ $a = -1.262800 + 0.386082I$ $b = 0.402316 - 1.010560I$	$0.80090 - 6.94552I$	0
$u = -1.276110 - 0.482569I$ $a = -1.262800 - 0.386082I$ $b = 0.402316 + 1.010560I$	$0.80090 + 6.94552I$	0
$u = -1.230320 + 0.645746I$ $a = 1.020540 - 0.597940I$ $b = -0.161300 + 0.801500I$	$-3.32829 - 9.08172I$	0
$u = -1.230320 - 0.645746I$ $a = 1.020540 + 0.597940I$ $b = -0.161300 - 0.801500I$	$-3.32829 + 9.08172I$	0
$u = -0.573485 + 0.035691I$ $a = 2.35787 + 1.21094I$ $b = -0.284286 + 1.263950I$	$-3.22077 - 4.79890I$	$6.23305 + 5.71765I$
$u = -0.573485 - 0.035691I$ $a = 2.35787 - 1.21094I$ $b = -0.284286 - 1.263950I$	$-3.22077 + 4.79890I$	$6.23305 - 5.71765I$
$u = -0.502434 + 0.018897I$ $a = -8.23058 + 0.87421I$ $b = 0.256837 - 1.007470I$	$-8.18226 - 5.75724I$	$5.27180 + 11.35692I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.502434 - 0.018897I$ $a = -8.23058 - 0.87421I$ $b = 0.256837 + 1.007470I$	$-8.18226 + 5.75724I$	$5.27180 - 11.35692I$
$u = 0.459938 + 0.094360I$ $a = -6.60488 + 2.76128I$ $b = 0.191058 + 1.178780I$	$-8.92134 - 3.71447I$	$-0.61599 - 2.22306I$
$u = 0.459938 - 0.094360I$ $a = -6.60488 - 2.76128I$ $b = 0.191058 - 1.178780I$	$-8.92134 + 3.71447I$	$-0.61599 + 2.22306I$
$u = -0.393637 + 0.070631I$ $a = 0.0289937 - 0.0989117I$ $b = 0.23322 + 1.52654I$	$-10.43790 + 5.34925I$	$22.0969 + 9.3400I$
$u = -0.393637 - 0.070631I$ $a = 0.0289937 + 0.0989117I$ $b = 0.23322 - 1.52654I$	$-10.43790 - 5.34925I$	$22.0969 - 9.3400I$
$u = -0.83708 + 1.54095I$ $a = -0.180013 + 0.316464I$ $b = 0.61914 + 1.31869I$	$-7.85107 + 3.25445I$	0
$u = -0.83708 - 1.54095I$ $a = -0.180013 - 0.316464I$ $b = 0.61914 - 1.31869I$	$-7.85107 - 3.25445I$	0
$u = -1.87683 + 0.40288I$ $a = 0.249539 - 0.262492I$ $b = -0.042217 + 1.054400I$	$-4.96593 + 0.74300I$	0
$u = -1.87683 - 0.40288I$ $a = 0.249539 + 0.262492I$ $b = -0.042217 - 1.054400I$	$-4.96593 - 0.74300I$	0
$u = 1.41537 + 1.38330I$ $a = 0.217695 - 0.033972I$ $b = 0.043943 - 1.045900I$	$-4.48266 + 0.35720I$	0

	Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.41537 - 1.38330I$		
$a =$	$0.217695 + 0.033972I$	$-4.48266 - 0.35720I$	0
$b =$	$0.043943 + 1.045900I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{51} - 4u^{50} + \dots + 26u - 2)(u^{178} - 11u^{177} + \dots + 484886u + 16630)$
c_2	$(u^{51} - 3u^{50} + \dots - 4u + 1)(u^{178} - 42u^{176} + \dots - 9456u - 727)$
c_3	$(u^{51} + 2u^{50} + \dots + 12u - 9)(u^{178} - 3u^{177} + \dots - 6074908u + 521284)$
c_4	$(u^{51} + 2u^{50} + \dots + 450u - 27)$ $\cdot (u^{178} - 5u^{177} + \dots - 534111527848u + 12234606751)$
c_5	$(u^{51} + 17u^{49} + \dots + 4u - 2)(u^{178} + u^{177} + \dots - 79956u - 25406)$
c_6	$(u^{51} + 3u^{50} + \dots - 4u - 1)(u^{178} - 42u^{176} + \dots - 9456u - 727)$
c_7	$(u^{51} - 12u^{50} + \dots - 5u + 1)$ $\cdot (u^{178} - 11u^{177} + \dots + 10511353546u + 2936241116)$
c_8	$(u^{51} - u^{50} + \dots - 9u + 1)(u^{178} + 4u^{177} + \dots - 162199u + 18811)$
c_9	$(u^{51} + 3u^{50} + \dots + 19u + 1)$ $\cdot (u^{178} + 10u^{177} + \dots + 51945823u + 3103757)$
c_{10}	$(u^{51} + u^{50} + \dots - 261u - 23)$ $\cdot (u^{178} - 2u^{177} + \dots + 7464600509u + 1577563033)$
c_{11}	$(u^{51} + 17u^{49} + \dots + 4u + 2)(u^{178} + u^{177} + \dots - 79956u - 25406)$
c_{12}	$(u^{51} - 3u^{50} + \dots + 19u - 1)$ $\cdot (u^{178} + 10u^{177} + \dots + \frac{1}{34}51945823u + 3103757)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{51} - 4y^{50} + \dots + 128y - 4)$ $\cdot (y^{178} - 37y^{177} + \dots - 272210308796y + 276556900)$
c_2, c_6	$(y^{51} - 31y^{50} + \dots + 52y - 1)$ $\cdot (y^{178} - 84y^{177} + \dots - 43018796y + 528529)$
c_3	$(y^{51} - 26y^{50} + \dots + 1944y - 81)$ $\cdot (y^{178} - 51y^{177} + \dots - 21326040167832y + 271737008656)$
c_4	$(y^{51} + 32y^{50} + \dots + 18630y - 729)$ $\cdot (y^{178} + 99y^{177} + \dots - 4.90 \times 10^{23}y + 1.50 \times 10^{20})$
c_5, c_{11}	$(y^{51} + 34y^{50} + \dots + 36y - 4)$ $\cdot (y^{178} + 121y^{177} + \dots + 19611196928y + 645464836)$
c_7	$(y^{51} + 4y^{50} + \dots - 37y - 1)$ $\cdot (y^{178} + 59y^{177} + \dots + 4.34 \times 10^{20}y + 8.62 \times 10^{18})$
c_8	$(y^{51} - 13y^{50} + \dots + 47y - 1)$ $\cdot (y^{178} - 26y^{177} + \dots - 35205027563y + 353853721)$
c_9, c_{12}	$(y^{51} + 47y^{50} + \dots - 25y - 1)$ $\cdot (y^{178} + 150y^{177} + \dots - 369428626219007y + 9633307515049)$
c_{10}	$(y^{51} + 19y^{50} + \dots + 1513y - 529)$ $\cdot (y^{178} + 62y^{177} + \dots + 6.12 \times 10^{19}y + 2.49 \times 10^{18})$