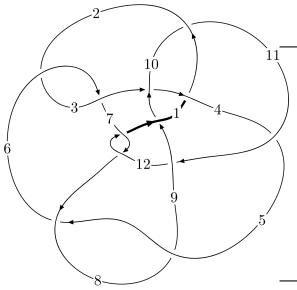
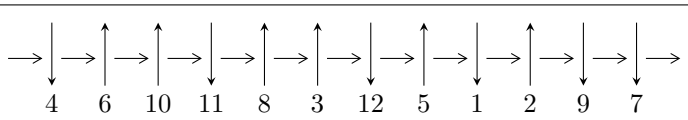
$12a_{0961}$ $(K12a_{0961})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.64373 \times 10^{1346} u^{188} - 4.72952 \times 10^{1346} u^{187} + \cdots + 1.82447 \times 10^{1347} b - 4.68882 \times 10^{1347}, \\ & 4.30137 \times 10^{1350} u^{188} - 1.12458 \times 10^{1351} u^{187} + \cdots + 4.29740 \times 10^{1351} a + 1.84917 \times 10^{1355}, \\ & u^{189} - 3u^{188} + \cdots - 829201u + 94217 \rangle \\ I_2^u = \langle & 6.01544 \times 10^{80} u^{50} + 4.68574 \times 10^{81} u^{49} + \cdots + 2.58939 \times 10^{81} b - 1.94635 \times 10^{81}, \\ & - 1.83690 \times 10^{80} u^{50} - 2.22203 \times 10^{81} u^{49} + \cdots + 7.12083 \times 10^{81} a - 2.81314 \times 10^{82}, \ u^{51} + 8u^{50} + \cdots - 4u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 240 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. $\boldsymbol{I_1^u = \langle 1.64 \times 10^{1346} u^{188} - 4.73 \times 10^{1346} u^{187} + \cdots + 1.82 \times 10^{1347} b - 4.69 \times 10^{1347},\ 4.30 \times 10^{1350} u^{188} - 1.12 \times 10^{1351} u^{187} + \cdots + 4.30 \times 10^{1351} a + 1.85 \times 10^{1355},\ u^{189} - 3u^{188} + \cdots - 829201u + 94217 \rangle}$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.100092u^{188} + 0.261689u^{187} + \cdots + 23563.9u - 4303.00 \\ -0.0900934u^{188} + 0.259228u^{187} + \cdots - 13005.5u + 2.56997 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0593610u^{188} + 0.186224u^{187} + \cdots - 18020.1u + 1064.13 \\ -0.0376884u^{188} + 0.100062u^{187} + \cdots + 18573.7u - 2940.42 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.245622u^{188} - 0.680258u^{187} + \cdots + 16419.8u + 1748.61 \\ 0.203510u^{188} - 0.550514u^{187} + \cdots + 1098.87u + 2932.52 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.110635u^{188} + 0.276420u^{187} + \cdots + 45454.3u - 6897.31 \\ -0.100636u^{188} + 0.273958u^{187} + \cdots + 8884.88u - 2591.75 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0238419u^{188} + 0.144100u^{187} + \cdots - 101667.u + 11364.6 \\ -0.0134360u^{188} + 0.0914865u^{187} + \cdots - 76593.3u + 8566.77 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0114209u^{188} + 0.142231u^{187} + \cdots - 180966.u + 21035.3 \\ -0.0292937u^{188} + 0.210185u^{187} + \cdots - 140476.u + 15792.6 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00807546u^{188} + 0.184150u^{187} + \cdots - 176170.u + 20199.2 \\ -0.0387995u^{188} + 0.219960u^{187} + \cdots - 128573.u + 14231.5 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.209824u^{188} - 0.701328u^{187} + \cdots + 141674.u - 13437.5 \\ 0.162003u^{188} - 0.577950u^{187} + \cdots + 152208.u - 15269.2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.149815u^{188} + 0.540340u^{187} + \cdots - 154988.u + 16041.2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{189} - 19u^{188} + \cdots + 26u + 1$
c_2, c_6	$8(8u^{189} + 40u^{188} + \cdots - 30029u - 2617)$
c_3	$8(8u^{189} - 48u^{188} + \cdots - 42u - 1)$
c_4	$u^{189} - 8u^{188} + \cdots - 12981419408u + 1387228888$
c_5, c_8	$u^{189} + 3u^{188} + \cdots - 829201u - 94217$
c_7, c_{12}	$u^{189} + 63u^{187} + \cdots - 2533599u - 3861113$
c_9	$u^{189} - 3u^{188} + \cdots - 223100552u + 9191768$
c_{10}	$8(8u^{189} - 88u^{188} + \cdots - 28473u + 4057)$
c_{11}	$64(64u^{189} + 1376u^{188} + \cdots + 45382u + 131644)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{189} - 11y^{188} + \cdots + 578y - 1$
c_2, c_6	$64(64y^{189} - 6880y^{188} + \cdots + 5.58003 \times 10^8 y - 6848689)$
c_3	$64(64y^{189} - 1440y^{188} + \cdots + 644y - 1)$
c_4	$y^{189} - 130y^{188} + \cdots + 2.36 \times 10^{20} y - 1.92 \times 10^{18}$
c_5, c_8	$y^{189} + 107y^{188} + \cdots + 768802165913y - 8876843089$
c_7, c_{12}	$y^{189} + 126y^{188} + \cdots + 543664726773415y - 14908193598769$
c_9	$y^{189} - 9y^{188} + \cdots + 47247815469161696y - 84488598965824$
c_{10}	$64(64y^{189} + 2848y^{188} + \cdots + 2.37867 \times 10^9 y - 1.64592 \times 10^7)$
c_{11}	4096 $\cdot (4096y^{189} - 186880y^{188} + \cdots - 2242263992996y - 17330142736)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.302185 + 0.941615I$ $a = 1.44794 - 0.09117I$ $b = 0.341379 - 0.601466I$	$-0.09062 + 2.79137I$	0
$u = 0.302185 - 0.941615I$ $a = 1.44794 + 0.09117I$ $b = 0.341379 + 0.601466I$	$-0.09062 - 2.79137I$	0
$u = -0.184614 + 0.968938I$ $a = -0.062986 + 0.948580I$ $b = -0.182389 + 0.952850I$	$-1.76476 - 2.09273I$	0
$u = -0.184614 - 0.968938I$ $a = -0.062986 - 0.948580I$ $b = -0.182389 - 0.952850I$	$-1.76476 + 2.09273I$	0
$u = 0.238454 + 0.986593I$ $a = -1.36183 - 1.22193I$ $b = -1.19924 - 1.89711I$	$1.36221 + 6.30525I$	0
$u = 0.238454 - 0.986593I$ $a = -1.36183 + 1.22193I$ $b = -1.19924 + 1.89711I$	$1.36221 - 6.30525I$	0
$u = -0.388792 + 0.903546I$ $a = -0.739292 + 0.718682I$ $b = -0.462394 + 1.177740I$	$0.29461 - 2.11052I$	0
$u = -0.388792 - 0.903546I$ $a = -0.739292 - 0.718682I$ $b = -0.462394 - 1.177740I$	$0.29461 + 2.11052I$	0
$u = 0.789295 + 0.647767I$ $a = -1.249770 - 0.609176I$ $b = -0.116359 + 0.193310I$	$4.89138 - 7.18850I$	0
$u = 0.789295 - 0.647767I$ $a = -1.249770 + 0.609176I$ $b = -0.116359 - 0.193310I$	$4.89138 + 7.18850I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.154418 + 1.013200I$ $a = -2.17319 - 0.19200I$ $b = -1.393100 - 0.120566I$	$2.40358 + 6.16172I$	0
$u = \ 0.154418 - 1.013200I$ $a = -2.17319 + 0.19200I$ $b = -1.393100 + 0.120566I$	$2.40358 - 6.16172I$	0
$u = \ 0.118516 + 1.019840I$ $a = -0.933782 - 0.187678I$ $b = \ 0.15049 - 3.39698I$	$-1.383150 + 0.246972I$	0
$u = \ 0.118516 - 1.019840I$ $a = -0.933782 + 0.187678I$ $b = \ 0.15049 + 3.39698I$	$-1.383150 - 0.246972I$	0
$u = -0.094084 + 0.965485I$ $a = \ 1.40613 - 0.42438I$ $b = \ 0.76362 - 1.58481I$	$-3.17295 - 0.41869I$	0
$u = -0.094084 - 0.965485I$ $a = \ 1.40613 + 0.42438I$ $b = \ 0.76362 + 1.58481I$	$-3.17295 + 0.41869I$	0
$u = -0.874835 + 0.409818I$ $a = -0.333605 + 1.079770I$ $b = -0.337100 + 0.239016I$	$1.57370 - 2.49525I$	0
$u = -0.874835 - 0.409818I$ $a = -0.333605 - 1.079770I$ $b = -0.337100 - 0.239016I$	$1.57370 + 2.49525I$	0
$u = \ 0.881123 + 0.541093I$ $a = -0.609431 - 0.537282I$ $b = \ 0.37361 - 1.38028I$	$0.235388 - 0.920140I$	0
$u = \ 0.881123 - 0.541093I$ $a = -0.609431 + 0.537282I$ $b = \ 0.37361 + 1.38028I$	$0.235388 + 0.920140I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.759233+0.591351I$ $a=-0.257806+0.834668I$ $b=-0.063824-0.132232I$	$1.55190-3.58660I$	0
$u=-0.759233-0.591351I$ $a=-0.257806-0.834668I$ $b=-0.063824+0.132232I$	$1.55190+3.58660I$	0
$u=-0.930774+0.221334I$ $a=-0.878987+0.012739I$ $b=\ \ 0.057270+0.687155I$	$-0.08253-9.63844I$	0
$u=-0.930774-0.221334I$ $a=-0.878987-0.012739I$ $b=\ \ 0.057270-0.687155I$	$-0.08253+9.63844I$	0
$u=\ \ 0.177954+1.033070I$ $a=\ \ 1.36761+1.04014I$ $b=\ \ 1.41236+1.41620I$	$-0.97321+5.40969I$	0
$u=\ \ 0.177954-1.033070I$ $a=\ \ 1.36761-1.04014I$ $b=\ \ 1.41236-1.41620I$	$-0.97321-5.40969I$	0
$u=\ \ 0.803009+0.502392I$ $a=\ \ 1.01767+1.12052I$ $b=-0.349416+0.780006I$	$6.96270-4.04046I$	0
$u=\ \ 0.803009-0.502392I$ $a=\ \ 1.01767-1.12052I$ $b=-0.349416-0.780006I$	$6.96270+4.04046I$	0
$u=\ \ 0.191480+1.040440I$ $a=\ \ 1.100990+0.485709I$ $b=-1.15806+1.60514I$	$0.42256+10.66500I$	0
$u=\ \ 0.191480-1.040440I$ $a=\ \ 1.100990-0.485709I$ $b=-1.15806-1.60514I$	$0.42256-10.66500I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.056510+0.096744I$ $a=-0.473011+1.110440I$ $b=\ \ 0.358299+0.382525I$	$0.17281+8.58975I$	0
$u=-1.056510-0.096744I$ $a=-0.473011-1.110440I$ $b=\ \ 0.358299-0.382525I$	$0.17281-8.58975I$	0
$u=\ \ 0.913851+0.542378I$ $a=\ \ 0.782153+1.020280I$ $b=-0.144807+0.395322I$	$8.87588+2.47166I$	0
$u=\ \ 0.913851-0.542378I$ $a=\ \ 0.782153-1.020280I$ $b=-0.144807-0.395322I$	$8.87588-2.47166I$	0
$u=\ \ 0.168260+0.915369I$ $a=-1.70263-0.07144I$ $b=\ \ 0.0360904-0.0175434I$	$4.52695-0.46675I$	0
$u=\ \ 0.168260-0.915369I$ $a=-1.70263+0.07144I$ $b=\ \ 0.0360904+0.0175434I$	$4.52695+0.46675I$	0
$u=-1.073690+0.056011I$ $a=-0.207456+0.878649I$ $b=-0.330338+0.223615I$	$2.87036-1.08562I$	0
$u=-1.073690-0.056011I$ $a=-0.207456-0.878649I$ $b=-0.330338-0.223615I$	$2.87036+1.08562I$	0
$u=\ \ 0.200913+0.898818I$ $a=-1.221000-0.701161I$ $b=-1.77840-1.44604I$	$4.50516+2.15992I$	0
$u=\ \ 0.200913-0.898818I$ $a=-1.221000+0.701161I$ $b=-1.77840+1.44604I$	$4.50516-2.15992I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.487042+0.780551I$ $a=\ \ 0.399955+1.239370I$ $b=-0.17558+1.62939I$	$1.50878+1.09200I$	0
$u=-0.487042-0.780551I$ $a=\ \ 0.399955-1.239370I$ $b=-0.17558-1.62939I$	$1.50878-1.09200I$	0
$u=-0.731014+0.547817I$ $a=-0.543133+0.071995I$ $b=-0.474374+0.540760I$	$1.82464-1.68741I$	0
$u=-0.731014-0.547817I$ $a=-0.543133-0.071995I$ $b=-0.474374-0.540760I$	$1.82464+1.68741I$	0
$u=\ \ 0.924576+0.574980I$ $a=\ \ 0.744523+0.898049I$ $b=\ \ 0.628684+0.389732I$	$4.70628-1.19798I$	0
$u=\ \ 0.924576-0.574980I$ $a=\ \ 0.744523-0.898049I$ $b=\ \ 0.628684-0.389732I$	$4.70628+1.19798I$	0
$u=-0.891457+0.148535I$ $a=\ \ 0.580604+0.493113I$ $b=-0.454023+0.757635I$	$-0.463168+1.211940I$	0
$u=-0.891457-0.148535I$ $a=\ \ 0.580604-0.493113I$ $b=-0.454023-0.757635I$	$-0.463168-1.211940I$	0
$u=-0.901170$ $a=-0.935711$ $b=-0.294434$	1.63913	0
$u=\ \ 1.006520+0.441039I$ $a=-0.247645-1.046270I$ $b=\ \ 0.456261-0.622717I$	$4.09869+3.81099I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.006520 - 0.441039I$ $a = -0.247645 + 1.046270I$ $b = 0.456261 + 0.622717I$	$4.09869 - 3.81099I$	0
$u = 0.579844 + 0.942939I$ $a = 0.886702 + 0.968238I$ $b = 0.442229 + 1.127790I$	$3.60910 + 6.84498I$	0
$u = 0.579844 - 0.942939I$ $a = 0.886702 - 0.968238I$ $b = 0.442229 - 1.127790I$	$3.60910 - 6.84498I$	0
$u = -0.482471 + 1.003660I$ $a = 0.619261 - 0.531446I$ $b = -0.08070 - 2.06511I$	$-5.04312 - 1.94785I$	0
$u = -0.482471 - 1.003660I$ $a = 0.619261 + 0.531446I$ $b = -0.08070 + 2.06511I$	$-5.04312 + 1.94785I$	0
$u = 0.560855 + 0.983229I$ $a = -0.616276 - 1.187400I$ $b = -1.11772 - 1.92869I$	$3.77823 + 12.28690I$	0
$u = 0.560855 - 0.983229I$ $a = -0.616276 + 1.187400I$ $b = -1.11772 + 1.92869I$	$3.77823 - 12.28690I$	0
$u = 0.022067 + 0.866135I$ $a = -1.050640 - 0.416143I$ $b = -0.18879 - 2.69433I$	$-0.641608 + 0.691602I$	0
$u = 0.022067 - 0.866135I$ $a = -1.050640 + 0.416143I$ $b = -0.18879 + 2.69433I$	$-0.641608 - 0.691602I$	0
$u = 0.035931 + 0.862631I$ $a = 2.21764 - 0.19975I$ $b = 1.113770 - 0.086237I$	$-0.00099 - 4.39233I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.035931 - 0.862631I$ $a = 2.21764 + 0.19975I$ $b = 1.113770 + 0.086237I$	$-0.00099 + 4.39233I$	0
$u = -0.102785 + 1.144160I$ $a = -0.775958 + 0.052748I$ $b = -3.32433 + 0.40427I$	$-1.79707 + 0.38567I$	0
$u = -0.102785 - 1.144160I$ $a = -0.775958 - 0.052748I$ $b = -3.32433 - 0.40427I$	$-1.79707 - 0.38567I$	0
$u = 0.385326 + 0.754040I$ $a = 1.045380 + 0.255312I$ $b = 1.04475 + 1.21419I$	$3.18993 - 2.76903I$	0
$u = 0.385326 - 0.754040I$ $a = 1.045380 - 0.255312I$ $b = 1.04475 - 1.21419I$	$3.18993 + 2.76903I$	0
$u = -0.069693 + 0.833623I$ $a = 0.699566 - 1.053130I$ $b = 0.16090 - 1.68297I$	$-1.34654 + 1.59129I$	0
$u = -0.069693 - 0.833623I$ $a = 0.699566 + 1.053130I$ $b = 0.16090 + 1.68297I$	$-1.34654 - 1.59129I$	0
$u = -0.795730 + 0.217676I$ $a = 0.713575 - 1.214360I$ $b = 0.061744 + 0.131547I$	$3.03282 + 2.97111I$	0
$u = -0.795730 - 0.217676I$ $a = 0.713575 + 1.214360I$ $b = 0.061744 - 0.131547I$	$3.03282 - 2.97111I$	0
$u = -0.394696 + 1.107600I$ $a = 0.709623 - 0.841396I$ $b = 1.22655 - 1.53567I$	$0.15037 - 7.26078I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.394696-1.107600I$ $a=\ \ 0.709623+0.841396I$ $b=\ \ 1.22655+1.53567I$	$0.15037+7.26078I$	0
$u=\ \ 0.513449+1.071280I$ $a=\ \ 0.915539+0.676043I$ $b=\ \ 0.88218+2.25245I$	$5.12998+8.96279I$	0
$u=\ \ 0.513449-1.071280I$ $a=\ \ 0.915539-0.676043I$ $b=\ \ 0.88218-2.25245I$	$5.12998-8.96279I$	0
$u=\ \ 0.170471+0.783423I$ $a=\ \ 1.68024+0.67391I$ $b=-0.245179+0.491044I$	$3.52960+5.75600I$	0
$u=\ \ 0.170471-0.783423I$ $a=\ \ 1.68024-0.67391I$ $b=-0.245179-0.491044I$	$3.52960-5.75600I$	0
$u=-1.197230+0.079673I$ $a=\ \ 0.248857+0.737458I$ $b=-0.335494+0.116374I$	$0.56476-1.90984I$	0
$u=-1.197230-0.079673I$ $a=\ \ 0.248857-0.737458I$ $b=-0.335494-0.116374I$	$0.56476+1.90984I$	0
$u=\ \ 0.103845+0.789028I$ $a=-2.01042-1.15478I$ $b=-1.76984-1.18060I$	$3.19463-4.79243I$	0
$u=\ \ 0.103845-0.789028I$ $a=-2.01042+1.15478I$ $b=-1.76984+1.18060I$	$3.19463+4.79243I$	0
$u=-1.132320+0.412202I$ $a=-0.812685+0.444109I$ $b=-0.272367+0.501661I$	$1.81494-1.26334I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.132320-0.412202I$ $a=-0.812685-0.444109I$ $b=-0.272367-0.501661I$	$1.81494+1.26334I$	0
$u=1.156780+0.363769I$ $a=-0.621503-0.759093I$ $b=0.371114-0.275473I$	$1.81067-5.30644I$	0
$u=1.156780-0.363769I$ $a=-0.621503+0.759093I$ $b=0.371114+0.275473I$	$1.81067+5.30644I$	0
$u=0.569567+1.074000I$ $a=0.803937+0.712925I$ $b=1.13088+1.72392I$	$7.08152+2.90944I$	0
$u=0.569567-1.074000I$ $a=0.803937-0.712925I$ $b=1.13088-1.72392I$	$7.08152-2.90944I$	0
$u=-0.379940+1.170140I$ $a=0.945293+0.389848I$ $b=0.598056+0.860529I$	$-3.67982-3.89796I$	0
$u=-0.379940-1.170140I$ $a=0.945293-0.389848I$ $b=0.598056-0.860529I$	$-3.67982+3.89796I$	0
$u=0.098294+1.240660I$ $a=0.657942-0.574919I$ $b=-0.07475-1.76086I$	$-5.33812+1.75202I$	0
$u=0.098294-1.240660I$ $a=0.657942+0.574919I$ $b=-0.07475+1.76086I$	$-5.33812-1.75202I$	0
$u=1.212440+0.300637I$ $a=0.662178+0.790279I$ $b=-0.015745+0.520286I$	$3.62343-6.39464I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.212440 - 0.300637I$ $a = 0.662178 - 0.790279I$ $b = -0.015745 - 0.520286I$	$3.62343 + 6.39464I$	0
$u = 0.239761 + 1.228390I$ $a = 0.669732 - 0.554574I$ $b = 0.06639 - 1.69833I$	$-5.31037 + 1.93476I$	0
$u = 0.239761 - 1.228390I$ $a = 0.669732 + 0.554574I$ $b = 0.06639 + 1.69833I$	$-5.31037 - 1.93476I$	0
$u = 0.364690 + 1.198740I$ $a = -0.145919 + 0.621985I$ $b = -0.20537 + 1.64565I$	$-7.15003 - 0.62766I$	0
$u = 0.364690 - 1.198740I$ $a = -0.145919 - 0.621985I$ $b = -0.20537 - 1.64565I$	$-7.15003 + 0.62766I$	0
$u = 0.114822 + 0.733358I$ $a = 1.112030 - 0.102643I$ $b = 1.49711 + 2.16689I$	$1.56632 - 9.09119I$	0
$u = 0.114822 - 0.733358I$ $a = 1.112030 + 0.102643I$ $b = 1.49711 - 2.16689I$	$1.56632 + 9.09119I$	0
$u = 0.123173 + 1.265770I$ $a = 0.470477 - 0.889521I$ $b = -0.12389 - 1.93008I$	$-5.70581 + 0.90862I$	0
$u = 0.123173 - 1.265770I$ $a = 0.470477 + 0.889521I$ $b = -0.12389 + 1.93008I$	$-5.70581 - 0.90862I$	0
$u = 0.728192 + 0.001528I$ $a = 1.006100 - 0.056545I$ $b = -0.323256 + 0.281242I$	$-3.59032 + 4.55414I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.728192 - 0.001528I$ $a = 1.006100 + 0.056545I$ $b = -0.323256 - 0.281242I$	$-3.59032 - 4.55414I$	0
$u = 0.710205 + 0.157896I$ $a = -0.09920 + 1.93677I$ $b = 0.083641 + 0.428114I$	$4.17751 + 6.14106I$	0
$u = 0.710205 - 0.157896I$ $a = -0.09920 - 1.93677I$ $b = 0.083641 - 0.428114I$	$4.17751 - 6.14106I$	0
$u = -0.726102$ $a = -0.753906$ $b = -0.399930$	1.69953	0
$u = 0.391925 + 1.216160I$ $a = -0.355906 + 0.733853I$ $b = -0.01664 + 1.82776I$	$-7.21988 + 8.60488I$	0
$u = 0.391925 - 1.216160I$ $a = -0.355906 - 0.733853I$ $b = -0.01664 - 1.82776I$	$-7.21988 - 8.60488I$	0
$u = 0.165090 + 1.271150I$ $a = 0.178893 - 0.466631I$ $b = -0.613147 - 1.073090I$	$-3.41483 + 2.54212I$	0
$u = 0.165090 - 1.271150I$ $a = 0.178893 + 0.466631I$ $b = -0.613147 + 1.073090I$	$-3.41483 - 2.54212I$	0
$u = -0.261099 + 1.257460I$ $a = -0.071361 - 0.999381I$ $b = 0.27542 - 1.97869I$	$-5.35664 - 4.41607I$	0
$u = -0.261099 - 1.257460I$ $a = -0.071361 + 0.999381I$ $b = 0.27542 + 1.97869I$	$-5.35664 + 4.41607I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.581564+0.396859I$ $a=-1.47253+0.17822I$ $b=-0.499198-0.641945I$	$2.43941-5.18933I$	0
$u=-0.581564-0.396859I$ $a=-1.47253-0.17822I$ $b=-0.499198+0.641945I$	$2.43941+5.18933I$	0
$u=1.282300+0.191241I$ $a=0.555793+0.873232I$ $b=-0.206436+0.375940I$	$3.0101-14.7616I$	0
$u=1.282300-0.191241I$ $a=0.555793-0.873232I$ $b=-0.206436-0.375940I$	$3.0101+14.7616I$	0
$u=-0.305998+1.274210I$ $a=-0.668860+0.855129I$ $b=-0.67075+1.35331I$	$-1.21720-3.76313I$	0
$u=-0.305998-1.274210I$ $a=-0.668860-0.855129I$ $b=-0.67075-1.35331I$	$-1.21720+3.76313I$	0
$u=0.182123+0.662267I$ $a=-2.11620-0.06156I$ $b=-0.725846-0.554454I$	$2.41932-4.14017I$	0
$u=0.182123-0.662267I$ $a=-2.11620+0.06156I$ $b=-0.725846+0.554454I$	$2.41932+4.14017I$	0
$u=-0.343385+1.267500I$ $a=0.449562-0.635537I$ $b=0.36779-1.71461I$	$-4.98048-3.00133I$	0
$u=-0.343385-1.267500I$ $a=0.449562+0.635537I$ $b=0.36779+1.71461I$	$-4.98048+3.00133I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.162736 + 1.305850I$ $a = 0.582925 - 0.296577I$ $b = 0.620161 - 1.035820I$	$-4.87536 - 1.32805I$	0
$u = 0.162736 - 1.305850I$ $a = 0.582925 + 0.296577I$ $b = 0.620161 + 1.035820I$	$-4.87536 + 1.32805I$	0
$u = 0.157959 + 1.314960I$ $a = -0.526791 + 0.677267I$ $b = -0.224088 + 1.141610I$	$-3.12570 - 2.03833I$	0
$u = 0.157959 - 1.314960I$ $a = -0.526791 - 0.677267I$ $b = -0.224088 - 1.141610I$	$-3.12570 + 2.03833I$	0
$u = 0.817842 + 1.063330I$ $a = 0.372938 + 0.505741I$ $b = 0.07369 + 1.44437I$	$-4.76375 + 7.55069I$	0
$u = 0.817842 - 1.063330I$ $a = 0.372938 - 0.505741I$ $b = 0.07369 - 1.44437I$	$-4.76375 - 7.55069I$	0
$u = -0.515462 + 1.238620I$ $a = -0.515546 - 0.483471I$ $b = -0.11792 - 1.46871I$	$-3.80448 - 6.34948I$	0
$u = -0.515462 - 1.238620I$ $a = -0.515546 + 0.483471I$ $b = -0.11792 + 1.46871I$	$-3.80448 + 6.34948I$	0
$u = -0.331023 + 1.312410I$ $a = 0.364920 + 1.155180I$ $b = 0.16729 + 1.82521I$	$-3.77910 - 5.35248I$	0
$u = -0.331023 - 1.312410I$ $a = 0.364920 - 1.155180I$ $b = 0.16729 - 1.82521I$	$-3.77910 + 5.35248I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.660442 + 1.200050I$ $a = -0.633201 - 0.285900I$ $b = -0.81310 - 1.32969I$	$1.54134 + 2.27318I$	0
$u = 0.660442 - 1.200050I$ $a = -0.633201 + 0.285900I$ $b = -0.81310 + 1.32969I$	$1.54134 - 2.27318I$	0
$u = -0.429712 + 1.316320I$ $a = 0.417313 + 0.935120I$ $b = 0.02078 + 1.85189I$	$-4.6969 - 14.3057I$	0
$u = -0.429712 - 1.316320I$ $a = 0.417313 - 0.935120I$ $b = 0.02078 - 1.85189I$	$-4.6969 + 14.3057I$	0
$u = 0.330055 + 0.514648I$ $a = 0.22353 + 1.53993I$ $b = 1.01615 + 1.54461I$	$1.063720 + 0.185176I$	0
$u = 0.330055 - 0.514648I$ $a = 0.22353 - 1.53993I$ $b = 1.01615 - 1.54461I$	$1.063720 - 0.185176I$	0
$u = -0.554061 + 1.282400I$ $a = -0.215120 + 1.009500I$ $b = -0.22617 + 1.78190I$	$-2.05195 - 5.30605I$	0
$u = -0.554061 - 1.282400I$ $a = -0.215120 - 1.009500I$ $b = -0.22617 - 1.78190I$	$-2.05195 + 5.30605I$	0
$u = 0.72592 + 1.21684I$ $a = -0.563265 - 0.610146I$ $b = -0.05724 - 1.66148I$	$-1.76334 + 7.15842I$	0
$u = 0.72592 - 1.21684I$ $a = -0.563265 + 0.610146I$ $b = -0.05724 + 1.66148I$	$-1.76334 - 7.15842I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.84092 + 1.14472I$ $a = \ 0.423491 + 0.478063I$ $b = -0.035749 + 1.226750I$	$-4.90093 - 0.85518I$	0
$u = \ 0.84092 - 1.14472I$ $a = \ 0.423491 - 0.478063I$ $b = -0.035749 - 1.226750I$	$-4.90093 + 0.85518I$	0
$u = -0.56239 + 1.30882I$ $a = -0.682298 + 0.727495I$ $b = -1.04298 + 2.01635I$	$-3.5889 - 14.3400I$	0
$u = -0.56239 - 1.30882I$ $a = -0.682298 - 0.727495I$ $b = -1.04298 - 2.01635I$	$-3.5889 + 14.3400I$	0
$u = -0.61180 + 1.29069I$ $a = -0.638462 + 0.907862I$ $b = -0.59757 + 1.77549I$	$-1.32613 - 5.10603I$	0
$u = -0.61180 - 1.29069I$ $a = -0.638462 - 0.907862I$ $b = -0.59757 - 1.77549I$	$-1.32613 + 5.10603I$	0
$u = \ 0.66809 + 1.28810I$ $a = -0.550258 - 0.743080I$ $b = -0.91032 - 1.99432I$	$-1.19851 + 11.81770I$	0
$u = \ 0.66809 - 1.28810I$ $a = -0.550258 + 0.743080I$ $b = -0.91032 + 1.99432I$	$-1.19851 - 11.81770I$	0
$u = \ 0.47788 + 1.37119I$ $a = -0.788762 - 0.708886I$ $b = -1.21422 - 1.79097I$	$-0.54836 + 10.86090I$	0
$u = \ 0.47788 - 1.37119I$ $a = -0.788762 + 0.708886I$ $b = -1.21422 + 1.79097I$	$-0.54836 - 10.86090I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.63985 + 1.31213I$ $a = 0.656538 + 0.853117I$ $b = 0.76014 + 1.87720I$	$0.28016 + 12.90200I$	0
$u = 0.63985 - 1.31213I$ $a = 0.656538 - 0.853117I$ $b = 0.76014 - 1.87720I$	$0.28016 - 12.90200I$	0
$u = -0.39783 + 1.41738I$ $a = 0.439405 - 0.674630I$ $b = 1.07385 - 1.67454I$	$-4.44522 - 7.63993I$	0
$u = -0.39783 - 1.41738I$ $a = 0.439405 + 0.674630I$ $b = 1.07385 + 1.67454I$	$-4.44522 + 7.63993I$	0
$u = -0.43907 + 1.41751I$ $a = 0.466147 - 0.661765I$ $b = 1.05650 - 1.70631I$	$-4.45077 - 7.62634I$	0
$u = -0.43907 - 1.41751I$ $a = 0.466147 + 0.661765I$ $b = 1.05650 + 1.70631I$	$-4.45077 + 7.62634I$	0
$u = -0.32095 + 1.45027I$ $a = 0.573482 - 0.495080I$ $b = 1.22232 - 1.50345I$	$-4.50596 - 6.92044I$	0
$u = -0.32095 - 1.45027I$ $a = 0.573482 + 0.495080I$ $b = 1.22232 + 1.50345I$	$-4.50596 + 6.92044I$	0
$u = -0.29616 + 1.45957I$ $a = 0.0650384 + 0.0540654I$ $b = 0.899981 - 0.124501I$	$-3.28889 - 8.20373I$	0
$u = -0.29616 - 1.45957I$ $a = 0.0650384 - 0.0540654I$ $b = 0.899981 + 0.124501I$	$-3.28889 + 8.20373I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.58059+1.37451I$ $a=\ \ 0.448875-0.434991I$ $b=\ \ 0.84531-1.26941I$	$-1.56248-7.03783I$	0
$u=-0.58059-1.37451I$ $a=\ \ 0.448875+0.434991I$ $b=\ \ 0.84531+1.26941I$	$-1.56248+7.03783I$	0
$u=-0.50997+1.40353I$ $a=-0.380898-0.097157I$ $b=-0.392543-0.656583I$	$-3.91190-4.24395I$	0
$u=-0.50997-1.40353I$ $a=-0.380898+0.097157I$ $b=-0.392543+0.656583I$	$-3.91190+4.24395I$	0
$u=\ \ 0.64860+1.35638I$ $a=\ \ 0.643937+0.812096I$ $b=\ \ 0.94873+1.97478I$	$-0.7222+21.4618I$	0
$u=\ \ 0.64860-1.35638I$ $a=\ \ 0.643937-0.812096I$ $b=\ \ 0.94873-1.97478I$	$-0.7222-21.4618I$	0
$u=-0.39819+1.47452I$ $a=\ \ 0.571371+0.039378I$ $b=\ \ 0.479328+0.400498I$	$-4.79980+3.11783I$	0
$u=-0.39819-1.47452I$ $a=\ \ 0.571371-0.039378I$ $b=\ \ 0.479328-0.400498I$	$-4.79980-3.11783I$	0
$u=-0.65246+1.39078I$ $a=-0.332010+0.665614I$ $b=-0.010419+1.383420I$	$-3.29905+3.48422I$	0
$u=-0.65246-1.39078I$ $a=-0.332010-0.665614I$ $b=-0.010419-1.383420I$	$-3.29905-3.48422I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.53303+1.45329I$ $a=\ 0.506608-0.585469I$ $b=\ 0.83655-1.27421I$	$-1.10419-7.01659I$	0
$u=-0.53303-1.45329I$ $a=\ 0.506608+0.585469I$ $b=\ 0.83655+1.27421I$	$-1.10419+7.01659I$	0
$u=-0.317621+0.271049I$ $a=\ 0.85369+1.64738I$ $b=\ 0.014763-0.148930I$	$-0.90802-2.04480I$	$-6.39008+9.14229I$
$u=-0.317621-0.271049I$ $a=\ 0.85369-1.64738I$ $b=\ 0.014763+0.148930I$	$-0.90802+2.04480I$	$-6.39008-9.14229I$
$u=\ 0.72527+1.47658I$ $a=-0.630211-0.556611I$ $b=-0.81546-1.31851I$	$1.57690+10.67620I$	0
$u=\ 0.72527-1.47658I$ $a=-0.630211+0.556611I$ $b=-0.81546+1.31851I$	$1.57690-10.67620I$	0
$u=-0.304858+0.108919I$ $a=-1.71320+2.86947I$ $b=\ 0.644618+0.703006I$	$-0.501107-0.954315I$	$0.24727+2.17260I$
$u=-0.304858-0.108919I$ $a=-1.71320-2.86947I$ $b=\ 0.644618-0.703006I$	$-0.501107+0.954315I$	$0.24727-2.17260I$
$u=\ 0.317742$ $a=-1.93034$ $b=\ 0.760885$	-1.82676	-5.98890
$u=\ 0.13638+1.69141I$ $a=-0.432205+0.294077I$ $b=-0.265270+0.670573I$	$-3.85862-8.50791I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.13638 - 1.69141I$ $a = -0.432205 - 0.294077I$ $b = -0.265270 - 0.670573I$	$-3.85862 + 8.50791I$	0
$u = 1.70463 + 0.42061I$ $a = -0.267229 - 0.558409I$ $b = 0.057483 - 0.488060I$	$5.60493 - 2.40660I$	0
$u = 1.70463 - 0.42061I$ $a = -0.267229 + 0.558409I$ $b = 0.057483 + 0.488060I$	$5.60493 + 2.40660I$	0
$u = -0.203950$ $a = -0.685657$ $b = -5.51342$	-0.00997890	374.100
$u = 0.099879 + 0.146879I$ $a = -2.73453 - 0.45863I$ $b = 0.384950 + 0.437736I$	$-0.236843 - 1.371990I$	$-2.11786 + 3.97507I$
$u = 0.099879 - 0.146879I$ $a = -2.73453 + 0.45863I$ $b = 0.384950 - 0.437736I$	$-0.236843 + 1.371990I$	$-2.11786 - 3.97507I$
$u = -1.89599 + 0.10408I$ $a = 0.104154 - 0.415622I$ $b = -0.077823 - 0.348744I$	$4.50514 - 0.76842I$	0
$u = -1.89599 - 0.10408I$ $a = 0.104154 + 0.415622I$ $b = -0.077823 + 0.348744I$	$4.50514 + 0.76842I$	0
$u = 0.0973867$ $a = -8.50347$ $b = 0.859997$	-1.62134	-10.8400

II.

$\boldsymbol{I_2^u = \langle 6.02\times 10^{80}u^{50}+4.69\times 10^{81}u^{49}+\cdots+2.59\times 10^{81}b-1.95\times 10^{81},\ -1.84\times 10^{80}u^{50}-2.22\times 10^{81}u^{49}+\cdots+7.12\times 10^{81}a-2.81\times 10^{82},\ u^{51}+8u^{50}+\cdots-4u+1\rangle}$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix}u\\u\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}0.0257961u^{50}+0.312047u^{49}+\cdots+15.9378u+3.95059\\-0.232311u^{50}-1.80959u^{49}+\cdots+3.31228u+0.751664\end{pmatrix}$$

$$a_7 = \begin{pmatrix}1.92484u^{50}+15.6596u^{49}+\cdots+31.9750u-9.03184\\0.412646u^{50}+3.64360u^{49}+\cdots+4.38370u-1.09060\end{pmatrix}$$

$$a_1 = \begin{pmatrix}0.713837u^{50}+5.21070u^{49}+\cdots-23.4981u-0.834817\\1.73539u^{50}+13.6564u^{49}+\cdots+0.589229u-0.849516\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-0.0997664u^{50}-0.816740u^{49}+\cdots+15.9688u+4.00737\\-0.357873u^{50}-2.93838u^{49}+\cdots+3.34326u+0.808445\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-1.29915u^{50}-10.7520u^{49}+\cdots-36.4072u+0.408832\\0.291337u^{50}+2.02957u^{49}+\cdots-3.48364u-1.26159\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-0.759381u^{50}-6.09006u^{49}+\cdots-14.9802u+7.45797\\0.147881u^{50}+1.21262u^{49}+\cdots-3.29428u+1.54059\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-0.813868u^{50}-6.42723u^{49}+\cdots-17.5752u+9.01358\\0.160230u^{50}+1.36371u^{49}+\cdots-3.74367u+1.63932\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}1.03831u^{50}+8.35462u^{49}+\cdots+11.1721u+6.55271\\0.661772u^{50}+5.03794u^{49}+\cdots+5.20741u+0.784418\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3.92535u^{50}-28.5265u^{49}+\cdots-33.7315u+13.4036$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{51}+4u^{49}+\cdots-7u+1$
c_2	$8(8u^{51}-24u^{50}+\cdots-4u+1)$
c_3	$8(8u^{51}-16u^{50}+\cdots-9u+1)$
c_4	$u^{51}+u^{50}+\cdots+1312u+184$
c_5	$u^{51}+8u^{50}+\cdots-4u+1$
c_6	$8(8u^{51}+24u^{50}+\cdots-4u-1)$
c_7	$u^{51}+u^{50}+\cdots+14u+1$
c_8	$u^{51}-8u^{50}+\cdots-4u-1$
c_9	$u^{51}+6u^{50}+\cdots+568u-56$
c_{10}	$8(8u^{51}+56u^{50}+\cdots+4u+1)$
c_{11}	$64(64u^{51}+864u^{50}+\cdots+438u+36)$
c_{12}	$u^{51}-u^{50}+\cdots+14u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} + 8y^{50} + \cdots + 3y - 1$
c_2, c_6	$64(64y^{51} - 1760y^{50} + \cdots + 50y - 1)$
c_3	$64(64y^{51} + 480y^{50} + \cdots + 37y - 1)$
c_4	$y^{51} - 35y^{50} + \cdots + 890400y - 33856$
c_5, c_8	$y^{51} + 22y^{50} + \cdots - 22y - 1$
c_7, c_{12}	$y^{51} + 45y^{50} + \cdots + 104y - 1$
c_9	$y^{51} + 14y^{50} + \cdots + 45536y - 3136$
c_{10}	$64(64y^{51} + 1696y^{50} + \cdots + 28y - 1)$
c_{11}	$4096(4096y^{51} - 39424y^{50} + \cdots + 12924y - 1296)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.132263+1.021460I$ $a=-0.797627+0.366228I$ $b=-2.12044+1.77864I$	$-2.09870-0.04092I$	$-2.78926+3.56812I$
$u=-0.132263-1.021460I$ $a=-0.797627-0.366228I$ $b=-2.12044-1.77864I$	$-2.09870+0.04092I$	$-2.78926-3.56812I$
$u=0.155870+1.035710I$ $a=0.557910-0.279871I$ $b=0.34985-1.96228I$	$-5.83881+0.65454I$	$-8.20454+0.I$
$u=0.155870-1.035710I$ $a=0.557910+0.279871I$ $b=0.34985+1.96228I$	$-5.83881-0.65454I$	$-8.20454+0.I$
$u=0.236031+1.024550I$ $a=1.69816+0.85625I$ $b=1.30155+1.11191I$	$1.88119+6.51484I$	$0.-13.95737I$
$u=0.236031-1.024550I$ $a=1.69816-0.85625I$ $b=1.30155-1.11191I$	$1.88119-6.51484I$	$0.+13.95737I$
$u=-0.923585+0.089102I$ $a=0.232491+0.924029I$ $b=-0.300919-0.078317I$	$1.18642-2.50593I$	$2.82276+5.68506I$
$u=-0.923585-0.089102I$ $a=0.232491-0.924029I$ $b=-0.300919+0.078317I$	$1.18642+2.50593I$	$2.82276-5.68506I$
$u=0.864006+0.093224I$ $a=-0.64452-1.37891I$ $b=-0.062288-0.492736I$	$4.05981-5.27650I$	$3.58291+3.80354I$
$u=0.864006-0.093224I$ $a=-0.64452+1.37891I$ $b=-0.062288+0.492736I$	$4.05981+5.27650I$	$3.58291-3.80354I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.098627 + 0.849402I$ $a = -2.14587 - 0.53518I$ $b = -1.102660 - 0.426866I$	$0.07609 + 4.85812I$	$3.39746 - 12.59267I$
$u = \ 0.098627 - 0.849402I$ $a = -2.14587 + 0.53518I$ $b = -1.102660 + 0.426866I$	$0.07609 - 4.85812I$	$3.39746 + 12.59267I$
$u = \ 0.039213 + 0.819848I$ $a = \ 2.41955 + 0.67143I$ $b = \ 1.78500 + 1.09118I$	$3.19180 - 5.15344I$	$6.4561 + 14.9895I$
$u = \ 0.039213 - 0.819848I$ $a = \ 2.41955 - 0.67143I$ $b = \ 1.78500 - 1.09118I$	$3.19180 + 5.15344I$	$6.4561 - 14.9895I$
$u = -0.140827 + 1.220440I$ $a = -0.959487 + 0.797945I$ $b = -0.96403 + 1.14381I$	$-1.85956 - 4.69855I$	0
$u = -0.140827 - 1.220440I$ $a = -0.959487 - 0.797945I$ $b = -0.96403 - 1.14381I$	$-1.85956 + 4.69855I$	0
$u = -1.155580 + 0.431587I$ $a = \ 0.725223 - 0.431669I$ $b = \ 0.195756 - 0.475323I$	$1.72614 - 1.21170I$	0
$u = -1.155580 - 0.431587I$ $a = \ 0.725223 + 0.431669I$ $b = \ 0.195756 + 0.475323I$	$1.72614 + 1.21170I$	0
$u = \ 0.299932 + 0.686699I$ $a = \ 1.08707 + 1.03371I$ $b = -0.83047 + 2.27241I$	$1.88472 + 10.14330I$	$1.75467 - 9.93540I$
$u = \ 0.299932 - 0.686699I$ $a = \ 1.08707 - 1.03371I$ $b = -0.83047 - 2.27241I$	$1.88472 - 10.14330I$	$1.75467 + 9.93540I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.113855 + 1.283410I$ $a = 0.528512 - 0.693786I$ $b = -0.11107 - 1.74218I$	$-5.14136 + 1.11940I$	0
$u = 0.113855 - 1.283410I$ $a = 0.528512 + 0.693786I$ $b = -0.11107 + 1.74218I$	$-5.14136 - 1.11940I$	0
$u = -0.742059 + 1.064560I$ $a = -0.233131 + 0.460403I$ $b = -0.02633 + 1.42920I$	$-5.19904 - 7.36586I$	0
$u = -0.742059 - 1.064560I$ $a = -0.233131 - 0.460403I$ $b = -0.02633 - 1.42920I$	$-5.19904 + 7.36586I$	0
$u = -0.666705$ $a = -0.135422$ $b = -1.57173$	-0.128809	-8.08040
$u = -0.371186 + 1.297780I$ $a = -0.308535 - 0.824568I$ $b = -0.04668 - 1.54486I$	$-3.59545 - 5.02647I$	0
$u = -0.371186 - 1.297780I$ $a = -0.308535 + 0.824568I$ $b = -0.04668 + 1.54486I$	$-3.59545 + 5.02647I$	0
$u = -0.718333 + 1.171970I$ $a = -0.320763 + 0.402433I$ $b = 0.026660 + 1.215420I$	$-5.43165 + 1.15923I$	0
$u = -0.718333 - 1.171970I$ $a = -0.320763 - 0.402433I$ $b = 0.026660 - 1.215420I$	$-5.43165 - 1.15923I$	0
$u = -0.536630 + 0.206097I$ $a = 0.969692 + 0.646823I$ $b = -0.108062 + 0.984602I$	$0.243367 + 1.315940I$	$2.24151 - 5.47295I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.536630-0.206097I$ $a=\ \ 0.969692-0.646823I$ $b=-0.108062-0.984602I$	$0.243367-1.315940I$	$2.24151+5.47295I$
$u=-0.46918+1.35415I$ $a=\ \ 0.007712-0.291232I$ $b=\ \ 0.159688-1.106340I$	$-3.94810-4.94068I$	0
$u=-0.46918-1.35415I$ $a=\ \ 0.007712+0.291232I$ $b=\ \ 0.159688+1.106340I$	$-3.94810+4.94068I$	0
$u=\ \ 0.57699+1.34259I$ $a=-0.693266-0.719143I$ $b=-1.00117-1.73713I$	$0.15731+10.69890I$	0
$u=\ \ 0.57699-1.34259I$ $a=-0.693266+0.719143I$ $b=-1.00117+1.73713I$	$0.15731-10.69890I$	0
$u=-0.60657+1.32973I$ $a=\ \ 0.494392-0.907765I$ $b=\ \ 0.50358-1.69396I$	$-1.53318-5.28115I$	0
$u=-0.60657-1.32973I$ $a=\ \ 0.494392+0.907765I$ $b=\ \ 0.50358+1.69396I$	$-1.53318+5.28115I$	0
$u=-0.42384+1.47202I$ $a=\ \ 0.450678-0.690426I$ $b=\ \ 1.01635-1.64562I$	$-4.16858-7.63057I$	0
$u=-0.42384-1.47202I$ $a=\ \ 0.450678+0.690426I$ $b=\ \ 1.01635+1.64562I$	$-4.16858+7.63057I$	0
$u=\ \ 0.212174+0.409786I$ $a=-0.891756-0.573866I$ $b=\ \ 0.35195-2.73289I$	$0.0890666-0.0467721I$	$-1.76190-4.64781I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.212174 - 0.409786I$ $a = -0.891756 + 0.573866I$ $b = 0.35195 + 2.73289I$	$0.0890666 + 0.0467721I$	$-1.76190 + 4.64781I$
$u = 1.52556 + 0.25845I$ $a = 0.203326 + 0.704805I$ $b = 0.309718 + 0.479097I$	$5.90085 - 1.90607I$	0
$u = 1.52556 - 0.25845I$ $a = 0.203326 - 0.704805I$ $b = 0.309718 - 0.479097I$	$5.90085 + 1.90607I$	0
$u = 0.421890 + 0.058013I$ $a = -1.20955 - 3.00469I$ $b = -0.424723 - 0.237528I$	$4.28350 - 5.29983I$	$7.27196 + 2.83128I$
$u = 0.421890 - 0.058013I$ $a = -1.20955 + 3.00469I$ $b = -0.424723 + 0.237528I$	$4.28350 + 5.29983I$	$7.27196 - 2.83128I$
$u = -0.26173 + 1.59631I$ $a = 0.430754 - 0.245125I$ $b = 1.174660 - 0.473073I$	$-2.73061 - 8.84149I$	0
$u = -0.26173 - 1.59631I$ $a = 0.430754 + 0.245125I$ $b = 1.174660 + 0.473073I$	$-2.73061 + 8.84149I$	0
$u = 0.111292 + 0.192025I$ $a = 5.02049 + 3.83394I$ $b = 0.903250 + 0.788036I$	$5.74496 + 1.28694I$	$7.20758 - 2.23401I$
$u = 0.111292 - 0.192025I$ $a = 5.02049 - 3.83394I$ $b = 0.903250 - 0.788036I$	$5.74496 - 1.28694I$	$7.20758 + 2.23401I$
$u = -1.84030 + 0.03330I$ $a = -0.053749 + 0.437470I$ $b = -0.193323 + 0.299226I$	$4.60449 - 1.01933I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.84030-0.03330I$		
$a=-0.053749-0.437470I$	$4.60449+1.01933I$	0
$b=-0.193323-0.299226I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{51}+4u^{49}+\cdots-7u+1)(u^{189}-19u^{188}+\cdots+26u+1)$
c_2	$64(8u^{51}-24u^{50}+\cdots-4u+1)$ $\cdot(8u^{189}+40u^{188}+\cdots-30029u-2617)$
c_3	$64(8u^{51}-16u^{50}+\cdots-9u+1)(8u^{189}-48u^{188}+\cdots-42u-1)$
c_4	$(u^{51}+u^{50}+\cdots+1312u+184)$ $\cdot(u^{189}-8u^{188}+\cdots-12981419408u+1387228888)$
c_5	$(u^{51}+8u^{50}+\cdots-4u+1)(u^{189}+3u^{188}+\cdots-829201u-94217)$
c_6	$64(8u^{51}+24u^{50}+\cdots-4u-1)$ $\cdot(8u^{189}+40u^{188}+\cdots-30029u-2617)$
c_7	$(u^{51}+u^{50}+\cdots+14u+1)$ $\cdot(u^{189}+63u^{187}+\cdots-2533599u-3861113)$
c_8	$(u^{51}-8u^{50}+\cdots-4u-1)(u^{189}+3u^{188}+\cdots-829201u-94217)$
c_9	$(u^{51}+6u^{50}+\cdots+568u-56)$ $\cdot(u^{189}-3u^{188}+\cdots-223100552u+9191768)$
c_{10}	$64(8u^{51}+56u^{50}+\cdots+4u+1)$ $\cdot(8u^{189}-88u^{188}+\cdots-28473u+4057)$
c_{11}	$4096(64u^{51}+864u^{50}+\cdots+438u+36)$ $\cdot(64u^{189}+1376u^{188}+\cdots+45382u+131644)$
c_{12}	$(u^{51}-u^{50}+\cdots+14u-1)$ $\cdot(u^{189}+63u^{187}+\cdots-2533599u-3861113)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{51}+8y^{50}+\cdots+3y-1)(y^{189}-11y^{188}+\cdots+578y-1)$
c_2, c_6	$4096(64y^{51}-1760y^{50}+\cdots+50y-1)$ $\cdot(64y^{189}-6880y^{188}+\cdots+558003125y-6848689)$
c_3	$4096(64y^{51}+480y^{50}+\cdots+37y-1)$ $\cdot(64y^{189}-1440y^{188}+\cdots+644y-1)$
c_4	$(y^{51}-35y^{50}+\cdots+890400y-33856)$ $\cdot(y^{189}-130y^{188}+\cdots+2.36\times10^{20}y-1.92\times10^{18})$
c_5, c_8	$(y^{51}+22y^{50}+\cdots-22y-1)$ $\cdot(y^{189}+107y^{188}+\cdots+768802165913y-8876843089)$
c_7, c_{12}	$(y^{51}+45y^{50}+\cdots+104y-1)$ $\cdot(y^{189}+126y^{188}+\cdots+543664726773415y-14908193598769)$
c_9	$(y^{51}+14y^{50}+\cdots+45536y-3136)$ $\cdot(y^{189}-9y^{188}+\cdots+47247815469161696y-84488598965824)$
c_{10}	$4096(64y^{51}+1696y^{50}+\cdots+28y-1)$ $\cdot(64y^{189}+2848y^{188}+\cdots+2378669203y-16459249)$
c_{11}	$16777216(4096y^{51}-39424y^{50}+\cdots+12924y-1296)$ $\cdot(4096y^{189}-186880y^{188}+\cdots-2242263992996y-17330142736)$