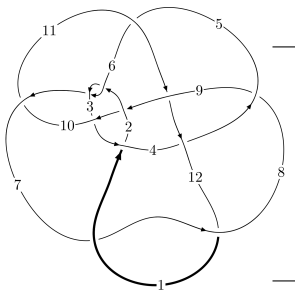
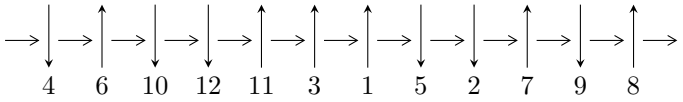
$12a_{0965}$ $(K12a_{0965})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 5.70198 \times 10^{1113} u^{193} - 5.06279 \times 10^{1113} u^{192} + \cdots + 2.49058 \times 10^{1112} b + 3.40214 \times 10^{1117}, \\ & 7.87713 \times 10^{1117} u^{193} - 6.57773 \times 10^{1117} u^{192} + \cdots + 1.33271 \times 10^{1116} a + 5.04524 \times 10^{1121}, \\ & u^{194} - 58 u^{192} + \cdots - 41332 u + 5351 \rangle \\ I_2^u = \langle & -1.13596 \times 10^{59} u^{45} + 6.86725 \times 10^{58} u^{44} + \cdots + 1.72718 \times 10^{58} b + 2.87571 \times 10^{60}, \\ & - 8.87801 \times 10^{60} u^{45} + 1.72576 \times 10^{61} u^{44} + \cdots + 6.39057 \times 10^{59} a - 4.86320 \times 10^{62}, \\ & u^{46} - u^{45} + \cdots - 52 u + 37 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle 5.70 \times 10^{1113} u^{193} - 5.06 \times 10^{1113} u^{192} + \cdots + 2.49 \times 10^{1112} b + 3.40 \times 10^{1117},\ 7.88 \times 10^{1117} u^{193} - 6.58 \times 10^{1117} u^{192} + \cdots + 1.33 \times 10^{1116} a + 5.05 \times 10^{1121},\ u^{194} - 58 u^{192} + \cdots - 41332 u + 5351 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -59.1062 u^{193} + 49.3561 u^{192} + \cdots + 3.37605 \times 10^6 u - 378571. \\ -22.8942 u^{193} + 20.3278 u^{192} + \cdots + 1.20662 \times 10^6 u - 136601. \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -36.2119 u^{193} + 29.0283 u^{192} + \cdots + 2.16943 \times 10^6 u - 241970. \\ -22.8942 u^{193} + 20.3278 u^{192} + \cdots + 1.20662 \times 10^6 u - 136601. \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 462.081 u^{193} - 402.665 u^{192} + \cdots - 2.50795 \times 10^7 u + 2.82883 \times 10^6 \\ 112.319 u^{193} - 101.833 u^{192} + \cdots - 5.83845 \times 10^6 u + 661585. \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -45.4132 u^{193} + 37.5799 u^{192} + \cdots + 2.60857 \times 10^6 u - 292161. \\ -23.9760 u^{193} + 21.4281 u^{192} + \cdots + 1.24308 \times 10^6 u - 141033. \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 37.1151 u^{193} - 37.1502 u^{192} + \cdots - 1.72919 \times 10^6 u + 198801. \\ 4.35805 u^{193} - 4.25435 u^{192} + \cdots - 223358. u + 25314.2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1906.95 u^{193} + 1772.17 u^{192} + \cdots + 9.65016 \times 10^7 u - 1.09687 \times 10^7 \\ -293.512 u^{193} + 275.886 u^{192} + \cdots + 1.46532 \times 10^7 u - 1.66814 \times 10^6 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 411.748 u^{193} - 359.640 u^{192} + \cdots - 2.23091 \times 10^7 u + 2.51690 \times 10^6 \\ 99.5315 u^{193} - 90.3895 u^{192} + \cdots - 5.16861 \times 10^6 u + 585822. \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1576.82 u^{193} + 1386.91 u^{192} + \cdots + 8.48206 \times 10^7 u - 9.57661 \times 10^6 \\ -363.820 u^{193} + 324.005 u^{192} + \cdots + 1.93187 \times 10^7 u - 2.18417 \times 10^6 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1479.28 u^{193} - 1327.25 u^{192} + \cdots - 7.80477 \times 10^7 u + 8.82846 \times 10^6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{194} - 14u^{193} + \cdots - 10335075u + 452173$
c_2, c_6	$u^{194} - 58u^{192} + \cdots + 41332u + 5351$
c_3	$u^{194} - 7u^{193} + \cdots + 39248422u + 9682667$
c_4	$u^{194} - 10u^{192} + \cdots + 592u + 32$
c_5	$u^{194} - 7u^{193} + \cdots + 8037239426u + 414181957$
c_7, c_{12}	$u^{194} + 73u^{192} + \cdots + 2028865u + 69361$
c_8	$u^{194} - 5u^{193} + \cdots + 20845830u + 2067743$
c_9	$u^{194} + 25u^{192} + \cdots - 128757u + 4502$
c_{10}	$u^{194} - 3u^{192} + \cdots + 58245120u + 4562944$
c_{11}	$u^{194} + 7u^{193} + \cdots - 1621u + 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{194} + 30y^{193} + \cdots + 24812515342591y + 204460421929$
c_2, c_6	$y^{194} - 116y^{193} + \cdots - 698910882y + 28633201$
c_3	$y^{194} + 33y^{193} + \cdots + 6027177013969630y + 93754040232889$
c_4	$y^{194} - 20y^{193} + \cdots - 3328y + 1024$
c_5	$y^{194} + 43y^{193} + \cdots + 1.01 \times 10^{19}y + 1.72 \times 10^{17}$
c_7, c_{12}	$y^{194} + 146y^{193} + \cdots + 47660025157y + 4810948321$
c_8	$y^{194} - 59y^{193} + \cdots - 302813164355902y + 4275561114049$
c_9	$y^{194} + 50y^{193} + \cdots - 2034708073y + 20268004$
c_{10}	$y^{194} - 6y^{193} + \cdots - 1452285242638336y + 20820457947136$
c_{11}	$y^{194} + 17y^{193} + \cdots + 497991y + 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.947923 + 0.331996I$ $a = 0.572807 + 0.288540I$ $b = 1.50681 + 0.26720I$	$-2.68206 + 4.37253I$	0
$u = 0.947923 - 0.331996I$ $a = 0.572807 - 0.288540I$ $b = 1.50681 - 0.26720I$	$-2.68206 - 4.37253I$	0
$u = -0.981969 + 0.224704I$ $a = -0.891442 - 0.223944I$ $b = -0.958084 + 0.949547I$	$-3.13647 - 0.02983I$	0
$u = -0.981969 - 0.224704I$ $a = -0.891442 + 0.223944I$ $b = -0.958084 - 0.949547I$	$-3.13647 + 0.02983I$	0
$u = -0.978684 + 0.165722I$ $a = 1.79995 - 0.83672I$ $b = 1.141760 + 0.208392I$	$0.47696 - 2.42283I$	0
$u = -0.978684 - 0.165722I$ $a = 1.79995 + 0.83672I$ $b = 1.141760 - 0.208392I$	$0.47696 + 2.42283I$	0
$u = -0.971757 + 0.189617I$ $a = -0.71447 + 1.22597I$ $b = -1.37538 - 1.61085I$	$2.03903 - 5.82281I$	0
$u = -0.971757 - 0.189617I$ $a = -0.71447 - 1.22597I$ $b = -1.37538 + 1.61085I$	$2.03903 + 5.82281I$	0
$u = 0.242740 + 0.959618I$ $a = -0.119747 - 0.662601I$ $b = -0.491653 - 0.652462I$	$-6.24043 - 1.77674I$	0
$u = 0.242740 - 0.959618I$ $a = -0.119747 + 0.662601I$ $b = -0.491653 + 0.652462I$	$-6.24043 + 1.77674I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.919086+0.366049I$ $a=-1.46999-0.03993I$ $b=-0.680198-0.400565I$	$1.62786-2.00278I$	0
$u=-0.919086-0.366049I$ $a=-1.46999+0.03993I$ $b=-0.680198+0.400565I$	$1.62786+2.00278I$	0
$u=-1.005110+0.111196I$ $a=1.97347-2.78647I$ $b=0.983588+0.558412I$	$0.04601-2.40068I$	0
$u=-1.005110-0.111196I$ $a=1.97347+2.78647I$ $b=0.983588-0.558412I$	$0.04601+2.40068I$	0
$u=1.019800+0.016340I$ $a=0.867013+0.710888I$ $b=1.83714-0.41899I$	$0.85840-5.37053I$	0
$u=1.019800-0.016340I$ $a=0.867013-0.710888I$ $b=1.83714+0.41899I$	$0.85840+5.37053I$	0
$u=-0.416479+0.935043I$ $a=0.394206+0.046646I$ $b=0.665562+0.328631I$	$-1.45555-7.40018I$	0
$u=-0.416479-0.935043I$ $a=0.394206-0.046646I$ $b=0.665562-0.328631I$	$-1.45555+7.40018I$	0
$u=-0.299064+0.919963I$ $a=1.26393-0.72352I$ $b=1.002330-0.798991I$	$-4.64751+7.03213I$	0
$u=-0.299064-0.919963I$ $a=1.26393+0.72352I$ $b=1.002330+0.798991I$	$-4.64751-7.03213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.037900 + 0.038910I$ $a = -0.537831 - 0.730210I$ $b = -1.75276 + 0.79056I$	$5.07383 - 0.07566I$	0
$u = 1.037900 - 0.038910I$ $a = -0.537831 + 0.730210I$ $b = -1.75276 - 0.79056I$	$5.07383 + 0.07566I$	0
$u = 0.971771 + 0.367798I$ $a = -0.782391 - 0.732982I$ $b = -1.79646 + 0.44044I$	$-2.15828 + 5.65609I$	0
$u = 0.971771 - 0.367798I$ $a = -0.782391 + 0.732982I$ $b = -1.79646 - 0.44044I$	$-2.15828 - 5.65609I$	0
$u = 0.994347 + 0.324852I$ $a = -1.72248 + 0.26511I$ $b = -0.837753 + 0.264799I$	$1.41669 + 7.26622I$	0
$u = 0.994347 - 0.324852I$ $a = -1.72248 - 0.26511I$ $b = -0.837753 - 0.264799I$	$1.41669 - 7.26622I$	0
$u = 0.861530 + 0.398404I$ $a = 1.15042 + 1.35854I$ $b = 0.995082 - 0.362246I$	$-1.29826 + 3.63941I$	0
$u = 0.861530 - 0.398404I$ $a = 1.15042 - 1.35854I$ $b = 0.995082 + 0.362246I$	$-1.29826 - 3.63941I$	0
$u = 1.014940 + 0.299173I$ $a = 2.30675 - 0.08560I$ $b = 0.796247 - 0.447133I$	$-2.32552 + 12.13860I$	0
$u = 1.014940 - 0.299173I$ $a = 2.30675 + 0.08560I$ $b = 0.796247 + 0.447133I$	$-2.32552 - 12.13860I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.949927+0.479755I$		
$a=$	$1.59905+1.06783I$	$-1.36292+3.61911I$	0
$b=$	$1.271410-0.328824I$		
$u=$	$0.949927-0.479755I$		
$a=$	$1.59905-1.06783I$	$-1.36292-3.61911I$	0
$b=$	$1.271410+0.328824I$		
$u=$	$0.119944+1.059740I$		
$a=$	$0.717860+0.664999I$	$-4.07802-6.14380I$	0
$b=$	$0.737846+0.810528I$		
$u=$	$0.119944-1.059740I$		
$a=$	$0.717860-0.664999I$	$-4.07802+6.14380I$	0
$b=$	$0.737846-0.810528I$		
$u=$	$0.933368+0.524758I$		
$a=$	$0.693381+0.576202I$	$3.58341+1.41435I$	0
$b=$	$-0.184109-0.219974I$		
$u=$	$0.933368-0.524758I$		
$a=$	$0.693381-0.576202I$	$3.58341-1.41435I$	0
$b=$	$-0.184109+0.219974I$		
$u=$	$-0.925634+0.049239I$		
$a=$	$-2.89444-4.51119I$	$-1.83143-0.15934I$	0
$b=$	$-0.088386+0.208555I$		
$u=$	$-0.925634-0.049239I$		
$a=$	$-2.89444+4.51119I$	$-1.83143+0.15934I$	0
$b=$	$-0.088386-0.208555I$		
$u=$	$-0.900797+0.192335I$		
$a=$	$0.741973-1.166170I$	$-2.85435-10.62550I$	0
$b=$	$1.11054+2.37250I$		
$u=$	$-0.900797-0.192335I$		
$a=$	$0.741973+1.166170I$	$-2.85435+10.62550I$	0
$b=$	$1.11054-2.37250I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.000398+1.083080I$ $a=\ \ 0.76701+1.34290I$ $b=\ \ 0.710789+1.066080I$	$-0.04302-2.85925I$	0
$u=-0.000398-1.083080I$ $a=\ \ 0.76701-1.34290I$ $b=\ \ 0.710789-1.066080I$	$-0.04302+2.85925I$	0
$u=-1.065590+0.195563I$ $a=\ \ 1.69126-1.12723I$ $b=\ \ 0.526506+0.173315I$	$-0.805215-0.438122I$	0
$u=-1.065590-0.195563I$ $a=\ \ 1.69126+1.12723I$ $b=\ \ 0.526506-0.173315I$	$-0.805215+0.438122I$	0
$u=-0.909756+0.024083I$ $a=-5.04265-2.44622I$ $b=-0.872771-0.457999I$	$-0.22970-2.03408I$	0
$u=-0.909756-0.024083I$ $a=-5.04265+2.44622I$ $b=-0.872771+0.457999I$	$-0.22970+2.03408I$	0
$u=\ \ 0.673297+0.610520I$ $a=-2.28568-0.75103I$ $b=-1.296960-0.083637I$	$-4.27469-4.95369I$	0
$u=\ \ 0.673297-0.610520I$ $a=-2.28568+0.75103I$ $b=-1.296960+0.083637I$	$-4.27469+4.95369I$	0
$u=-0.392179+0.816269I$ $a=-0.640342-0.339894I$ $b=-0.655466-0.550712I$	$2.39129-3.50446I$	0
$u=-0.392179-0.816269I$ $a=-0.640342+0.339894I$ $b=-0.655466+0.550712I$	$2.39129+3.50446I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.445035 + 1.001520I$ $a = -0.368508 + 0.575541I$ $b = -0.255995 + 0.129102I$	$-5.79241 - 0.57709I$	0
$u = 0.445035 - 1.001520I$ $a = -0.368508 - 0.575541I$ $b = -0.255995 - 0.129102I$	$-5.79241 + 0.57709I$	0
$u = 0.842850 + 0.313569I$ $a = -0.853411 - 0.310842I$ $b = 0.565258 + 0.151823I$	$0.24844 - 4.80735I$	0
$u = 0.842850 - 0.313569I$ $a = -0.853411 + 0.310842I$ $b = 0.565258 - 0.151823I$	$0.24844 + 4.80735I$	0
$u = 1.101630 + 0.139223I$ $a = 0.499275 + 0.602243I$ $b = 1.33363 - 1.16532I$	$1.26469 + 4.91691I$	0
$u = 1.101630 - 0.139223I$ $a = 0.499275 - 0.602243I$ $b = 1.33363 + 1.16532I$	$1.26469 - 4.91691I$	0
$u = 0.072672 + 1.110770I$ $a = -1.39812 - 0.97719I$ $b = -1.13581 - 0.88492I$	$-1.59743 - 6.92013I$	0
$u = 0.072672 - 1.110770I$ $a = -1.39812 + 0.97719I$ $b = -1.13581 + 0.88492I$	$-1.59743 + 6.92013I$	0
$u = 0.158306 + 1.110260I$ $a = -0.740042 - 0.503425I$ $b = -0.631619 - 0.605613I$	$-1.53143 - 4.26329I$	0
$u = 0.158306 - 1.110260I$ $a = -0.740042 + 0.503425I$ $b = -0.631619 + 0.605613I$	$-1.53143 + 4.26329I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.364651+1.065390I$ $a=-1.09875+0.99002I$ $b=-0.863661+0.807599I$	$-1.43068-0.47578I$	0
$u=-0.364651-1.065390I$ $a=-1.09875-0.99002I$ $b=-0.863661-0.807599I$	$-1.43068+0.47578I$	0
$u=-0.120456+1.145090I$ $a=-1.07071+1.10493I$ $b=-0.968222+1.029430I$	$-4.0978+15.5564I$	0
$u=-0.120456-1.145090I$ $a=-1.07071-1.10493I$ $b=-0.968222-1.029430I$	$-4.0978-15.5564I$	0
$u=0.780046+0.330502I$ $a=0.21753-2.22198I$ $b=-0.0553746+0.0386235I$	$-4.96630-0.08328I$	0
$u=0.780046-0.330502I$ $a=0.21753+2.22198I$ $b=-0.0553746-0.0386235I$	$-4.96630+0.08328I$	0
$u=0.303847+0.775725I$ $a=-0.267525-0.283286I$ $b=0.141287-0.600813I$	$0.46387-4.33012I$	0
$u=0.303847-0.775725I$ $a=-0.267525+0.283286I$ $b=0.141287+0.600813I$	$0.46387+4.33012I$	0
$u=0.718462+0.412338I$ $a=-1.68423+0.87405I$ $b=-0.695271+0.059393I$	$-5.06976+3.42830I$	0
$u=0.718462-0.412338I$ $a=-1.68423-0.87405I$ $b=-0.695271-0.059393I$	$-5.06976-3.42830I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.173288+1.167330I$ $a=\ \ 0.98329-1.22412I$ $b=\ \ 0.855436-1.079380I$	$0.72726+9.05904I$	0
$u=-0.173288-1.167330I$ $a=\ \ 0.98329+1.22412I$ $b=\ \ 0.855436+1.079380I$	$0.72726-9.05904I$	0
$u=\ \ 0.736834+0.344771I$ $a=\ \ 0.084235+0.362054I$ $b=-0.847476-0.994550I$	$-4.59229+2.12496I$	0
$u=\ \ 0.736834-0.344771I$ $a=\ \ 0.084235-0.362054I$ $b=-0.847476+0.994550I$	$-4.59229-2.12496I$	0
$u=-0.205513+1.178860I$ $a=\ \ 1.045150-0.498344I$ $b=\ \ 0.934368-0.367938I$	$-7.79487-5.04683I$	0
$u=-0.205513-1.178860I$ $a=\ \ 1.045150+0.498344I$ $b=\ \ 0.934368+0.367938I$	$-7.79487+5.04683I$	0
$u=-0.786390+0.157909I$ $a=-0.11934-2.74963I$ $b=\ \ 0.503097-0.356861I$	$-0.240140+1.101780I$	0
$u=-0.786390-0.157909I$ $a=-0.11934+2.74963I$ $b=\ \ 0.503097+0.356861I$	$-0.240140-1.101780I$	0
$u=-0.738038+0.294087I$ $a=\ \ 0.049927-0.670113I$ $b=\ \ 1.47793-1.06366I$	$-3.12139+8.23883I$	0
$u=-0.738038-0.294087I$ $a=\ \ 0.049927+0.670113I$ $b=\ \ 1.47793+1.06366I$	$-3.12139-8.23883I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.788064+0.099186I$ $a=-0.00209-2.30500I$ $b=\ \ 0.626458+0.056193I$	$-0.213557+0.891904I$	0
$u=-0.788064-0.099186I$ $a=-0.00209+2.30500I$ $b=\ \ 0.626458-0.056193I$	$-0.213557-0.891904I$	0
$u=-1.199670+0.200323I$ $a=-0.194407+0.802858I$ $b=-1.72279+2.41354I$	$0.11363-10.61130I$	0
$u=-1.199670-0.200323I$ $a=-0.194407-0.802858I$ $b=-1.72279-2.41354I$	$0.11363+10.61130I$	0
$u=-1.173260+0.347327I$ $a=-0.537563+0.930885I$ $b=-0.467521-1.035100I$	$6.37415-3.86602I$	0
$u=-1.173260-0.347327I$ $a=-0.537563-0.930885I$ $b=-0.467521+1.035100I$	$6.37415+3.86602I$	0
$u=\ \ 0.639337+0.426769I$ $a=-1.85543-2.55450I$ $b=-0.818573-0.383949I$	$-4.34068+9.17650I$	0
$u=\ \ 0.639337-0.426769I$ $a=-1.85543+2.55450I$ $b=-0.818573+0.383949I$	$-4.34068-9.17650I$	0
$u=\ \ 0.694103+0.316211I$ $a=-0.452077-0.975669I$ $b=\ \ 0.112208+1.180470I$	$-4.72042+1.10944I$	0
$u=\ \ 0.694103-0.316211I$ $a=-0.452077+0.975669I$ $b=\ \ 0.112208-1.180470I$	$-4.72042-1.10944I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.732166+0.110883I$ $a=\ \ 0.58446+1.59036I$ $b=-0.095452-1.289150I$	$-4.12461-1.87292I$	0
$u=-0.732166-0.110883I$ $a=\ \ 0.58446-1.59036I$ $b=-0.095452+1.289150I$	$-4.12461+1.87292I$	0
$u=\ \ 1.243140+0.222134I$ $a=\ \ 0.083190-0.255573I$ $b=-0.58211-1.69236I$	$4.78884+3.42042I$	0
$u=\ \ 1.243140-0.222134I$ $a=\ \ 0.083190+0.255573I$ $b=-0.58211+1.69236I$	$4.78884-3.42042I$	0
$u=-0.699404+0.195245I$ $a=-0.561702+0.764471I$ $b=-1.24729+0.73814I$	$1.29201+3.83982I$	0
$u=-0.699404-0.195245I$ $a=-0.561702-0.764471I$ $b=-1.24729-0.73814I$	$1.29201-3.83982I$	0
$u=\ \ 1.220070+0.374478I$ $a=-0.803906-0.240040I$ $b=-0.61107+1.77126I$	$3.68738+7.09021I$	0
$u=\ \ 1.220070-0.374478I$ $a=-0.803906+0.240040I$ $b=-0.61107-1.77126I$	$3.68738-7.09021I$	0
$u=\ \ 1.069120+0.710490I$ $a=\ \ 1.042590+0.015513I$ $b=\ \ 0.214598-0.434323I$	$4.10466+3.68887I$	0
$u=\ \ 1.069120-0.710490I$ $a=\ \ 1.042590-0.015513I$ $b=\ \ 0.214598+0.434323I$	$4.10466-3.68887I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.045830+0.714489I$		
$a=$	$1.89088+1.25804I$	$-3.68156+0.83817I$	0
$b=$	$0.722758+0.861585I$		
$u=$	$0.045830-0.714489I$		
$a=$	$1.89088-1.25804I$	$-3.68156-0.83817I$	0
$b=$	$0.722758-0.861585I$		
$u=$	$-0.229457+0.673443I$		
$a=$	$-0.501545+1.033570I$	$0.38309-1.57593I$	0
$b=$	$0.114705+0.751477I$		
$u=$	$-0.229457-0.673443I$		
$a=$	$-0.501545-1.033570I$	$0.38309+1.57593I$	0
$b=$	$0.114705-0.751477I$		
$u=$	$1.232540+0.378618I$		
$a=$	$0.534838+0.234604I$	$4.48041+5.33313I$	0
$b=$	$0.251661-1.389390I$		
$u=$	$1.232540-0.378618I$		
$a=$	$0.534838-0.234604I$	$4.48041-5.33313I$	0
$b=$	$0.251661+1.389390I$		
$u=$	$1.168860+0.564210I$		
$a=$	$-0.338494-0.481483I$	$-3.35382+6.17066I$	0
$b=$	$-0.177982+0.486712I$		
$u=$	$1.168860-0.564210I$		
$a=$	$-0.338494+0.481483I$	$-3.35382-6.17066I$	0
$b=$	$-0.177982-0.486712I$		
$u=$	$-1.265080+0.354610I$		
$a=$	$0.527168-0.525228I$	$5.01594+0.51047I$	0
$b=$	$0.280607+1.079290I$		
$u=$	$-1.265080-0.354610I$		
$a=$	$0.527168+0.525228I$	$5.01594-0.51047I$	0
$b=$	$0.280607-1.079290I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.199880+0.559544I$ $a=\ \ 1.36169-0.78056I$ $b=\ \ 1.06408+1.00449I$	$-1.82416-12.41890I$	0
$u=-1.199880-0.559544I$ $a=\ \ 1.36169+0.78056I$ $b=\ \ 1.06408-1.00449I$	$-1.82416+12.41890I$	0
$u=\ \ 1.279880+0.346924I$ $a=-0.708894-0.658685I$ $b=-0.812610+1.056350I$	$7.24572+7.26236I$	0
$u=\ \ 1.279880-0.346924I$ $a=-0.708894+0.658685I$ $b=-0.812610-1.056350I$	$7.24572-7.26236I$	0
$u=-1.134700+0.686378I$ $a=\ \ 0.941981+0.561003I$ $b=\ \ 0.180735+0.870292I$	$1.83974-1.38659I$	0
$u=-1.134700-0.686378I$ $a=\ \ 0.941981-0.561003I$ $b=\ \ 0.180735-0.870292I$	$1.83974+1.38659I$	0
$u=-1.328490+0.035144I$ $a=\ \ 0.610466-0.051178I$ $b=-0.348970-0.414984I$	$0.784388-1.025600I$	0
$u=-1.328490-0.035144I$ $a=\ \ 0.610466+0.051178I$ $b=-0.348970+0.414984I$	$0.784388+1.025600I$	0
$u=\ \ 1.228480+0.507807I$ $a=-0.842252+0.053914I$ $b=-0.53290+1.44990I$	$-3.10333+7.03471I$	0
$u=\ \ 1.228480-0.507807I$ $a=-0.842252-0.053914I$ $b=-0.53290-1.44990I$	$-3.10333-7.03471I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.557048+0.367164I$		
$a=$	$0.943932+0.446269I$	$-2.07147-0.24678I$	0
$b=$	$1.016560+0.190251I$		
$u=$	$0.557048-0.367164I$		
$a=$	$0.943932-0.446269I$	$-2.07147+0.24678I$	0
$b=$	$1.016560-0.190251I$		
$u=$	$-0.170605+1.334150I$		
$a=$	$0.06255+1.51649I$	$-4.60511+0.31051I$	0
$b=$	$-0.071512+1.223330I$		
$u=$	$-0.170605-1.334150I$		
$a=$	$0.06255-1.51649I$	$-4.60511-0.31051I$	0
$b=$	$-0.071512-1.223330I$		
$u=$	$-0.151332+0.634082I$		
$a=$	$-0.09992-1.71335I$	$-0.21406-3.38950I$	0
$b=$	$-0.611349-1.079370I$		
$u=$	$-0.151332-0.634082I$		
$a=$	$-0.09992+1.71335I$	$-0.21406+3.38950I$	0
$b=$	$-0.611349+1.079370I$		
$u=$	$1.326900+0.242942I$		
$a=$	$0.761329+0.153328I$	$1.59931+4.76767I$	0
$b=$	$1.01185-1.29740I$		
$u=$	$1.326900-0.242942I$		
$a=$	$0.761329-0.153328I$	$1.59931-4.76767I$	0
$b=$	$1.01185+1.29740I$		
$u=$	$-1.343640+0.124645I$		
$a=$	$0.122614-0.997133I$	$5.20485-4.15203I$	0
$b=$	$0.86387-2.68370I$		
$u=$	$-1.343640-0.124645I$		
$a=$	$0.122614+0.997133I$	$5.20485+4.15203I$	0
$b=$	$0.86387+2.68370I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.309980 + 0.353078I$ $a = 0.495916 + 0.738338I$ $b = 0.742765 - 0.909847I$	$3.71976 + 11.48020I$	0
$u = 1.309980 - 0.353078I$ $a = 0.495916 - 0.738338I$ $b = 0.742765 + 0.909847I$	$3.71976 - 11.48020I$	0
$u = -1.215520 + 0.607808I$ $a = -1.46890 + 0.57346I$ $b = -1.09251 - 0.90467I$	$1.33980 - 5.46884I$	0
$u = -1.215520 - 0.607808I$ $a = -1.46890 - 0.57346I$ $b = -1.09251 + 0.90467I$	$1.33980 + 5.46884I$	0
$u = -1.213060 + 0.622508I$ $a = -1.160350 + 0.001955I$ $b = -0.551220 - 0.847098I$	$2.78964 - 3.67123I$	0
$u = -1.213060 - 0.622508I$ $a = -1.160350 - 0.001955I$ $b = -0.551220 + 0.847098I$	$2.78964 + 3.67123I$	0
$u = 1.368190 + 0.165498I$ $a = 0.536772 - 0.808631I$ $b = 0.40425 - 2.59739I$	$5.37222 + 3.73424I$	0
$u = 1.368190 - 0.165498I$ $a = 0.536772 + 0.808631I$ $b = 0.40425 + 2.59739I$	$5.37222 - 3.73424I$	0
$u = 1.231610 + 0.627681I$ $a = -1.007320 - 0.236884I$ $b = -0.431830 + 0.733487I$	$3.03581 + 9.91803I$	0
$u = 1.231610 - 0.627681I$ $a = -1.007320 + 0.236884I$ $b = -0.431830 - 0.733487I$	$3.03581 - 9.91803I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.252220+0.593578I$ $a=\ 1.216040-0.587638I$ $b=\ 1.21800+0.75963I$	$-4.52053-1.00760I$	0
$u=-1.252220-0.593578I$ $a=\ 1.216040+0.587638I$ $b=\ 1.21800-0.75963I$	$-4.52053+1.00760I$	0
$u=-1.250900+0.615755I$ $a=-0.522471-0.394624I$ $b=\ 0.055630-1.136960I$	$-0.50410-5.85908I$	0
$u=-1.250900-0.615755I$ $a=-0.522471+0.394624I$ $b=\ 0.055630+1.136960I$	$-0.50410+5.85908I$	0
$u=-1.372470+0.280223I$ $a=\ 0.164560-0.142742I$ $b=\ 0.126800+0.797033I$	$4.11992-0.71133I$	0
$u=-1.372470-0.280223I$ $a=\ 0.164560+0.142742I$ $b=\ 0.126800-0.797033I$	$4.11992+0.71133I$	0
$u=-0.312257+0.511071I$ $a=-0.11408+1.75598I$ $b=\ 0.073664+0.664958I$	$0.15039-1.46352I$	0
$u=-0.312257-0.511071I$ $a=-0.11408-1.75598I$ $b=\ 0.073664-0.664958I$	$0.15039+1.46352I$	0
$u=\ 1.29946+0.56239I$ $a=\ 1.116000+0.410760I$ $b=\ 0.90120-1.17981I$	$-0.39616+11.89160I$	0
$u=\ 1.29946-0.56239I$ $a=\ 1.116000-0.410760I$ $b=\ 0.90120+1.17981I$	$-0.39616-11.89160I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.30458 + 0.58326I$ $a = -1.080590 - 0.413636I$ $b = -0.863124 + 0.933887I$	$2.08884 + 10.22820I$	0
$u = 1.30458 - 0.58326I$ $a = -1.080590 + 0.413636I$ $b = -0.863124 - 0.933887I$	$2.08884 - 10.22820I$	0
$u = -1.39967 + 0.32402I$ $a = -0.339138 + 0.111658I$ $b = 0.020701 - 0.703415I$	$1.12299 + 1.01243I$	0
$u = -1.39967 - 0.32402I$ $a = -0.339138 - 0.111658I$ $b = 0.020701 + 0.703415I$	$1.12299 - 1.01243I$	0
$u = 1.33373 + 0.54317I$ $a = 1.43037 + 0.18783I$ $b = 1.26508 - 1.40612I$	$4.06529 + 8.57488I$	0
$u = 1.33373 - 0.54317I$ $a = 1.43037 - 0.18783I$ $b = 1.26508 + 1.40612I$	$4.06529 - 8.57488I$	0
$u = 1.32764 + 0.55937I$ $a = -1.44277 - 0.56121I$ $b = -1.41689 + 1.07811I$	$2.33486 + 12.78190I$	0
$u = 1.32764 - 0.55937I$ $a = -1.44277 + 0.56121I$ $b = -1.41689 - 1.07811I$	$2.33486 - 12.78190I$	0
$u = 0.393925 + 0.393377I$ $a = -0.22060 - 3.04236I$ $b = -0.053370 - 0.532854I$	$-0.20616 - 4.13054I$	0
$u = 0.393925 - 0.393377I$ $a = -0.22060 + 3.04236I$ $b = -0.053370 + 0.532854I$	$-0.20616 + 4.13054I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.32940+0.59053I$ $a=-1.46061+0.36629I$ $b=-1.28311-1.26794I$	$-0.2972-21.6535I$	0
$u=-1.32940-0.59053I$ $a=-1.46061-0.36629I$ $b=-1.28311+1.26794I$	$-0.2972+21.6535I$	0
$u=0.327937+0.434640I$ $a=-1.01248-1.69243I$ $b=-1.237100+0.131525I$	$-3.81861-2.23994I$	0
$u=0.327937-0.434640I$ $a=-1.01248+1.69243I$ $b=-1.237100-0.131525I$	$-3.81861+2.23994I$	0
$u=-1.32471+0.60709I$ $a=1.52161-0.26809I$ $b=1.24579+1.27400I$	$4.3880-15.2899I$	0
$u=-1.32471-0.60709I$ $a=1.52161+0.26809I$ $b=1.24579-1.27400I$	$4.3880+15.2899I$	0
$u=-0.356477+0.403735I$ $a=-1.09147+1.46499I$ $b=-0.129948+0.517508I$	$0.226295-1.329620I$	0
$u=-0.356477-0.403735I$ $a=-1.09147-1.46499I$ $b=-0.129948-0.517508I$	$0.226295+1.329620I$	0
$u=-1.32508+0.66526I$ $a=0.440460+0.054754I$ $b=0.083327+0.581731I$	$4.87925-2.69183I$	0
$u=-1.32508-0.66526I$ $a=0.440460-0.054754I$ $b=0.083327-0.581731I$	$4.87925+2.69183I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.45138+0.36391I$ $a=-0.045377+0.553103I$ $b=-0.619242+1.075190I$	$3.62718+1.32004I$	0
$u=-1.45138-0.36391I$ $a=-0.045377-0.553103I$ $b=-0.619242-1.075190I$	$3.62718-1.32004I$	0
$u=1.47689+0.25298I$ $a=-0.258157+0.501124I$ $b=0.14372+1.50075I$	$6.73334-3.66800I$	0
$u=1.47689-0.25298I$ $a=-0.258157-0.501124I$ $b=0.14372-1.50075I$	$6.73334+3.66800I$	0
$u=0.324758+0.376104I$ $a=1.37658+1.62560I$ $b=0.669666-0.635079I$	$-4.20736-1.16852I$	0
$u=0.324758-0.376104I$ $a=1.37658-1.62560I$ $b=0.669666+0.635079I$	$-4.20736+1.16852I$	0
$u=1.38229+0.60733I$ $a=0.796817+0.565391I$ $b=0.986230-0.412736I$	$-3.16987+11.58950I$	0
$u=1.38229-0.60733I$ $a=0.796817-0.565391I$ $b=0.986230+0.412736I$	$-3.16987-11.58950I$	0
$u=-1.42666+0.56599I$ $a=-0.279828+0.153243I$ $b=-0.080000-0.315556I$	$1.64762+0.68403I$	0
$u=-1.42666-0.56599I$ $a=-0.279828-0.153243I$ $b=-0.080000+0.315556I$	$1.64762-0.68403I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.40848+0.64591I$ $a=-1.63647-0.31927I$ $b=-1.30068-1.59525I$	$-0.43883-7.19728I$	0
$u=-1.40848-0.64591I$ $a=-1.63647+0.31927I$ $b=-1.30068+1.59525I$	$-0.43883+7.19728I$	0
$u=0.369658+0.230824I$ $a=0.04073+4.72102I$ $b=-0.028194+0.749393I$	$-4.07028-9.42067I$	0
$u=0.369658-0.230824I$ $a=0.04073-4.72102I$ $b=-0.028194-0.749393I$	$-4.07028+9.42067I$	0
$u=0.054813+0.424369I$ $a=-0.263292-0.606806I$ $b=-0.620178+0.606316I$	$2.95240+0.68736I$	0
$u=0.054813-0.424369I$ $a=-0.263292+0.606806I$ $b=-0.620178-0.606316I$	$2.95240-0.68736I$	0
$u=1.54273+0.33360I$ $a=0.214418-0.499304I$ $b=-0.257424-1.180580I$	$1.49697-9.80022I$	0
$u=1.54273-0.33360I$ $a=0.214418+0.499304I$ $b=-0.257424+1.180580I$	$1.49697+9.80022I$	0
$u=-1.58121+0.37152I$ $a=-0.686844-0.852165I$ $b=-0.44973-1.78056I$	$4.94757-3.39221I$	0
$u=-1.58121-0.37152I$ $a=-0.686844+0.852165I$ $b=-0.44973+1.78056I$	$4.94757+3.39221I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.10764+1.65505I$		
$a=$	$0.513938-0.045154I$	$-7.64421-4.71118I$	0
$b=$	$0.430379+0.005160I$		
$u=$	$0.10764-1.65505I$		
$a=$	$0.513938+0.045154I$	$-7.64421+4.71118I$	0
$b=$	$0.430379-0.005160I$		
$u=$	$0.001759+0.325584I$		
$a=$	$0.63482+2.59464I$	$-1.79040-2.88308I$	$-4.59441+2.27927I$
$b=$	$1.034150+0.632450I$		
$u=$	$0.001759-0.325584I$		
$a=$	$0.63482-2.59464I$	$-1.79040+2.88308I$	$-4.59441-2.27927I$
$b=$	$1.034150-0.632450I$		

II. $I_2^u = \langle -1.14 \times 10^{59} u^{45} + 6.87 \times 10^{58} u^{44} + \cdots + 1.73 \times 10^{58} b + 2.88 \times 10^{60},\ -8.88 \times 10^{60} u^{45} + 1.73 \times 10^{61} u^{44} + \cdots + 6.39 \times 10^{59} a - 4.86 \times 10^{62},\ u^{46} - u^{45} + \cdots - 52u + 37 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 13.8924u^{45} - 27.0048u^{44} + \cdots - 1957.05u + 760.996 \\ 6.57699u^{45} - 3.97599u^{44} + \cdots - 168.055u - 166.497 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 7.31538u^{45} - 23.0288u^{44} + \cdots - 1788.99u + 927.493 \\ 6.57699u^{45} - 3.97599u^{44} + \cdots - 168.055u - 166.497 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 32.5454u^{45} - 50.6553u^{44} + \cdots - 3567.38u + 1175.55 \\ 22.3977u^{45} - 44.0941u^{44} + \cdots - 2693.96u + 1102.82 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 8.64614u^{45} - 18.5057u^{44} + \cdots - 1420.01u + 579.987 \\ 7.82323u^{45} - 2.83405u^{44} + \cdots - 54.2378u - 297.407 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -40.8253u^{45} + 66.9522u^{44} + \cdots + 3713.95u - 1211.89 \\ -6.81181u^{45} + 13.0276u^{44} + \cdots + 730.233u - 355.907 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -444.087u^{45} + 825.054u^{44} + \cdots + 47382.7u - 18472.3 \\ -89.4575u^{45} + 172.310u^{44} + \cdots + 9812.74u - 3958.32 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 25.4533u^{45} - 51.8436u^{44} + \cdots - 3605.30u + 1507.72 \\ 24.9718u^{45} - 41.8997u^{44} + \cdots - 2443.82u + 820.851 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 153.547u^{45} - 269.675u^{44} + \cdots - 17491.9u + 6453.87 \\ 47.6475u^{45} - 92.0674u^{44} + \cdots - 5843.97u + 2384.23 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -403.288u^{45} + 738.746u^{44} + \cdots + 42741.3u - 16456.8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{46} - 7u^{45} + \cdots + 95u + 17$
c_2	$u^{46} - u^{45} + \cdots - 52u + 37$
c_3	$u^{46} - 2u^{44} + \cdots - 4u + 1$
c_4	$u^{46} + 3u^{45} + \cdots - 6u + 1$
c_5	$u^{46} + u^{44} + \cdots + 12u + 1$
c_6	$u^{46} + u^{45} + \cdots + 52u + 37$
c_7	$u^{46} - u^{45} + \cdots - 11u + 1$
c_8	$u^{46} + 4u^{45} + \cdots - 6u + 1$
c_9	$u^{46} - u^{45} + \cdots - 5u + 1$
c_{10}	$u^{46} + u^{45} + \cdots - 7u + 1$
c_{11}	$u^{46} + 16u^{45} + \cdots - 6u + 1$
c_{12}	$u^{46} + u^{45} + \cdots + 11u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{46}+5y^{45}+\cdots+1005y+289$
c_2, c_6	$y^{46}-25y^{45}+\cdots-17504y+1369$
c_3	$y^{46}-4y^{45}+\cdots+64y+1$
c_4	$y^{46}-9y^{45}+\cdots+32y+1$
c_5	$y^{46}+2y^{45}+\cdots+14y+1$
c_7, c_{12}	$y^{46}+45y^{45}+\cdots+459y+1$
c_8	$y^{46}-24y^{45}+\cdots-16y+1$
c_9	$y^{46}+41y^{45}+\cdots+19y+1$
c_{10}	$y^{46}+21y^{45}+\cdots-27y+1$
c_{11}	$y^{46}+8y^{45}+\cdots-22y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.135297 + 0.979036I$ $a = -1.275450 - 0.465996I$ $b = -0.981284 - 0.629432I$	$-2.45450 - 6.35990I$	$-4.14823 + 7.21780I$
$u = 0.135297 - 0.979036I$ $a = -1.275450 + 0.465996I$ $b = -0.981284 + 0.629432I$	$-2.45450 + 6.35990I$	$-4.14823 - 7.21780I$
$u = -0.928460 + 0.181250I$ $a = -2.32120 + 1.36341I$ $b = -0.957837 - 0.451213I$	$-0.12669 - 2.60768I$	$-6.25044 + 7.49678I$
$u = -0.928460 - 0.181250I$ $a = -2.32120 - 1.36341I$ $b = -0.957837 + 0.451213I$	$-0.12669 + 2.60768I$	$-6.25044 - 7.49678I$
$u = -0.905168 + 0.594137I$ $a = 0.328548 + 0.343283I$ $b = -0.709729 + 0.611134I$	$-0.90700 - 6.70631I$	$0. + 10.02652I$
$u = -0.905168 - 0.594137I$ $a = 0.328548 - 0.343283I$ $b = -0.709729 - 0.611134I$	$-0.90700 + 6.70631I$	$0. - 10.02652I$
$u = -0.897956 + 0.053617I$ $a = -2.21174 - 4.20061I$ $b = -0.101095 + 0.114297I$	$-1.87625 - 0.17703I$	$-55.4270 + 21.6963I$
$u = -0.897956 - 0.053617I$ $a = -2.21174 + 4.20061I$ $b = -0.101095 - 0.114297I$	$-1.87625 + 0.17703I$	$-55.4270 - 21.6963I$
$u = 0.828474 + 0.344738I$ $a = -0.456125 + 0.572708I$ $b = -0.358634 - 0.892409I$	$-3.80402 + 3.23551I$	$-0.96610 - 8.61763I$
$u = 0.828474 - 0.344738I$ $a = -0.456125 - 0.572708I$ $b = -0.358634 + 0.892409I$	$-3.80402 - 3.23551I$	$-0.96610 + 8.61763I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.314472+0.838098I$ $a=\ 0.46682+1.39394I$ $b=\ 0.450811+0.957785I$	$0.79842-2.52199I$	$5.96133+5.90846I$
$u=-0.314472-0.838098I$ $a=\ 0.46682-1.39394I$ $b=\ 0.450811-0.957785I$	$0.79842+2.52199I$	$5.96133-5.90846I$
$u=-0.868718+0.020527I$ $a=\ 4.04683+2.33980I$ $b=\ 0.862937+0.474957I$	$-0.27304-2.01126I$	$-38.3340-34.3282I$
$u=-0.868718-0.020527I$ $a=\ 4.04683-2.33980I$ $b=\ 0.862937-0.474957I$	$-0.27304+2.01126I$	$-38.3340+34.3282I$
$u=\ 0.821180+0.228696I$ $a=\ 0.111000-1.405170I$ $b=\ 0.331553+1.130190I$	$-4.07321-0.52213I$	$-3.31684+1.87354I$
$u=\ 0.821180-0.228696I$ $a=\ 0.111000+1.405170I$ $b=\ 0.331553-1.130190I$	$-4.07321+0.52213I$	$-3.31684-1.87354I$
$u=\ 0.822555+0.081721I$ $a=-1.24789-1.41033I$ $b=-0.80810+1.54567I$	$-2.77911+9.93904I$	$0.03063-4.66494I$
$u=\ 0.822555-0.081721I$ $a=-1.24789+1.41033I$ $b=-0.80810-1.54567I$	$-2.77911-9.93904I$	$0.03063+4.66494I$
$u=-0.059717+0.750377I$ $a=-0.300617+1.047420I$ $b=\ 0.386637+0.425193I$	$-5.67299-0.99584I$	$-6.39863+1.73494I$
$u=-0.059717-0.750377I$ $a=-0.300617-1.047420I$ $b=\ 0.386637-0.425193I$	$-5.67299+0.99584I$	$-6.39863-1.73494I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.182470+0.401264I$ $a=-0.087320+0.161360I$ $b=\ \ 0.363360-0.610977I$	$4.29474-2.21434I$	0
$u=-1.182470-0.401264I$ $a=-0.087320-0.161360I$ $b=\ \ 0.363360+0.610977I$	$4.29474+2.21434I$	0
$u=-1.094890+0.614077I$ $a=-0.783209-0.029403I$ $b=-0.020205-0.593942I$	$3.91463-2.45272I$	0
$u=-1.094890-0.614077I$ $a=-0.783209+0.029403I$ $b=-0.020205+0.593942I$	$3.91463+2.45272I$	0
$u=\ \ 1.261560+0.163785I$ $a=\ \ 0.314682+0.473708I$ $b=\ \ 0.44758+1.51681I$	$-0.64058+9.94278I$	0
$u=\ \ 1.261560-0.163785I$ $a=\ \ 0.314682-0.473708I$ $b=\ \ 0.44758-1.51681I$	$-0.64058-9.94278I$	0
$u=\ \ 1.236500+0.362651I$ $a=\ \ 0.716384+0.286944I$ $b=\ \ 0.61032-1.54017I$	$5.26763+6.34967I$	0
$u=\ \ 1.236500-0.362651I$ $a=\ \ 0.716384-0.286944I$ $b=\ \ 0.61032+1.54017I$	$5.26763-6.34967I$	0
$u=\ \ 0.128631+1.286170I$ $a=-0.38818+1.43140I$ $b=-0.162447+1.152040I$	$-4.60894-0.52662I$	0
$u=\ \ 0.128631-1.286170I$ $a=-0.38818-1.43140I$ $b=-0.162447-1.152040I$	$-4.60894+0.52662I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.661172 + 0.190771I$ $a = 1.46325 + 0.91819I$ $b = 1.011860 - 0.969314I$	$1.17092 + 5.09489I$	$1.10821 - 5.71927I$
$u = 0.661172 - 0.190771I$ $a = 1.46325 - 0.91819I$ $b = 1.011860 + 0.969314I$	$1.17092 - 5.09489I$	$1.10821 + 5.71927I$
$u = -0.201745 + 0.595977I$ $a = -2.20610 + 0.30774I$ $b = -0.834755 + 0.208573I$	$-1.37277 - 2.07483I$	$-2.21169 + 3.51272I$
$u = -0.201745 - 0.595977I$ $a = -2.20610 - 0.30774I$ $b = -0.834755 - 0.208573I$	$-1.37277 + 2.07483I$	$-2.21169 - 3.51272I$
$u = 1.290900 + 0.547947I$ $a = -1.154630 - 0.640246I$ $b = -1.032050 + 0.929119I$	$1.16345 + 11.88240I$	0
$u = 1.290900 - 0.547947I$ $a = -1.154630 + 0.640246I$ $b = -1.032050 - 0.929119I$	$1.16345 - 11.88240I$	0
$u = 1.404930 + 0.091810I$ $a = 0.099451 - 1.068090I$ $b = -0.03919 - 2.81119I$	$5.05699 + 4.55006I$	0
$u = 1.404930 - 0.091810I$ $a = 0.099451 + 1.068090I$ $b = -0.03919 + 2.81119I$	$5.05699 - 4.55006I$	0
$u = 1.39414 + 0.61996I$ $a = 1.49546 - 0.33635I$ $b = 1.14255 - 1.61618I$	$-0.31519 + 7.16203I$	0
$u = 1.39414 - 0.61996I$ $a = 1.49546 + 0.33635I$ $b = 1.14255 + 1.61618I$	$-0.31519 - 7.16203I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52292+0.28756I$ $a=-0.643931-0.878933I$ $b=-0.43549-1.97855I$	$4.78694-3.25556I$	0
$u=-1.52292-0.28756I$ $a=-0.643931+0.878933I$ $b=-0.43549+1.97855I$	$4.78694+3.25556I$	0
$u=-1.52901+0.44583I$ $a=\ \ 0.1251030+0.0115899I$ $b=-0.039657+0.494452I$	$1.81322+0.89225I$	0
$u=-1.52901-0.44583I$ $a=\ \ 0.1251030-0.0115899I$ $b=-0.039657-0.494452I$	$1.81322-0.89225I$	0
$u=\ \ 0.02019+1.68703I$ $a=\ \ 0.489941-0.120028I$ $b=\ \ 0.372869-0.136705I$	$-7.58732-4.63101I$	0
$u=\ \ 0.02019-1.68703I$ $a=\ \ 0.489941+0.120028I$ $b=\ \ 0.372869+0.136705I$	$-7.58732+4.63101I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{46}-7u^{45}+\cdots+95u+17)$ $\cdot(u^{194}-14u^{193}+\cdots-10335075u+452173)$
c_2	$(u^{46}-u^{45}+\cdots-52u+37)(u^{194}-58u^{192}+\cdots+41332u+5351)$
c_3	$(u^{46}-2u^{44}+\cdots-4u+1)$ $\cdot(u^{194}-7u^{193}+\cdots+39248422u+9682667)$
c_4	$(u^{46}+3u^{45}+\cdots-6u+1)(u^{194}-10u^{192}+\cdots+592u+32)$
c_5	$(u^{46}+u^{44}+\cdots+12u+1)$ $\cdot(u^{194}-7u^{193}+\cdots+8037239426u+414181957)$
c_6	$(u^{46}+u^{45}+\cdots+52u+37)(u^{194}-58u^{192}+\cdots+41332u+5351)$
c_7	$(u^{46}-u^{45}+\cdots-11u+1)(u^{194}+73u^{192}+\cdots+2028865u+69361)$
c_8	$(u^{46}+4u^{45}+\cdots-6u+1)$ $\cdot(u^{194}-5u^{193}+\cdots+20845830u+2067743)$
c_9	$(u^{46}-u^{45}+\cdots-5u+1)(u^{194}+25u^{192}+\cdots-128757u+4502)$
c_{10}	$(u^{46}+u^{45}+\cdots-7u+1)(u^{194}-3u^{192}+\cdots+5.82451\times10^{7}u+4562944)$
c_{11}	$(u^{46}+16u^{45}+\cdots-6u+1)(u^{194}+7u^{193}+\cdots-1621u+64)$
c_{12}	$(u^{46}+u^{45}+\cdots+11u+1)(u^{194}+73u^{192}+\cdots+2028865u+69361)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{46}+5y^{45}+\cdots+1005y+289)$ $\cdot(y^{194}+30y^{193}+\cdots+24812515342591y+204460421929)$
c_2, c_6	$(y^{46}-25y^{45}+\cdots-17504y+1369)$ $\cdot(y^{194}-116y^{193}+\cdots-698910882y+28633201)$
c_3	$(y^{46}-4y^{45}+\cdots+64y+1)$ $\cdot(y^{194}+33y^{193}+\cdots+6027177013969630y+93754040232889)$
c_4	$(y^{46}-9y^{45}+\cdots+32y+1)(y^{194}-20y^{193}+\cdots-3328y+1024)$
c_5	$(y^{46}+2y^{45}+\cdots+14y+1)$ $\cdot(y^{194}+43y^{193}+\cdots+1.01\times10^{19}y+1.72\times10^{17})$
c_7, c_{12}	$(y^{46}+45y^{45}+\cdots+459y+1)$ $\cdot(y^{194}+146y^{193}+\cdots+47660025157y+4810948321)$
c_8	$(y^{46}-24y^{45}+\cdots-16y+1)$ $\cdot(y^{194}-59y^{193}+\cdots-302813164355902y+4275561114049)$
c_9	$(y^{46}+41y^{45}+\cdots+19y+1)$ $\cdot(y^{194}+50y^{193}+\cdots-2034708073y+20268004)$
c_{10}	$(y^{46}+21y^{45}+\cdots-27y+1)$ $\cdot(y^{194}-6y^{193}+\cdots-1452285242638336y+20820457947136)$
c_{11}	$(y^{46}+8y^{45}+\cdots-22y+1)(y^{194}+17y^{193}+\cdots+497991y+4096)$