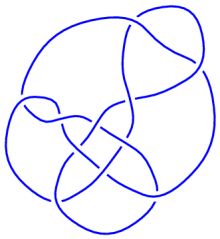
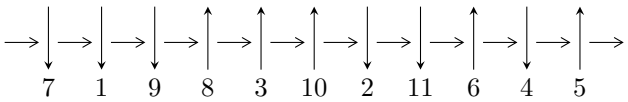
$11a_{233}$ $(K11a_{233})$



1

Arc Sequences



Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{2} I_i^u$$

$I_1^u = \langle u^{24} - u^{23} + \cdots - 5321u + 271,$
$\quad - 1.14490 \times 10^{50} u^{23} + 4.72036 \times 10^{49} u^{22} + \cdots + 1.30237 \times 10^{52} b + 7.00084 \times 10^{52},$
$\quad - 1.23327 \times 10^{52} u^{23} - 1.60167 \times 10^{50} u^{22} + \cdots + 3.52943 \times 10^{54} a - 5.89705 \times 10^{54} \rangle$

$I_2^u = \langle u^{110} + 4u^{109} + \cdots - 11495738874528u + 898002108261,$
$\quad 2.99934 \times 10^{1191} u^{109} + 1.30866 \times 10^{1192} u^{108} + \cdots + 2.33732 \times 10^{1202} b + 1.64579 \times 10^{1203},$
$\quad 4.03612 \times 10^{1202} u^{109} + 1.85044 \times 10^{1203} u^{108} + \cdots + 2.33213 \times 10^{1213} a + 1.26208 \times 10^{1214} \rangle$

There are 2 irreducible components with 134 representations.

[1] The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u = \langle u^{24} - u^{23} + \cdots - 5321u + 271,\ -1.14 \times 10^{50} u^{23} + 4.72 \times 10^{49} u^{22} + \cdots + 1.30 \times 10^{52} b + 7.00 \times 10^{52},\ -1.23 \times 10^{52} u^{23} - 1.60 \times 10^{50} u^{22} + \cdots + 3.53 \times 10^{54} a - 5.90 \times 10^{54} \rangle$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 0.00349424u^{23} + 0.0000453804u^{22} + \cdots + 12.2254u + 1.67082 \\ 0.00879085u^{23} - 0.00362443u^{22} + \cdots + 67.9389u - 5.37545 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.00529661u^{23} + 0.00366981u^{22} + \cdots - 55.7135u + 7.04627 \\ 0.00879085u^{23} - 0.00362443u^{22} + \cdots + 67.9389u - 5.37545 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00295722u^{23} - 0.000298477u^{22} + \cdots - 22.8523u + 6.02906 \\ -0.0164523u^{23} + 0.00145440u^{22} + \cdots - 84.4072u + 1.83847 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00257045u^{23} - 0.00296848u^{22} + \cdots + 29.1917u - 13.4796 \\ 0.0505355u^{23} - 0.00591292u^{22} + \cdots + 266.515u - 7.11875 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.0212170u^{23} + 0.00316861u^{22} + \cdots - 120.302u + 5.49415 \\ 0.0117422u^{23} - 0.00322506u^{22} + \cdots + 75.9981u - 3.65718 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00295722u^{23} - 0.000298477u^{22} + \cdots - 22.8523u + 6.02906 \\ -0.0208072u^{23} + 0.000739615u^{22} + \cdots - 100.929u + 2.72077 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00664019u^{23} - 0.00232016u^{22} + \cdots - 0.0864848u - 8.86667 \\ -0.0249879u^{23} - 0.00146989u^{22} + \cdots - 129.113u + 12.4134 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0116003u^{23} + 0.00377353u^{22} + \cdots - 86.5482u + 9.14625 \\ -0.0225017u^{23} - 0.00263797u^{22} + \cdots - 90.9541u + 2.29860 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00700721u^{23} + 0.00494580u^{22} + \cdots - 79.3132u + 13.2609 \\ -0.00916861u^{23} - 0.00278069u^{22} + \cdots - 13.4406u - 4.77497 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00700721u^{23} + 0.00494580u^{22} + \cdots - 79.3132u + 13.2609 \\ -0.00916861u^{23} - 0.00278069u^{22} + \cdots - 13.4406u - 4.77497 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.58944-0.84257I$ $a=-1.42200-0.30938I$ $b=-0.853505-0.312541I$	$1.13728+3.97909I$	$0.40364-4.38191I$
$u=-1.58944+0.84257I$ $a=-1.42200+0.30938I$ $b=-0.853505+0.312541I$	$1.13728-3.97909I$	$0.40364+4.38191I$
$u=-1.47485-0.31086I$ $a=-0.806649-0.460457I$ $b=-0.400602+0.082348I$	$3.31624+1.99605I$	$5.84393-3.12794I$
$u=-1.47485+0.31086I$ $a=-0.806649+0.460457I$ $b=-0.400602-0.082348I$	$3.31624-1.99605I$	$5.84393+3.12794I$
$u=-1.24990-1.30001I$ $a=\ \ 0.614617-0.716532I$ $b=\ \ 0.892664-0.380781I$	$-3.23367+1.58563I$	$-12.12086+2.46911I$
$u=-1.24990+1.30001I$ $a=\ \ 0.614617+0.716532I$ $b=\ \ 0.892664+0.380781I$	$-3.23367-1.58563I$	$-12.12086-2.46911I$
$u=-0.29962-2.25943I$ $a=-0.730734+0.049631I$ $b=-1.001844+0.322771I$	$0.59195+6.60993I$	$0.94676-9.25140I$
$u=-0.29962+2.25943I$ $a=-0.730734-0.049631I$ $b=-1.001844-0.322771I$	$0.59195-6.60993I$	$0.94676+9.25140I$
$u=-0.280614-1.189915I$ $a=\ \ 0.570491+0.008731I$ $b=\ \ 0.623098+0.828332I$	$5.06464+3.02635I$	$3.34483-2.15323I$
$u=-0.280614+1.189915I$ $a=\ \ 0.570491-0.008731I$ $b=\ \ 0.623098-0.828332I$	$5.06464-3.02635I$	$3.34483+2.15323I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.0645181$ $a = 2.28590$ $b = -1.63523$	-2.87094	69.6743
$u = 0.267604 - 1.224647I$ $a = -1.102173 + 0.460390I$ $b = -0.438159 - 0.817215I$	$1.88279 + 2.28848I$	$2.76403 - 7.78053I$
$u = 0.267604 + 1.224647I$ $a = -1.102173 - 0.460390I$ $b = -0.438159 + 0.817215I$	$1.88279 - 2.28848I$	$2.76403 + 7.78053I$
$u = 0.676422 - 1.147050I$ $a = 1.411741 + 0.075405I$ $b = 1.014295 - 0.661581I$	$3.87513 + 8.58418I$	$0.60808 - 7.82779I$
$u = 0.676422 + 1.147050I$ $a = 1.411741 - 0.075405I$ $b = 1.014295 + 0.661581I$	$3.87513 - 8.58418I$	$0.60808 + 7.82779I$
$u = 0.812563 - 0.975378I$ $a = 0.405391 + 0.681306I$ $b = 0.897988 - 0.262907I$	$-1.90223 + 3.65372I$	$-4.93874 - 1.94442I$
$u = 0.812563 + 0.975378I$ $a = 0.405391 - 0.681306I$ $b = 0.897988 + 0.262907I$	$-1.90223 - 3.65372I$	$-4.93874 + 1.94442I$
$u = 0.870363$ $a = 0.422635$ $b = 1.46567$	-5.22323	-22.3574
$u = 0.881486 - 0.308956I$ $a = -1.142531 + 0.336736I$ $b = -1.027778 + 0.714936I$	$-1.07995 + 3.05188I$	$1.95660 + 12.36124I$
$u = 0.881486 + 0.308956I$ $a = -1.142531 - 0.336736I$ $b = -1.027778 - 0.714936I$	$-1.07995 - 3.05188I$	$1.95660 - 12.36124I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.985723 - 0.100474I$ $a = 0.291448 - 1.155304I$ $b = 0.961540 + 0.324381I$	$-2.24478 + 1.21499I$	$-7.92334 - 1.43420I$
$u = 0.985723 + 0.100474I$ $a = 0.291448 + 1.155304I$ $b = 0.961540 - 0.324381I$	$-2.24478 - 1.21499I$	$-7.92334 + 1.43420I$
$u = 1.30319 - 2.24936I$ $a = -0.903283 - 0.080285I$ $b = -1.082919 + 0.582065I$	$-0.07044 + 7.43879I$	$2.45661 - 8.35379I$
$u = 1.30319 + 2.24936I$ $a = -0.903283 + 0.080285I$ $b = -1.082919 - 0.582065I$	$-0.07044 - 7.43879I$	$2.45661 + 8.35379I$

II. $I_2^u = \langle u^{110} + 4u^{109} + \cdots - 1.15 \times 10^{13}u + 8.98 \times 10^{11},\ 3.00 \times 10^{1191}u^{109} + 1.31 \times 10^{1192}u^{108} + \cdots + 2.34 \times 10^{1202}b + 1.65 \times 10^{1203},\ 4.04 \times 10^{1202}u^{109} + 1.85 \times 10^{1203}u^{108} + \cdots + 2.33 \times 10^{1213}a + 1.26 \times 10^{1214} \rangle$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} -1.73066 \times 10^{-11}u^{109} - 7.93454 \times 10^{-11}u^{108} + \cdots + 90.6377u - 5.41171 \\ -1.28324 \times 10^{-11}u^{109} - 5.59899 \times 10^{-11}u^{108} + \cdots + 80.9993u - 7.04136 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -4.47422 \times 10^{-12}u^{109} - 2.33555 \times 10^{-11}u^{108} + \cdots + 9.63840u + 1.62965 \\ -1.28324 \times 10^{-11}u^{109} - 5.59899 \times 10^{-11}u^{108} + \cdots + 80.9993u - 7.04136 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -8.91387 \times 10^{-13}u^{109} - 3.15311 \times 10^{-12}u^{108} + \cdots + 144.866u - 15.2633 \\ -6.22442 \times 10^{-12}u^{109} - 2.32411 \times 10^{-11}u^{108} + \cdots - 106.572u + 4.33539 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -2.41505 \times 10^{-11}u^{109} - 1.06250 \times 10^{-10}u^{108} + \cdots - 142.603u + 14.4044 \\ -1.39484 \times 10^{-11}u^{109} - 5.54272 \times 10^{-11}u^{108} + \cdots - 91.8722u + 12.5929 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -7.75733 \times 10^{-12}u^{109} - 4.13572 \times 10^{-11}u^{108} + \cdots - 12.0707u + 2.40040 \\ -1.24416 \times 10^{-12}u^{109} + 3.25733 \times 10^{-13}u^{108} + \cdots + 41.7084u - 4.78907 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -8.91387 \times 10^{-13}u^{109} - 3.15311 \times 10^{-12}u^{108} + \cdots + 144.866u - 15.2633 \\ -2.82205 \times 10^{-13}u^{109} + 4.63730 \times 10^{-12}u^{108} + \cdots - 101.030u + 3.96503 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.03381 \times 10^{-11}u^{109} - 2.91625 \times 10^{-11}u^{108} + \cdots - 370.646u + 24.8174 \\ -9.55595 \times 10^{-12}u^{109} - 3.44924 \times 10^{-11}u^{108} + \cdots + 93.8228u - 18.1074 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.30639 \times 10^{-11}u^{109} - 1.00283 \times 10^{-10}u^{108} + \cdots - 272.473u + 19.5193 \\ 6.52241 \times 10^{-12}u^{109} + 3.09279 \times 10^{-11}u^{108} + \cdots + 43.1057u - 7.19933 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.48027 \times 10^{-11}u^{109} - 1.84469 \times 10^{-10}u^{108} + \cdots - 621.295u + 51.2607 \\ -1.69813 \times 10^{-11}u^{109} - 6.45414 \times 10^{-11}u^{108} + \cdots - 168.124u + 16.1311 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.48027 \times 10^{-11}u^{109} - 1.84469 \times 10^{-10}u^{108} + \cdots - 621.295u + 51.2607 \\ -1.69813 \times 10^{-11}u^{109} - 6.45414 \times 10^{-11}u^{108} + \cdots - 168.124u + 16.1311 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-2.42518-1.06595I$ $a=-0.874106-0.292306I$ $b=-0.919272-0.312694I$	$0.29208+3.63942I$	$-6.53352-2.55260I$
$u=-2.42518+1.06595I$ $a=-0.874106+0.292306I$ $b=-0.919272+0.312694I$	$0.29208-3.63942I$	$-6.53352+2.55260I$
$u=-2.02960-1.28520I$ $a=-0.647956+0.054668I$ $b=-0.795267-0.389203I$	$2.92619+0.62432I$	$2.97663+1.67850I$
$u=-2.02960+1.28520I$ $a=-0.647956-0.054668I$ $b=-0.795267+0.389203I$	$2.92619-0.62432I$	$2.97663-1.67850I$
$u=-1.88406-0.78138I$ $a=\ \ 0.990871+0.287586I$ $b=\ \ 0.933669+0.499305I$	$-2.36919-2.67543I$	$-5.26927+2.52297I$
$u=-1.88406+0.78138I$ $a=\ \ 0.990871-0.287586I$ $b=\ \ 0.933669-0.499305I$	$-2.36919+2.67543I$	$-5.26927-2.52297I$
$u=-1.48870-2.01407I$ $a=\ \ 0.953650+0.072341I$ $b=\ \ 1.094926+0.652502I$	$0.28908-12.26977I$	$-0.89295+8.83460I$
$u=-1.48870+2.01407I$ $a=\ \ 0.953650-0.072341I$ $b=\ \ 1.094926-0.652502I$	$0.28908+12.26977I$	$-0.89295-8.83460I$
$u=-1.47967-1.68766I$ $a=\ \ 0.501452-0.046141I$ $b=\ \ 0.906000+0.578199I$	$4.25014-4.59723I$	$4.66167+4.11970I$
$u=-1.47967+1.68766I$ $a=\ \ 0.501452+0.046141I$ $b=\ \ 0.906000-0.578199I$	$4.25014+4.59723I$	$4.66167-4.11970I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.38508-1.49155I$ $a=-1.038974-0.124330I$ $b=-0.985417-0.709019I$	$6.52722-6.52907I$	$5.06137+5.83675I$
$u=-1.38508+1.49155I$ $a=-1.038974+0.124330I$ $b=-0.985417+0.709019I$	$6.52722+6.52907I$	$5.06137-5.83675I$
$u=-1.28455-2.15794I$ $a=-0.953116-0.029928I$ $b=-1.154350-0.677211I$	$3.9763-18.7296I$	$0.80085+10.31680I$
$u=-1.28455+2.15794I$ $a=-0.953116+0.029928I$ $b=-1.154350+0.677211I$	$3.9763+18.7296I$	$0.80085-10.31680I$
$u=-1.09526-1.04163I$ $a=-0.757054+0.112000I$ $b=-0.576594-0.605519I$	$2.76606+0.05036I$	$4.82149-0.55482I$
$u=-1.09526+1.04163I$ $a=-0.757054-0.112000I$ $b=-0.576594+0.605519I$	$2.76606-0.05036I$	$4.82149+0.55482I$
$u=-1.04984-1.68075I$ $a=\ \ 0.591294-0.299628I$ $b=\ \ 0.699495+0.780649I$	$6.12266+3.41032I$	$10.40256-5.26626I$
$u=-1.04984+1.68075I$ $a=\ \ 0.591294+0.299628I$ $b=\ \ 0.699495-0.780649I$	$6.12266-3.41032I$	$10.40256+5.26626I$
$u=-0.868264-1.042710I$ $a=-1.039018-0.111274I$ $b=-1.166200-0.701935I$	$2.61479-10.42397I$	$-0.80935+10.51237I$
$u=-0.868264+1.042710I$ $a=-1.039018+0.111274I$ $b=-1.166200+0.701935I$	$2.61479+10.42397I$	$-0.80935-10.51237I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.790408-0.425304I$ $a=\ \ 0.931131+0.651169I$ $b=\ \ 0.347166+0.792807I$	$5.78414-0.80826I$	$8.51839+2.26172I$
$u=-0.790408+0.425304I$ $a=\ \ 0.931131-0.651169I$ $b=\ \ 0.347166-0.792807I$	$5.78414+0.80826I$	$8.51839-2.26172I$
$u=-0.788161-0.245876I$ $a=\ \ 1.174327+0.256574I$ $b=\ \ 1.034356+0.780990I$	$-1.11477-3.22039I$	$-8.5608+33.0854I$
$u=-0.788161+0.245876I$ $a=\ \ 1.174327-0.256574I$ $b=\ \ 1.034356-0.780990I$	$-1.11477+3.22039I$	$-8.5608-33.0854I$
$u=-0.75112-1.67091I$ $a=\ \ 1.023088+0.505921I$ $b=\ \ 0.986287-0.678798I$	$5.22686+8.92615I$	$7.75166-9.58292I$
$u=-0.75112+1.67091I$ $a=\ \ 1.023088-0.505921I$ $b=\ \ 0.986287+0.678798I$	$5.22686-8.92615I$	$7.75166+9.58292I$
$u=-0.736423-0.157607I$ $a=-2.06841-0.68364I$ $b=-0.928488-0.102480I$	$1.78332+2.50693I$	$0.95290-2.71261I$
$u=-0.736423+0.157607I$ $a=-2.06841+0.68364I$ $b=-0.928488+0.102480I$	$1.78332-2.50693I$	$0.95290+2.71261I$
$u=-0.60962-1.89233I$ $a=-1.043118+0.368830I$ $b=-0.640270-0.212677I$	$1.54328+4.98644I$	$2.45007-8.52020I$
$u=-0.60962+1.89233I$ $a=-1.043118-0.368830I$ $b=-0.640270+0.212677I$	$1.54328-4.98644I$	$2.45007+8.52020I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.415193-0.590552I$ $a=-0.390305+0.297514I$ $b=\ \ 1.342092+0.044214I$	$-0.45665+9.74950I$	$-1.27919-7.94451I$
$u=-0.415193+0.590552I$ $a=-0.390305-0.297514I$ $b=\ \ 1.342092-0.044214I$	$-0.45665-9.74950I$	$-1.27919+7.94451I$
$u=-0.36521-1.66303I$ $a=\ \ 0.751508+0.240839I$ $b=\ \ 0.523668+0.741211I$	$6.62680+3.46904I$	$10.10958-4.03911I$
$u=-0.36521+1.66303I$ $a=\ \ 0.751508-0.240839I$ $b=\ \ 0.523668-0.741211I$	$6.62680-3.46904I$	$10.10958+4.03911I$
$u=-0.301012-0.847871I$ $a=\ \ 1.97632+0.70256I$ $b=\ \ 0.779379-0.592089I$	$4.64623+0.04743I$	$5.56758-3.17055I$
$u=-0.301012+0.847871I$ $a=\ \ 1.97632-0.70256I$ $b=\ \ 0.779379+0.592089I$	$4.64623-0.04743I$	$5.56758+3.17055I$
$u=-0.24925-1.48361I$ $a=-1.228859-0.263751I$ $b=-0.963056+0.572158I$	$1.67436+4.68049I$	$2.29653-6.43772I$
$u=-0.24925+1.48361I$ $a=-1.228859+0.263751I$ $b=-0.963056-0.572158I$	$1.67436-4.68049I$	$2.29653+6.43772I$
$u=-0.211841-1.329869I$ $a=-1.129390-0.031008I$ $b=-0.450080+0.954070I$	$6.1363-12.7818I$	$3.39733+6.65374I$
$u=-0.211841+1.329869I$ $a=-1.129390+0.031008I$ $b=-0.450080-0.954070I$	$6.1363+12.7818I$	$3.39733-6.65374I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.168982-0.847677I$ $a=\ \ 0.174497-0.505390I$ $b=-1.149666-0.046838I$	$-3.72221+4.85234I$	$-6.50640-4.84876I$
$u=-0.168982+0.847677I$ $a=\ \ 0.174497+0.505390I$ $b=-1.149666+0.046838I$	$-3.72221-4.85234I$	$-6.50640+4.84876I$
$u=-0.129125-1.340701I$ $a=\ \ 1.175518-0.081867I$ $b=\ \ 0.498633-0.834333I$	$2.08576-6.71841I$	$1.58950+5.12471I$
$u=-0.129125+1.340701I$ $a=\ \ 1.175518+0.081867I$ $b=\ \ 0.498633+0.834333I$	$2.08576+6.71841I$	$1.58950-5.12471I$
$u=-0.122313-1.393717I$ $a=-1.030489+0.179815I$ $b=-0.693726+0.829558I$	$7.43132-0.79593I$	$7.07713+0.64313I$
$u=-0.122313+1.393717I$ $a=-1.030489-0.179815I$ $b=-0.693726-0.829558I$	$7.43132+0.79593I$	$7.07713-0.64313I$
$u=-0.078088-0.742246I$ $a=-1.77759-0.00501I$ $b=-0.240009-0.729450I$	$1.63442+1.65219I$	$-1.33164-1.30956I$
$u=-0.078088+0.742246I$ $a=-1.77759+0.00501I$ $b=-0.240009+0.729450I$	$1.63442-1.65219I$	$-1.33164+1.30956I$
$u=-0.072073-0.641890I$ $a=\ \ 0.908948-0.832409I$ $b=\ \ 0.349015-0.346255I$	$-1.28138+1.05196I$	$-4.47244-2.63035I$
$u=-0.072073+0.641890I$ $a=\ \ 0.908948+0.832409I$ $b=\ \ 0.349015+0.346255I$	$-1.28138-1.05196I$	$-4.47244+2.63035I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.013106 - 0.618032I$ $a = -1.054854 + 0.329943I$ $b = -0.449330 + 1.028381I$	$4.82382 - 4.21742I$	$3.65688 + 10.99705I$
$u = 0.013106 + 0.618032I$ $a = -1.054854 - 0.329943I$ $b = -0.449330 - 1.028381I$	$4.82382 + 4.21742I$	$3.65688 - 10.99705I$
$u = 0.023824 - 1.273737I$ $a = -0.674905 + 0.409348I$ $b = -0.073335 - 0.398555I$	$1.75925 + 4.87207I$	$2.70094 - 7.09838I$
$u = 0.023824 + 1.273737I$ $a = -0.674905 - 0.409348I$ $b = -0.073335 + 0.398555I$	$1.75925 - 4.87207I$	$2.70094 + 7.09838I$
$u = 0.028842 - 0.491782I$ $a = -1.54735 + 1.00357I$ $b = -0.226007 - 0.599739I$	$1.50056 + 1.22933I$	$2.23781 - 0.32389I$
$u = 0.028842 + 0.491782I$ $a = -1.54735 - 1.00357I$ $b = -0.226007 + 0.599739I$	$1.50056 - 1.22933I$	$2.23781 + 0.32389I$
$u = 0.042877 - 0.946504I$ $a = -1.388212 + 0.216785I$ $b = -0.310587 - 0.786939I$	$1.63201 + 1.67537I$	$-0.89547 + 1.35807I$
$u = 0.042877 + 0.946504I$ $a = -1.388212 - 0.216785I$ $b = -0.310587 + 0.786939I$	$1.63201 - 1.67537I$	$-0.89547 - 1.35807I$
$u = 0.053042 - 1.159004I$ $a = -1.051062 + 0.184413I$ $b = -1.022385 - 0.825318I$	$6.31501 + 1.00722I$	$6.45521 - 0.70919I$
$u = 0.053042 + 1.159004I$ $a = -1.051062 - 0.184413I$ $b = -1.022385 + 0.825318I$	$6.31501 - 1.00722I$	$6.45521 + 0.70919I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.062877 - 0.988282I$ $a = 0.257667 - 0.568952I$ $b = 1.015963 - 0.327336I$	$-1.96403 + 0.96664I$	$-3.84463 + 0.56473I$
$u = 0.062877 + 0.988282I$ $a = 0.257667 + 0.568952I$ $b = 1.015963 + 0.327336I$	$-1.96403 - 0.96664I$	$-3.84463 - 0.56473I$
$u = 0.135373 - 1.324448I$ $a = -1.194256 + 0.296616I$ $b = -1.096872 + 0.405245I$	$1.77521 + 3.72119I$	$3.76083 - 3.97061I$
$u = 0.135373 + 1.324448I$ $a = -1.194256 - 0.296616I$ $b = -1.096872 - 0.405245I$	$1.77521 - 3.72119I$	$3.76083 + 3.97061I$
$u = 0.188770$ $a = 1.28595$ $b = 1.63949$	-2.92394	-81.9285
$u = 0.22602 - 1.42383I$ $a = 0.939389 - 0.270647I$ $b = 1.163952 - 0.597229I$	$3.34906 + 4.44237I$	$4.93666 - 2.66348I$
$u = 0.22602 + 1.42383I$ $a = 0.939389 + 0.270647I$ $b = 1.163952 + 0.597229I$	$3.34906 - 4.44237I$	$4.93666 + 2.66348I$
$u = 0.306642 - 1.252371I$ $a = 0.999453 - 0.347814I$ $b = 0.554814 + 1.000075I$	$2.97612 + 3.19519I$	$1.68827 - 6.85646I$
$u = 0.306642 + 1.252371I$ $a = 0.999453 + 0.347814I$ $b = 0.554814 - 1.000075I$	$2.97612 - 3.19519I$	$1.68827 + 6.85646I$
$u = 0.43605 - 1.62227I$ $a = 1.000419 - 0.305885I$ $b = 0.768096 + 0.504247I$	$-0.213297 + 0.928435I$	$-0.377074 + 0.279365I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.43605 + 1.62227I$ $a = 1.000419 + 0.305885I$ $b = 0.768096 - 0.504247I$	$-0.213297 - 0.928435I$	$-0.377074 - 0.279365I$
$u = 0.519394 - 0.977249I$ $a = 0.035400 - 0.396256I$ $b = -0.906253 + 0.459377I$	$-1.38141 + 4.57448I$	$-0.73553 - 7.67376I$
$u = 0.519394 + 0.977249I$ $a = 0.035400 + 0.396256I$ $b = -0.906253 - 0.459377I$	$-1.38141 - 4.57448I$	$-0.73553 + 7.67376I$
$u = 0.599017 - 0.474998I$ $a = -0.089162 + 0.302811I$ $b = 1.248162 - 0.167187I$	$-3.48242 + 1.40017I$	$-6.20452 - 1.72214I$
$u = 0.599017 + 0.474998I$ $a = -0.089162 - 0.302811I$ $b = 1.248162 + 0.167187I$	$-3.48242 - 1.40017I$	$-6.20452 + 1.72214I$
$u = 0.601123 - 0.134505I$ $a = 0.749648 + 0.865641I$ $b = 1.155079 - 0.419124I$	$-1.01670 + 1.54579I$	$-5.99222 - 1.07916I$
$u = 0.601123 + 0.134505I$ $a = 0.749648 - 0.865641I$ $b = 1.155079 + 0.419124I$	$-1.01670 - 1.54579I$	$-5.99222 + 1.07916I$
$u = 0.606596 - 1.034856I$ $a = -0.844457 - 0.083335I$ $b = -0.665044 + 0.962961I$	$7.39423 + 7.45324I$	$6.32384 - 6.79689I$
$u = 0.606596 + 1.034856I$ $a = -0.844457 + 0.083335I$ $b = -0.665044 - 0.962961I$	$7.39423 - 7.45324I$	$6.32384 + 6.79689I$
$u = 0.624753 - 0.015005I$ $a = -0.39116 - 1.58285I$ $b = 1.077083 + 0.357090I$	$-1.19948 + 1.82986I$	$0.05180 - 3.17622I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.624753 + 0.015005I$ $a = -0.39116 + 1.58285I$ $b = 1.077083 - 0.357090I$	$-1.19948 - 1.82986I$	$0.05180 + 3.17622I$
$u = 0.634107 - 0.488569I$ $a = -0.086691 - 0.853711I$ $b = -1.069319 - 0.108926I$	$-5.09720 - 2.43411I$	$-10.56677 + 3.50761I$
$u = 0.634107 + 0.488569I$ $a = -0.086691 + 0.853711I$ $b = -1.069319 + 0.108926I$	$-5.09720 + 2.43411I$	$-10.56677 - 3.50761I$
$u = 0.66062 - 1.59794I$ $a = -0.732811 - 0.062628I$ $b = -1.062767 + 0.482900I$	$-0.74609 + 5.32896I$	$-3.43665 - 5.41688I$
$u = 0.66062 + 1.59794I$ $a = -0.732811 + 0.062628I$ $b = -1.062767 - 0.482900I$	$-0.74609 - 5.32896I$	$-3.43665 + 5.41688I$
$u = 0.682895 - 0.982444I$ $a = 0.613692 - 0.249037I$ $b = 0.894461 - 0.341485I$	$-1.66024 + 0.89300I$	$-4.83947 - 0.56918I$
$u = 0.682895 + 0.982444I$ $a = 0.613692 + 0.249037I$ $b = 0.894461 + 0.341485I$	$-1.66024 - 0.89300I$	$-4.83947 + 0.56918I$
$u = 0.719147 - 0.717473I$ $a = 0.38193 + 1.42803I$ $b = 0.657188 + 0.523339I$	$2.86926 + 4.53794I$	$2.17391 - 5.57390I$
$u = 0.719147 + 0.717473I$ $a = 0.38193 - 1.42803I$ $b = 0.657188 - 0.523339I$	$2.86926 - 4.53794I$	$2.17391 + 5.57390I$
$u = 0.74163 - 1.55216I$ $a = 0.519036 + 0.675344I$ $b = 0.977137 + 0.554900I$	$1.86655 - 8.96327I$	$-1.84811 + 11.03041I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.74163 + 1.55216I$ $a = 0.519036 - 0.675344I$ $b = 0.977137 - 0.554900I$	$1.86655 + 8.96327I$	$-1.84811 - 11.03041I$
$u = 0.750039 - 0.179465I$ $a = 0.461049 - 1.274140I$ $b = -0.862031 + 0.455176I$	$-1.23201 - 0.85043I$	$0.833239 - 1.043745I$
$u = 0.750039 + 0.179465I$ $a = 0.461049 + 1.274140I$ $b = -0.862031 - 0.455176I$	$-1.23201 + 0.85043I$	$0.833239 + 1.043745I$
$u = 0.757312$ $a = -0.198960$ $b = -1.52087$	-5.00608	14.8967
$u = 0.772010 - 0.396631I$ $a = 0.598902 + 0.138382I$ $b = 0.378004 - 0.807900I$	$1.72185 + 3.26106I$	$0.49809 - 9.29168I$
$u = 0.772010 + 0.396631I$ $a = 0.598902 - 0.138382I$ $b = 0.378004 + 0.807900I$	$1.72185 - 3.26106I$	$0.49809 + 9.29168I$
$u = 1.02535 - 2.00635I$ $a = 0.863118 + 0.070661I$ $b = 1.124103 - 0.727802I$	$1.19179 + 9.44841I$	$-0.26048 - 10.38544I$
$u = 1.02535 + 2.00635I$ $a = 0.863118 - 0.070661I$ $b = 1.124103 + 0.727802I$	$1.19179 - 9.44841I$	$-0.26048 + 10.38544I$
$u = 1.13379 - 1.35694I$ $a = -0.550355 - 0.820778I$ $b = -0.877207 - 0.464777I$	$-2.81741 - 1.89701I$	$1.42275 + 5.98156I$
$u = 1.13379 + 1.35694I$ $a = -0.550355 + 0.820778I$ $b = -0.877207 + 0.464777I$	$-2.81741 + 1.89701I$	$1.42275 - 5.98156I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.17693 - 2.07760I$ $a = -0.836306 + 0.189953I$ $b = -1.072462 + 0.462666I$	$-0.96350 + 5.88120I$	$-5.00223 - 8.73262I$
$u = 1.17693 + 2.07760I$ $a = -0.836306 - 0.189953I$ $b = -1.072462 - 0.462666I$	$-0.96350 - 5.88120I$	$-5.00223 + 8.73262I$
$u = 1.20567 - 1.75252I$ $a = 1.213410 - 0.141236I$ $b = 1.053984 - 0.616473I$	$5.04421 + 8.64823I$	$8.28086 - 8.73843I$
$u = 1.20567 + 1.75252I$ $a = 1.213410 + 0.141236I$ $b = 1.053984 + 0.616473I$	$5.04421 - 8.64823I$	$8.28086 + 8.73843I$
$u = 1.21563 - 2.10048I$ $a = -0.909805 - 0.001486I$ $b = -1.121870 + 0.588574I$	$-0.67710 + 6.80491I$	$-3.89300 - 2.09770I$
$u = 1.21563 + 2.10048I$ $a = -0.909805 + 0.001486I$ $b = -1.121870 - 0.588574I$	$-0.67710 - 6.80491I$	$-3.89300 + 2.09770I$
$u = 1.48039 - 2.38568I$ $a = -0.996553 - 0.125410I$ $b = -1.052556 + 0.500476I$	$-0.29158 + 8.70811I$	$-0.71918 - 13.36300I$
$u = 1.48039 + 2.38568I$ $a = -0.996553 + 0.125410I$ $b = -1.052556 - 0.500476I$	$-0.29158 - 8.70811I$	$-0.71918 + 13.36300I$
$u = 1.82822 - 1.73957I$ $a = 0.940313 + 0.156543I$ $b = 0.908401 - 0.528181I$	$-0.65779 + 5.16179I$	$-0.66952 - 5.25828I$
$u = 1.82822 + 1.73957I$ $a = 0.940313 - 0.156543I$ $b = 0.908401 + 0.528181I$	$-0.65779 - 5.16179I$	$-0.66952 + 5.25828I$

III. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{24}+u^{23}+\cdots-4u-1)(u^{110}-25u^{108}+\cdots+111u-49)$
c_2	$(u^{24}+15u^{23}+\cdots+20u+1)(u^{110}+50u^{109}+\cdots+26237u+2401)$
c_3	$(u^{24}-4u^{22}+\cdots-7u^2-1)(u^{110}+u^{109}+\cdots+33999u-6849)$
c_4	$(u^{24}+2u^{21}+\cdots+6u^2-1)(u^{110}+3u^{109}+\cdots+41u-1)$
c_5	$(u^{24}-8u^{23}+\cdots+2u-1)(u^{110}+7u^{109}+\cdots+126089u-152261)$
c_6	$(u^{24}-u^{23}+\cdots-u+1)(u^{110}-33u^{108}+\cdots+32u+1133)$
c_7	$(u^{24}-u^{23}+\cdots+4u-1)(u^{110}-25u^{108}+\cdots+111u-49)$
c_8	$(u^{24}-4u^{23}+\cdots+2u^2-1)(u^{110}+9u^{109}+\cdots-21u-1)$
c_9	$(u^{24}+u^{23}+\cdots+u+1)(u^{110}-33u^{108}+\cdots+32u+1133)$
c_{10}	$(u^{24}+2u^{22}+\cdots+2u^2+1)(u^{110}+3u^{109}+\cdots-37u+1)$
c_{11}	$(u^{24}-u^{23}+\cdots-5u+1)(u^{110}-5u^{108}+\cdots+5654u-1721)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^{24}-15y^{23}+\cdots-20y+1)(y^{110}-50y^{109}+\cdots-26237y+2401)$
c_2	$(y^{24}-3y^{23}+\cdots-48y+1)$ $(y^{110}+30y^{109}+\cdots-18049781y+5764801)$
c_3	$(y^{24}-8y^{23}+\cdots+14y+1)$ $(y^{110}+21y^{109}+\cdots+2263623021y+46908801)$
c_4	$(y^{24}+22y^{22}+\cdots-12y+1)(y^{110}+y^{109}+\cdots-205y+1)$
c_5	$(y^{24}+6y^{22}+\cdots+16y+1)$ $(y^{110}-35y^{109}+\cdots+362704631019y+23183412121)$
c_6	$(y^{24}-11y^{23}+\cdots-23y+1)$ $(y^{110}-66y^{109}+\cdots-31330740y+1283689)$
c_7	$(y^{24}-15y^{23}+\cdots-20y+1)(y^{110}-50y^{109}+\cdots-26237y+2401)$
c_8	$(y^{24}-12y^{23}+\cdots-4y+1)(y^{110}+y^{109}+\cdots+19y+1)$
c_9	$(y^{24}-11y^{23}+\cdots-23y+1)$ $(y^{110}-66y^{109}+\cdots-31330740y+1283689)$
c_{10}	$(y^{24}+4y^{23}+\cdots+4y+1)(y^{110}+5y^{109}+\cdots-129y+1)$
c_{11}	$(y^{24}+13y^{23}+\cdots-17y+1)$ $(y^{110}-10y^{109}+\cdots-173719602y+2961841)$