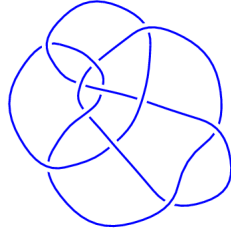
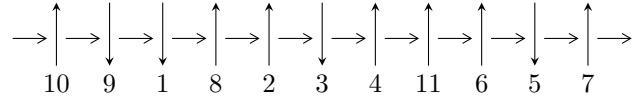


11a₂₆₇ (K11a₂₆₇)

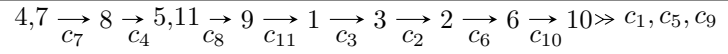


1

Arc Sequences



Solving Sequence



Representation Ideals

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

$$I_1^u = \langle u^{20} - 2u^{19} + \dots - 9u - 1, 33627831u^{19} - 77174984u^{18} + \dots + 21120991b - 17202656, \\ - 29316743u^{19} + 57771701u^{18} + \dots + 21120991a + 282350236 \rangle$$

$$I_2^u = \langle u^{115} + u^{114} + \dots - 541u + 31, \\ - 6.10437 \times 10^{407} u^{114} - 1.42278 \times 10^{408} u^{113} + \dots + 1.19387 \times 10^{407} b + 9.47292 \times 10^{408}, \\ - 2.77971 \times 10^{408} u^{114} - 1.34645 \times 10^{409} u^{113} + \dots + 3.70100 \times 10^{408} a - 5.14432 \times 10^{410} \rangle$$

There are 2 irreducible components with 135 representations.

¹The knot diagram image is adapter from “C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, <http://www.indiana.edu/~knotinfo>”

I.

$$I_1^u = \langle u^{20} - 2u^{19} + \dots - 9u - 1, 3.36 \times 10^7 u^{19} - 7.72 \times 10^7 u^{18} + \dots + 2.11 \times 10^7 b - 1.72 \times 10^7, -2.93 \times 10^7 u^{19} + 5.78 \times 10^7 u^{18} + \dots + 2.11 \times 10^7 a + 2.82 \times 10^8 \rangle$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.38804u^{19} - 2.73527u^{18} + \dots - 25.7631u - 13.3682 \\ -1.59215u^{19} + 3.65395u^{18} + \dots + 11.3494u + 0.814481 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.10784u^{19} - 6.79066u^{18} + \dots - 50.4490u - 19.6310 \\ 0.338564u^{19} - 1.11917u^{18} + \dots - 6.03246u - 1.58372 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.38804u^{19} - 2.73527u^{18} + \dots - 25.7631u - 13.3682 \\ -0.971085u^{19} + 2.30229u^{18} + \dots + 9.59412u + 0.773679 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.530034u^{19} + 1.59694u^{18} + \dots + 0.586442u - 3.08080 \\ -0.859047u^{19} + 2.23407u^{18} + \dots - 1.65110u - 0.504514 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.864413u^{19} + 2.28668u^{18} + \dots + 15.6519u + 6.98776 \\ -0.215715u^{19} + 1.71327u^{18} + \dots + 18.7905u + 2.67442 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2.25081u^{19} - 6.02722u^{18} + \dots - 17.3732u - 3.66420 \\ 1.44034u^{19} - 2.86617u^{18} + \dots - 7.97268u - 1.57572 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.10164u^{19} - 1.55214u^{18} + \dots - 23.1119u - 13.9638 \\ -0.866660u^{19} + 1.83212u^{18} + \dots + 3.53058u - 0.166706 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.10164u^{19} - 1.55214u^{18} + \dots - 23.1119u - 13.9638 \\ -0.866660u^{19} + 1.83212u^{18} + \dots + 3.53058u - 0.166706 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.44669 - 0.50300I$		
$a = 0.533296 - 0.043409I$	$4.37235 + 4.19669I$	$8.95096 + 4.21528I$
$b = 1.41270 + 0.31875I$		
$u = -1.44669 + 0.50300I$		
$a = 0.533296 + 0.043409I$	$4.37235 - 4.19669I$	$8.95096 - 4.21528I$
$b = 1.41270 - 0.31875I$		
$u = -1.197552 - 0.212204I$		
$a = 0.118581 - 1.102289I$	$2.99506 + 0.84547I$	$1.193245 + 0.488606I$
$b = 0.664398 - 1.062837I$		
$u = -1.197552 + 0.212204I$		
$a = 0.118581 + 1.102289I$	$2.99506 - 0.84547I$	$1.193245 - 0.488606I$
$b = 0.664398 + 1.062837I$		
$u = -0.841202 - 0.152388I$		
$a = -1.94967 + 1.41393I$	$1.17521 + 2.23291I$	$3.6997 + 58.8725I$
$b = -2.23142 + 1.27388I$		
$u = -0.841202 + 0.152388I$		
$a = -1.94967 - 1.41393I$	$1.17521 - 2.23291I$	$3.6997 - 58.8725I$
$b = -2.23142 - 1.27388I$		
$u = -0.496142 - 0.296522I$		
$a = -1.14328 - 1.02528I$	$-2.17976 + 4.02285I$	$-4.59414 - 6.39414I$
$b = -0.096383 + 1.093583I$		
$u = -0.496142 + 0.296522I$		
$a = -1.14328 + 1.02528I$	$-2.17976 - 4.02285I$	$-4.59414 + 6.39414I$
$b = -0.096383 - 1.093583I$		
$u = -0.266975 - 0.940111I$		
$a = -1.011439 + 0.342738I$	$-1.74507 + 4.46508I$	$0.88102 - 6.28026I$
$b = -0.186761 + 0.144383I$		
$u = -0.266975 + 0.940111I$		
$a = -1.011439 - 0.342738I$	$-1.74507 - 4.46508I$	$0.88102 + 6.28026I$
$b = -0.186761 - 0.144383I$		

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.147575$ $a = -9.27309$ $b = -0.626737$	2.12247	-23.5211
$u = 0.692160 - 0.744150I$ $a = -0.649178 + 0.377546I$ $b = -0.935419 - 0.425284I$	$-1.65711 - 2.96061I$	$-0.71565 + 3.69109I$
$u = 0.692160 + 0.744150I$ $a = -0.649178 - 0.377546I$ $b = -0.935419 + 0.425284I$	$-1.65711 + 2.96061I$	$-0.71565 - 3.69109I$
$u = 1.032294 - 0.211816I$ $a = 0.924968 + 0.136732I$ $b = 2.85595 + 0.22238I$	$1.83617 - 9.14635I$	$7.52738 + 8.39852I$
$u = 1.032294 + 0.211816I$ $a = 0.924968 - 0.136732I$ $b = 2.85595 - 0.22238I$	$1.83617 + 9.14635I$	$7.52738 - 8.39852I$
$u = 1.24034$ $a = -1.27036$ $b = -3.21493$	6.02419	7.53743
$u = 1.43906 - 0.45488I$ $a = -0.896417 + 0.534535I$ $b = -1.82517 + 0.97543I$	$3.60701 - 9.54940I$	$5.95378 + 8.39911I$
$u = 1.43906 + 0.45488I$ $a = -0.896417 - 0.534535I$ $b = -1.82517 - 0.97543I$	$3.60701 + 9.54940I$	$5.95378 - 8.39911I$
$u = 1.53866 - 0.46556I$ $a = -0.155130 + 0.068750I$ $b = 0.262933 - 0.064043I$	$2.32723 + 6.31534I$	$-0.90446 - 5.70657I$
$u = 1.53866 + 0.46556I$ $a = -0.155130 - 0.068750I$ $b = 0.262933 + 0.064043I$	$2.32723 - 6.31534I$	$-0.90446 + 5.70657I$

$$\text{II. } I_2^u = \langle u^{115} + u^{114} + \dots - 541u + 31, -6.10 \times 10^{407} u^{114} - 1.42 \times 10^{408} u^{113} + \dots + 1.19 \times 10^{407} b + 9.47 \times 10^{408}, -2.78 \times 10^{408} u^{114} - 1.35 \times 10^{409} u^{113} + \dots + 3.70 \times 10^{408} a - 5.14 \times 10^{410} \rangle$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.751069u^{114} + 3.63807u^{113} + \dots - 1803.12u + 138.998 \\ 5.11309u^{114} + 11.9174u^{113} + \dots + 1455.66u - 79.3462 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.72454u^{114} - 1.15043u^{113} + \dots - 3637.16u + 265.536 \\ 3.43149u^{114} + 7.98843u^{113} + \dots + 808.926u - 41.9872 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.751069u^{114} + 3.63807u^{113} + \dots - 1803.12u + 138.998 \\ 0.940671u^{114} + 2.60979u^{113} + \dots - 82.9241u + 10.1507 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 4.01571u^{114} + 7.88037u^{113} + \dots + 2406.11u - 145.167 \\ 0.710886u^{114} + 1.85435u^{113} + \dots + 100.589u - 4.64088 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 4.61437u^{114} + 7.66524u^{113} + \dots + 4520.81u - 308.804 \\ -0.226193u^{114} + 0.0478633u^{113} + \dots - 305.247u + 19.8316 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.48111u^{114} - 3.05412u^{113} + \dots - 750.477u + 49.8942 \\ 0.295513u^{114} + 1.13541u^{113} + \dots - 316.387u + 23.1039 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.48386u^{114} - 0.363324u^{113} + \dots - 3583.15u + 254.753 \\ 1.78407u^{114} + 4.44567u^{113} + \dots + 204.021u - 5.68232 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.48386u^{114} - 0.363324u^{113} + \dots - 3583.15u + 254.753 \\ 1.78407u^{114} + 4.44567u^{113} + \dots + 204.021u - 5.68232 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.72997 - 0.85271I$		
$a = -0.161743 + 0.136430I$	$2.59067 - 6.42913I$	$24.9721 + 19.1227I$
$b = -0.427549 + 0.226509I$		
$u = -1.72997 + 0.85271I$		
$a = -0.161743 - 0.136430I$	$2.59067 + 6.42913I$	$24.9721 - 19.1227I$
$b = -0.427549 - 0.226509I$		
$u = -1.66955 - 0.33485I$		
$a = 0.259487 + 0.372941I$	$1.36802 + 5.96391I$	$-1.81936 - 10.95316I$
$b = 0.505406 + 0.897442I$		
$u = -1.66955 + 0.33485I$		
$a = 0.259487 - 0.372941I$	$1.36802 - 5.96391I$	$-1.81936 + 10.95316I$
$b = 0.505406 - 0.897442I$		
$u = -1.40857 - 0.55453I$		
$a = -0.902273 - 0.073355I$	$7.15825 + 10.74024I$	$9.22081 - 9.27107I$
$b = -1.75878 - 0.35772I$		
$u = -1.40857 + 0.55453I$		
$a = -0.902273 + 0.073355I$	$7.15825 - 10.74024I$	$9.22081 + 9.27107I$
$b = -1.75878 + 0.35772I$		
$u = -1.39263 - 0.48528I$		
$a = 1.014476 + 0.398701I$	$4.76522 + 10.84948I$	$8.96250 - 10.91890I$
$b = 2.14812 + 0.98401I$		
$u = -1.39263 + 0.48528I$		
$a = 1.014476 - 0.398701I$	$4.76522 - 10.84948I$	$8.96250 + 10.91890I$
$b = 2.14812 - 0.98401I$		
$u = -1.38981 - 0.31379I$		
$a = 0.882458 + 0.171693I$	$5.68827 + 4.71363I$	$12.52933 - 5.22646I$
$b = 1.88952 + 0.68140I$		
$u = -1.38981 + 0.31379I$		
$a = 0.882458 - 0.171693I$	$5.68827 - 4.71363I$	$12.52933 + 5.22646I$
$b = 1.88952 - 0.68140I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.37435 - 0.51642I$ $a = -1.015683 - 0.461382I$ $b = -1.97377 - 0.71663I$	$2.21036 + 10.96437I$	$1.65995 - 10.80792I$
$u = -1.37435 + 0.51642I$ $a = -1.015683 + 0.461382I$ $b = -1.97377 + 0.71663I$	$2.21036 - 10.96437I$	$1.65995 + 10.80792I$
$u = -1.333282 - 0.452494I$ $a = 0.793967 + 0.289365I$ $b = 2.08943 + 0.26511I$	$5.87061 + 6.65094I$	$9.86079 - 6.27526I$
$u = -1.333282 + 0.452494I$ $a = 0.793967 - 0.289365I$ $b = 2.08943 - 0.26511I$	$5.87061 - 6.65094I$	$9.86079 + 6.27526I$
$u = -1.325476 - 0.048077I$ $a = -0.570001 - 1.152179I$ $b = -0.959276 - 0.953865I$	$5.74046 + 5.29797I$	$10.51842 - 6.14585I$
$u = -1.325476 + 0.048077I$ $a = -0.570001 + 1.152179I$ $b = -0.959276 + 0.953865I$	$5.74046 - 5.29797I$	$10.51842 + 6.14585I$
$u = -1.25526$ $a = 1.11324$ $b = 2.75523$	6.77454	16.8591
$u = -1.252022 - 0.015728I$ $a = 1.090618 + 0.288934I$ $b = 2.47569 - 0.03643I$	$6.73188 + 0.04543I$	$15.1056 + 0.2590I$
$u = -1.252022 + 0.015728I$ $a = 1.090618 - 0.288934I$ $b = 2.47569 + 0.03643I$	$6.73188 - 0.04543I$	$15.1056 - 0.2590I$
$u = -1.239750 - 0.145734I$ $a = -0.160444 - 0.299119I$ $b = -0.114298 + 1.140472I$	$5.14620 + 4.26050I$	$11.49544 - 4.93182I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.239750 + 0.145734I$ $a = -0.160444 + 0.299119I$ $b = -0.114298 - 1.140472I$	$5.14620 - 4.26050I$	$11.49544 + 4.93182I$
$u = -1.218175 - 0.162040I$ $a = 0.524412 - 0.314950I$ $b = 1.47728 + 0.66657I$	$4.77314 + 3.86367I$	$10.27258 - 6.61596I$
$u = -1.218175 + 0.162040I$ $a = 0.524412 + 0.314950I$ $b = 1.47728 - 0.66657I$	$4.77314 - 3.86367I$	$10.27258 + 6.61596I$
$u = -1.204515 - 0.150017I$ $a = -1.31595 + 1.22694I$ $b = -2.18895 + 0.80819I$	$3.91673 + 9.84311I$	$9.00179 - 9.55963I$
$u = -1.204515 + 0.150017I$ $a = -1.31595 - 1.22694I$ $b = -2.18895 - 0.80819I$	$3.91673 - 9.84311I$	$9.00179 + 9.55963I$
$u = -1.179791 - 0.359556I$ $a = -0.991073 - 0.459592I$ $b = -2.34074 - 0.56164I$	$0.14146 + 6.51555I$	$1.52632 - 7.33313I$
$u = -1.179791 + 0.359556I$ $a = -0.991073 + 0.459592I$ $b = -2.34074 + 0.56164I$	$0.14146 - 6.51555I$	$1.52632 + 7.33313I$
$u = -1.116432 - 0.425627I$ $a = 1.49053 + 0.45111I$ $b = 2.00066 + 0.93023I$	$-0.92457 + 10.59060I$	$1.65440 - 10.60412I$
$u = -1.116432 + 0.425627I$ $a = 1.49053 - 0.45111I$ $b = 2.00066 - 0.93023I$	$-0.92457 - 10.59060I$	$1.65440 + 10.60412I$
$u = -1.099633 - 0.379841I$ $a = -0.999422 - 0.630349I$ $b = -1.44745 - 0.28027I$	$0.15323 + 5.27402I$	$1.13501 - 7.65888I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.099633 + 0.379841I$ $a = -0.999422 + 0.630349I$ $b = -1.44745 + 0.28027I$	$0.15323 - 5.27402I$	$1.13501 + 7.65888I$
$u = -0.991543 - 0.010287I$ $a = -0.351568 - 1.080681I$ $b = -0.512635 + 0.804480I$	$-0.82850 + 3.65420I$	$2.04191 - 4.10976I$
$u = -0.991543 + 0.010287I$ $a = -0.351568 + 1.080681I$ $b = -0.512635 - 0.804480I$	$-0.82850 - 3.65420I$	$2.04191 + 4.10976I$
$u = -0.878512 - 0.105130I$ $a = 0.451108 + 0.305132I$ $b = 1.09392 + 1.45767I$	$-0.81168 + 4.16631I$	$3.39964 - 5.53940I$
$u = -0.878512 + 0.105130I$ $a = 0.451108 - 0.305132I$ $b = 1.09392 - 1.45767I$	$-0.81168 - 4.16631I$	$3.39964 + 5.53940I$
$u = -0.854965 - 0.408531I$ $a = -0.299827 - 0.411766I$ $b = -1.319625 - 0.251858I$	$-2.08760 + 1.97298I$	$-4.56009 - 3.59828I$
$u = -0.854965 + 0.408531I$ $a = -0.299827 + 0.411766I$ $b = -1.319625 + 0.251858I$	$-2.08760 - 1.97298I$	$-4.56009 + 3.59828I$
$u = -0.812804 - 0.602814I$ $a = -0.552623 - 0.586865I$ $b = -0.852553 + 0.291524I$	$-2.33628 + 2.44376I$	$-5.31370 + 1.08540I$
$u = -0.812804 + 0.602814I$ $a = -0.552623 + 0.586865I$ $b = -0.852553 - 0.291524I$	$-2.33628 - 2.44376I$	$-5.31370 - 1.08540I$
$u = -0.400510 - 0.699214I$ $a = -1.52375 + 0.00754I$ $b = -0.231905 + 0.075413I$	$-1.19029 + 5.19950I$	$4.7693 - 13.8666I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.400510 + 0.699214I$ $a = -1.52375 - 0.00754I$ $b = -0.231905 - 0.075413I$	$-1.19029 - 5.19950I$	$4.7693 + 13.8666I$
$u = -0.368048 - 1.182950I$ $a = -0.744567 + 0.082587I$ $b = -0.192597 - 0.068228I$	$-2.85359 + 3.71553I$	$-8.03496 - 7.45518I$
$u = -0.368048 + 1.182950I$ $a = -0.744567 - 0.082587I$ $b = -0.192597 + 0.068228I$	$-2.85359 - 3.71553I$	$-8.03496 + 7.45518I$
$u = -0.332655 - 0.287893I$ $a = 0.668413 - 1.089213I$ $b = -0.644338 - 0.671371I$	$-1.40763 - 1.80669I$	$-0.93148 + 2.38476I$
$u = -0.332655 + 0.287893I$ $a = 0.668413 + 1.089213I$ $b = -0.644338 + 0.671371I$	$-1.40763 + 1.80669I$	$-0.93148 - 2.38476I$
$u = -0.308600 - 0.849572I$ $a = 0.703996 + 1.106996I$ $b = -0.429478 + 0.390095I$	$-3.44636 - 5.96058I$	$-2.06942 + 8.59270I$
$u = -0.308600 + 0.849572I$ $a = 0.703996 - 1.106996I$ $b = -0.429478 - 0.390095I$	$-3.44636 + 5.96058I$	$-2.06942 - 8.59270I$
$u = -0.275294 - 0.889046I$ $a = -0.704075 - 0.545494I$ $b = -0.116647 - 0.644579I$	$-2.19346 - 0.70570I$	$-4.84022 + 0.02047I$
$u = -0.275294 + 0.889046I$ $a = -0.704075 + 0.545494I$ $b = -0.116647 + 0.644579I$	$-2.19346 + 0.70570I$	$-4.84022 - 0.02047I$
$u = -0.170606 - 0.730612I$ $a = -1.00531 - 1.18593I$ $b = -0.294379 - 0.008950I$	$-2.95739 - 2.49453I$	$-5.36586 + 2.65712I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.170606 + 0.730612I$ $a = -1.00531 + 1.18593I$ $b = -0.294379 + 0.008950I$	$-2.95739 + 2.49453I$	$-5.36586 - 2.65712I$
$u = -0.136316 - 1.159059I$ $a = 0.853361 - 0.556548I$ $b = 0.0418745 + 0.0923050I$	$-1.25637 + 13.65457I$	$2.05369 - 9.60985I$
$u = -0.136316 + 1.159059I$ $a = 0.853361 + 0.556548I$ $b = 0.0418745 - 0.0923050I$	$-1.25637 - 13.65457I$	$2.05369 + 9.60985I$
$u = -0.095002 - 1.282772I$ $a = 0.028963 - 0.514286I$ $b = 0.189217 + 0.023721I$	$2.71246 - 4.38038I$	$13.6004 + 5.9787I$
$u = -0.095002 + 1.282772I$ $a = 0.028963 + 0.514286I$ $b = 0.189217 - 0.023721I$	$2.71246 + 4.38038I$	$13.6004 - 5.9787I$
$u = 0.042104 - 0.186487I$ $a = 0.02324 - 5.52662I$ $b = 0.937795 + 0.789027I$	$0.32279 - 8.28648I$	$2.15800 + 6.43851I$
$u = 0.042104 + 0.186487I$ $a = 0.02324 + 5.52662I$ $b = 0.937795 - 0.789027I$	$0.32279 + 8.28648I$	$2.15800 - 6.43851I$
$u = 0.043484 - 1.130638I$ $a = -0.704056 - 0.639168I$ $b = -0.149794 - 0.115775I$	$-2.25517 - 5.21998I$	$-2.2268 + 14.0999I$
$u = 0.043484 + 1.130638I$ $a = -0.704056 + 0.639168I$ $b = -0.149794 + 0.115775I$	$-2.25517 + 5.21998I$	$-2.2268 - 14.0999I$
$u = 0.132701 - 0.504914I$ $a = 1.372321 + 0.247874I$ $b = -0.033195 - 0.612066I$	$0.65057 - 1.66192I$	$4.17531 + 3.71899I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.132701 + 0.504914I$ $a = 1.372321 - 0.247874I$ $b = -0.033195 + 0.612066I$	$0.65057 + 1.66192I$	$4.17531 - 3.71899I$
$u = 0.137593 - 1.074432I$ $a = 0.868144 + 0.497493I$ $b = -0.120677 - 0.157197I$	$-0.01097 - 5.35830I$	$6.99539 + 10.50635I$
$u = 0.137593 + 1.074432I$ $a = 0.868144 - 0.497493I$ $b = -0.120677 + 0.157197I$	$-0.01097 + 5.35830I$	$6.99539 - 10.50635I$
$u = 0.173211 - 0.719426I$ $a = 1.37326 - 0.95290I$ $b = -0.143669 - 0.164570I$	$-4.61264 - 2.63225I$	$-4.37712 + 3.78930I$
$u = 0.173211 + 0.719426I$ $a = 1.37326 + 0.95290I$ $b = -0.143669 + 0.164570I$	$-4.61264 + 2.63225I$	$-4.37712 - 3.78930I$
$u = 0.205734 - 0.872516I$ $a = 0.694336 + 0.621046I$ $b = 0.360877 - 0.331888I$	$1.32811 - 1.88479I$	$7.34520 + 7.13647I$
$u = 0.205734 + 0.872516I$ $a = 0.694336 - 0.621046I$ $b = 0.360877 + 0.331888I$	$1.32811 + 1.88479I$	$7.34520 - 7.13647I$
$u = 0.266690 - 0.046449I$ $a = 4.17075 + 0.64918I$ $b = 0.309329 - 0.343365I$	$2.28848 + 0.02392I$	$17.2666 + 1.1883I$
$u = 0.266690 + 0.046449I$ $a = 4.17075 - 0.64918I$ $b = 0.309329 + 0.343365I$	$2.28848 - 0.02392I$	$17.2666 - 1.1883I$
$u = 0.289404 - 0.327405I$ $a = 0.22974 - 1.86888I$ $b = -0.669660 - 0.965192I$	$0.83299 - 2.49990I$	$-0.635583 - 0.016341I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.289404 + 0.327405I$ $a = 0.22974 + 1.86888I$ $b = -0.669660 + 0.965192I$	$0.83299 + 2.49990I$	$-0.635583 + 0.016341I$
$u = 0.299694$ $a = 4.31692$ $b = 0.556917$	2.29026	25.4748
$u = 0.415759 - 0.020992I$ $a = 1.11206 - 1.62035I$ $b = -0.459659 - 0.941518I$	$0.24998 - 2.12560I$	$7.44801 + 3.30216I$
$u = 0.415759 + 0.020992I$ $a = 1.11206 + 1.62035I$ $b = -0.459659 + 0.941518I$	$0.24998 + 2.12560I$	$7.44801 - 3.30216I$
$u = 0.475295 - 0.537559I$ $a = 0.848265 - 0.887557I$ $b = 0.600321 + 1.037171I$	$-0.40050 + 6.08485I$	$-0.93604 - 5.67733I$
$u = 0.475295 + 0.537559I$ $a = 0.848265 + 0.887557I$ $b = 0.600321 - 1.037171I$	$-0.40050 - 6.08485I$	$-0.93604 + 5.67733I$
$u = 0.654350 - 0.822893I$ $a = -0.709402 + 0.120931I$ $b = -0.663385 - 0.580908I$	$-1.04548 - 3.54916I$	$7.60036 + 5.95173I$
$u = 0.654350 + 0.822893I$ $a = -0.709402 - 0.120931I$ $b = -0.663385 + 0.580908I$	$-1.04548 + 3.54916I$	$7.60036 - 5.95173I$
$u = 0.866010 - 0.581201I$ $a = 0.0951159 + 0.0761528I$ $b = -0.893835 + 0.069690I$	$-0.17579 - 2.00781I$	$1.31889 + 3.83635I$
$u = 0.866010 + 0.581201I$ $a = 0.0951159 - 0.0761528I$ $b = -0.893835 - 0.069690I$	$-0.17579 + 2.00781I$	$1.31889 - 3.83635I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.902830 - 0.162857I$ $a = -2.31477 - 0.98875I$ $b = -2.68398 - 0.89158I$	$1.21120 - 2.28663I$	$67.8154 + 33.6174I$
$u = 0.902830 + 0.162857I$ $a = -2.31477 + 0.98875I$ $b = -2.68398 + 0.89158I$	$1.21120 + 2.28663I$	$67.8154 - 33.6174I$
$u = 0.957079 - 0.376972I$ $a = 1.088949 - 0.120486I$ $b = 1.005369 - 0.309594I$	$1.93159 - 0.86279I$	$5.27303 - 2.90798I$
$u = 0.957079 + 0.376972I$ $a = 1.088949 + 0.120486I$ $b = 1.005369 + 0.309594I$	$1.93159 + 0.86279I$	$5.27303 + 2.90798I$
$u = 1.009832 - 0.275630I$ $a = 0.169843 - 0.221873I$ $b = 2.56963 - 0.76210I$	$1.03851 - 9.43459I$	$-1.06079 + 12.08235I$
$u = 1.009832 + 0.275630I$ $a = 0.169843 + 0.221873I$ $b = 2.56963 + 0.76210I$	$1.03851 + 9.43459I$	$-1.06079 - 12.08235I$
$u = 1.101044 - 0.131905I$ $a = -0.24764 - 2.06050I$ $b = -0.96094 - 1.93871I$	$3.19102 - 0.69517I$	$22.4108 - 30.5874I$
$u = 1.101044 + 0.131905I$ $a = -0.24764 + 2.06050I$ $b = -0.96094 + 1.93871I$	$3.19102 + 0.69517I$	$22.4108 + 30.5874I$
$u = 1.112854 - 0.088964I$ $a = -0.63489 + 1.58041I$ $b = -1.046545 + 0.793785I$	$2.21350 - 2.96493I$	$0.95520 - 5.17197I$
$u = 1.112854 + 0.088964I$ $a = -0.63489 - 1.58041I$ $b = -1.046545 - 0.793785I$	$2.21350 + 2.96493I$	$0.95520 + 5.17197I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.145374 - 0.066920I$ $a = -1.262748 - 0.617058I$ $b = -2.66387 + 0.09713I$	$4.68691 - 0.65371I$	$7.16082 - 4.51963I$
$u = 1.145374 + 0.066920I$ $a = -1.262748 + 0.617058I$ $b = -2.66387 - 0.09713I$	$4.68691 + 0.65371I$	$7.16082 + 4.51963I$
$u = 1.159987 - 0.027616I$ $a = 1.56154 + 1.25174I$ $b = 1.98263 + 0.92584I$	$2.47728 - 1.43112I$	$-8.9891 + 12.2678I$
$u = 1.159987 + 0.027616I$ $a = 1.56154 - 1.25174I$ $b = 1.98263 - 0.92584I$	$2.47728 + 1.43112I$	$-8.9891 - 12.2678I$
$u = 1.164225 - 0.361655I$ $a = 1.203968 - 0.567705I$ $b = 1.97171 - 1.12889I$	$-1.57902 - 1.36888I$	$-0.253912 + 0.517716I$
$u = 1.164225 + 0.361655I$ $a = 1.203968 + 0.567705I$ $b = 1.97171 + 1.12889I$	$-1.57902 + 1.36888I$	$-0.253912 - 0.517716I$
$u = 1.185508 - 0.058803I$ $a = 0.682028 - 0.418037I$ $b = 2.57320 + 1.05687I$	$3.53135 - 8.33125I$	$9.94564 + 9.07947I$
$u = 1.185508 + 0.058803I$ $a = 0.682028 + 0.418037I$ $b = 2.57320 - 1.05687I$	$3.53135 + 8.33125I$	$9.94564 - 9.07947I$
$u = 1.28103$ $a = 0.953706$ $b = 1.40687$	2.35388	-1.45526
$u = 1.336937 - 0.450295I$ $a = 0.646427 + 0.095424I$ $b = 1.030446 - 0.062659I$	$2.46916 - 0.63828I$	$10.45865 + 0.75797I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.336937 + 0.450295I$ $a = 0.646427 - 0.095424I$ $b = 1.030446 + 0.062659I$	$2.46916 + 0.63828I$	$10.45865 - 0.75797I$
$u = 1.401882 - 0.095370I$ $a = -0.218000 + 0.004841I$ $b = -1.004818 + 0.893935I$	$3.62089 - 3.05575I$	$9.95583 + 1.75891I$
$u = 1.401882 + 0.095370I$ $a = -0.218000 - 0.004841I$ $b = -1.004818 - 0.893935I$	$3.62089 + 3.05575I$	$9.95583 - 1.75891I$
$u = 1.41708 - 0.51645I$ $a = 1.006883 - 0.463619I$ $b = 2.12749 - 0.92031I$	$3.6022 - 19.5158I$	$5.07275 + 10.12874I$
$u = 1.41708 + 0.51645I$ $a = 1.006883 + 0.463619I$ $b = 2.12749 + 0.92031I$	$3.6022 + 19.5158I$	$5.07275 - 10.12874I$
$u = 1.42625 - 0.46282I$ $a = 0.825331 - 0.256820I$ $b = 1.70183 - 0.26383I$	$7.89743 - 1.46963I$	$10.38977 - 0.27710I$
$u = 1.42625 + 0.46282I$ $a = 0.825331 + 0.256820I$ $b = 1.70183 + 0.26383I$	$7.89743 + 1.46963I$	$10.38977 + 0.27710I$
$u = 1.43357 - 0.36225I$ $a = -0.975951 + 0.664917I$ $b = -2.03013 + 1.16009I$	$4.53607 - 9.28091I$	$13.3777 + 8.5639I$
$u = 1.43357 + 0.36225I$ $a = -0.975951 - 0.664917I$ $b = -2.03013 - 1.16009I$	$4.53607 + 9.28091I$	$13.3777 - 8.5639I$
$u = 1.43586 - 0.64102I$ $a = -0.493490 - 0.120752I$ $b = -1.357179 + 0.174450I$	$4.41478 - 4.49926I$	$14.4010 + 21.2360I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.43586 + 0.64102I$ $a = -0.493490 + 0.120752I$ $b = -1.357179 - 0.174450I$	$4.41478 + 4.49926I$	$14.4010 - 21.2360I$
$u = 1.48251 - 0.51613I$ $a = -0.756236 + 0.515885I$ $b = -1.62407 + 0.87842I$	$2.79562 - 9.72471I$	$-2.45327 + 12.18977I$
$u = 1.48251 + 0.51613I$ $a = -0.756236 - 0.515885I$ $b = -1.62407 - 0.87842I$	$2.79562 + 9.72471I$	$-2.45327 - 12.18977I$
$u = 1.52092 - 0.64336I$ $a = -0.229772 - 0.022323I$ $b = -0.630886 - 0.187523I$	$3.70044 - 1.22861I$	$21.1241 + 4.7680I$
$u = 1.52092 + 0.64336I$ $a = -0.229772 + 0.022323I$ $b = -0.630886 + 0.187523I$	$3.70044 + 1.22861I$	$21.1241 - 4.7680I$

III. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{20} - 6u^{19} + \dots + 2u + 1)(u^{115} + 5u^{114} + \dots - 30u + 1)$
c_2	$(u^{20} - 6u^{18} + \dots + 6u + 1)(u^{115} + u^{114} + \dots + 34u + 1)$
c_3	$(u^{20} + 4u^{19} + \dots + 2u + 1)(u^{115} + u^{114} + \dots - 138u + 23)$
c_4	$(u^{20} - 2u^{19} + \dots - 9u - 1)(u^{115} + u^{114} + \dots - 541u + 31)$
c_5	$(u^{20} - 2u^{19} + \dots - u - 1)(u^{115} + 5u^{114} + \dots - 11u - 1)$
c_6	$(u^{20} - 2u^{19} + \dots + 8u - 1)(u^{115} + u^{114} + \dots + 48u + 1)$
c_7	$(u^{20} + 2u^{19} + \dots + 9u - 1)(u^{115} + u^{114} + \dots - 541u + 31)$
c_8	$(u^{20} + 6u^{19} + \dots - 7u^2 + 1)(u^{115} + 3u^{114} + \dots - 3684u - 691)$
c_9	$(u^{20} - 2u^{19} + \dots + 4u - 1)(u^{115} + 7u^{114} + \dots + 2u - 1)$
c_{10}	$(u^{20} - 4u^{19} + \dots - 3u + 1)(u^{115} + u^{114} + \dots + 668365u + 39479)$
c_{11}	$(u^{20} - 2u^{19} + \dots - 5u - 1)(u^{115} + u^{114} + \dots - 5u + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^{20} - 14y^{19} + \dots - 14y + 1)(y^{115} - 15y^{114} + \dots - 10y - 1)$
c_2	$(y^{20} - 12y^{19} + \dots + 20y + 1)(y^{115} - 9y^{114} + \dots + 20y - 1)$
c_3	$(y^{20} - 2y^{19} + \dots + 6y + 1)(y^{115} + 13y^{114} + \dots + 2346y - 529)$
c_4, c_7	$(y^{20} - 18y^{19} + \dots - 55y + 1)(y^{115} - 87y^{114} + \dots + 12627y - 961)$
c_5	$(y^{20} + 10y^{19} + \dots - 5y + 1)(y^{115} - 3y^{114} + \dots + y - 1)$
c_6	$(y^{20} - 2y^{19} + \dots - 28y + 1)(y^{115} - 31y^{114} + \dots + 416y - 1)$
c_8	$(y^{20} - 14y^{19} + \dots - 14y + 1)$ $(y^{115} - 31y^{114} + \dots + 17763462y - 477481)$
c_9	$(y^{20} + 4y^{19} + \dots - 6y + 1)(y^{115} + 15y^{114} + \dots + 62y - 1)$
c_{10}	$(y^{20} + 8y^{19} + \dots - 13y + 1)$ $(y^{115} + 47y^{114} + \dots - 11408069835y - 1558591441)$
c_{11}	$(y^{20} - 6y^{19} + \dots - 3y + 1)(y^{115} - 11y^{114} + \dots + 139y - 1)$