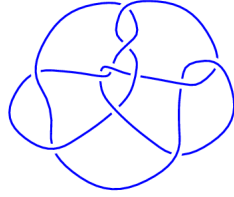
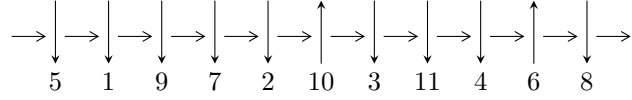


11a₁₁₆ (K11a₁₁₆)

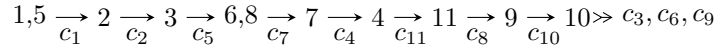


1

Arc Sequences



Solving Sequence



Representation Ideals

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

$$\begin{aligned} I_1^u &= \langle u^{16} - 4u^{14} + 10u^{12} - 16u^{10} + u^9 + 21u^8 - 19u^6 - 2u^5 + 11u^4 + u^3 - 4u^2 + 1, \\ &\quad - u^{15} + 4u^{13} - u^{12} - 10u^{11} + 4u^{10} + 15u^9 - 10u^8 - 18u^7 + 12u^6 + 13u^5 - 11u^4 - 6u^3 + 7u^2 + b + 2u - 2, \\ &\quad - 4u^{15} + 2u^{14} + \dots + a - 3 \rangle \\ I_2^u &= \langle u^{84} - 5u^{83} + \dots + 84u - 17, \\ &\quad 3.00006 \times 10^{116}u^{83} - 6.80069 \times 10^{116}u^{82} + \dots + 1.41969 \times 10^{116}b - 5.82904 \times 10^{117}, \\ &\quad - 2.28133 \times 10^{118}u^{83} + 8.84656 \times 10^{118}u^{82} + \dots + 2.41347 \times 10^{117}a - 2.50578 \times 10^{119} \rangle \end{aligned}$$

There are 2 irreducible components with 100 representations.

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

$$\langle u^{16} - 4u^{14} + \dots - 4u^2 + 1, -u^{15} + 4u^{13} + \dots + b - 2, -4u^{15} + 2u^{14} + \dots + a - 3 \rangle$$

I. $I_1^u =$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 4u^{15} - 2u^{14} + \dots - 8u + 3 \\ u^{15} - 4u^{13} + \dots - 2u + 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3u^{15} - 2u^{14} + \dots - 5u + 2 \\ 2u^{15} - u^{14} + \dots - 2u + 3 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -4u^{15} + 3u^{14} + \dots + 5u - 3 \\ -u^{11} + u^{10} + 3u^9 - 4u^8 - 5u^7 + 8u^6 + 4u^5 - 10u^4 - 3u^3 + 8u^2 + u - 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4u^{15} + 2u^{14} + \dots + u - 2 \\ u^{14} - 3u^{12} + 6u^{10} + u^9 - 7u^8 - 2u^7 + 9u^6 + 6u^5 - 6u^4 - 6u^3 + 2u^2 + 2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{15} - u^{14} + \dots - 3u + 4 \\ 2u^{15} - u^{14} + \dots + 4u^3 + u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2u^{15} + 7u^{13} + \dots - u^2 - u \\ -u^{15} + 2u^{14} + \dots + 4u^2 + 2u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2u^{15} + 7u^{13} + \dots - u^2 - u \\ -u^{15} + 2u^{14} + \dots + 4u^2 + 2u \end{pmatrix}$$

(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
$u = -1.043812 - 0.383036I$		
$a = -0.141538 + 1.091565I$	$-6.09539 - 5.48551I$	$-15.0605 + 7.1946I$
$b = 0.247994 + 0.520970I$		
$u = -1.043812 + 0.383036I$		
$a = -0.141538 - 1.091565I$	$-6.09539 + 5.48551I$	$-15.0605 - 7.1946I$
$b = 0.247994 - 0.520970I$		
$u = -0.956828 - 0.652363I$		
$a = -1.05291 + 1.74822I$	$1.84373 - 6.50590I$	$-4.33080 + 8.06359I$
$b = -0.85612 - 1.30516I$		
$u = -0.956828 + 0.652363I$		
$a = -1.05291 - 1.74822I$	$1.84373 + 6.50590I$	$-4.33080 - 8.06359I$
$b = -0.85612 + 1.30516I$		
$u = -0.743083 - 0.662007I$		
$a = 1.10772 - 1.11669I$	$2.51186 + 1.38116I$	$-1.59506 - 3.07074I$
$b = -0.68673 + 1.45406I$		
$u = -0.743083 + 0.662007I$		
$a = 1.10772 + 1.11669I$	$2.51186 - 1.38116I$	$-1.59506 + 3.07074I$
$b = -0.68673 - 1.45406I$		
$u = -0.731255 - 0.295921I$		
$a = 2.09759 - 1.66067I$	$-4.84776 + 2.55983I$	$-14.7658 - 4.1285I$
$b = 0.399130 - 0.560216I$		
$u = -0.731255 + 0.295921I$		
$a = 2.09759 + 1.66067I$	$-4.84776 - 2.55983I$	$-14.7658 + 4.1285I$
$b = 0.399130 + 0.560216I$		
$u = 0.489877 - 0.414849I$		
$a = -1.23723 - 2.02758I$	$1.19758 + 2.88706I$	$-9.08478 - 2.57984I$
$b = -0.214471 + 1.388329I$		
$u = 0.489877 + 0.414849I$		
$a = -1.23723 + 2.02758I$	$1.19758 - 2.88706I$	$-9.08478 + 2.57984I$
$b = -0.214471 - 1.388329I$		

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.807009 - 0.916229I$	$-2.15077 + 4.46693I$	$-9.53645 - 8.11349I$
$a = 0.14430 + 1.70974I$		
$b = 0.240373 - 0.893634I$		
$u = 0.807009 + 0.916229I$	$-2.15077 - 4.46693I$	$-9.53645 + 8.11349I$
$a = 0.14430 - 1.70974I$		
$b = 0.240373 + 0.893634I$		
$u = 0.885879 - 0.145084I$	$-1.41793 - 1.66100I$	$-14.4564 + 2.0605I$
$a = -0.298457 - 0.589537I$		
$b = -0.592866 - 0.819454I$		
$u = 0.885879 + 0.145084I$	$-1.41793 + 1.66100I$	$-14.4564 - 2.0605I$
$a = -0.298457 + 0.589537I$		
$b = -0.592866 + 0.819454I$		
$u = 1.292213 - 0.554134I$	$-4.20079 + 2.10743I$	$-7.17016 - 5.74785I$
$a = -0.619476 - 0.381495I$		
$b = -0.037307 + 0.762535I$		
$u = 1.292213 + 0.554134I$	$-4.20079 - 2.10743I$	$-7.17016 + 5.74785I$
$a = -0.619476 + 0.381495I$		
$b = -0.037307 - 0.762535I$		

$$\text{II. } I_2^u = \langle u^{84} - 5u^{83} + \dots + 84u - 17, 3.00 \times 10^{116}u^{83} - 6.80 \times 10^{116}u^{82} + \dots + 1.42 \times 10^{116}b - 5.83 \times 10^{117}, -2.28 \times 10^{118}u^{83} + 8.85 \times 10^{118}u^{82} + \dots + 2.41 \times 10^{117}a - 2.51 \times 10^{119} \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 9.45248u^{83} - 36.6550u^{82} + \dots - 485.532u + 103.825 \\ -2.11318u^{83} + 4.79027u^{82} + \dots - 94.7799u + 41.0586 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 7.48664u^{83} - 30.4435u^{82} + \dots - 470.700u + 107.907 \\ -3.18690u^{83} + 11.1199u^{82} + \dots + 76.7100u - 4.10517 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2.35529u^{83} - 10.5702u^{82} + \dots - 179.463u + 31.5654 \\ -6.32184u^{83} + 25.6009u^{82} + \dots + 384.645u - 88.1719 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.19228u^{83} + 8.56750u^{82} + \dots + 103.363u - 13.1483 \\ 2.18637u^{83} - 10.0740u^{82} + \dots - 193.104u + 50.8633 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -5.09729u^{83} + 19.6966u^{82} + \dots + 234.342u - 37.5811 \\ 1.58854u^{83} - 2.48611u^{82} + \dots + 94.3251u - 33.4791 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.48871u^{83} - 5.29073u^{82} + \dots - 48.2350u + 12.4535 \\ 2.48559u^{83} - 14.1259u^{82} + \dots - 360.853u + 102.556 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.48871u^{83} - 5.29073u^{82} + \dots - 48.2350u + 12.4535 \\ 2.48559u^{83} - 14.1259u^{82} + \dots - 360.853u + 102.556 \end{pmatrix}$$

(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
$u = -1.315356 - 0.063866I$		
$a = -0.374103 + 0.149155I$	$-8.01674 - 8.52986I$	$-12.7026 + 6.9220I$
$b = -0.583906 - 1.040756I$		
$u = -1.315356 + 0.063866I$		
$a = -0.374103 - 0.149155I$	$-8.01674 + 8.52986I$	$-12.7026 - 6.9220I$
$b = -0.583906 + 1.040756I$		
$u = -1.151248 - 0.708883I$		
$a = 1.04101 - 1.44139I$	$1.84085 - 10.83500I$	$-6.82534 + 8.25488I$
$b = 0.472819 + 1.330064I$		
$u = -1.151248 + 0.708883I$		
$a = 1.04101 + 1.44139I$	$1.84085 + 10.83500I$	$-6.82534 - 8.25488I$
$b = 0.472819 - 1.330064I$		
$u = -1.140200 - 0.448126I$		
$a = 0.650913 + 0.755668I$	$-5.41622 - 4.47785I$	$-10.45797 + 2.38893I$
$b = -0.174963 + 0.798938I$		
$u = -1.140200 + 0.448126I$		
$a = 0.650913 - 0.755668I$	$-5.41622 + 4.47785I$	$-10.45797 - 2.38893I$
$b = -0.174963 - 0.798938I$		
$u = -1.131213 - 0.112806I$		
$a = -0.733591 + 0.853437I$	$-9.57353 + 3.10518I$	$-15.5481 - 1.1215I$
$b = -0.905943 - 0.572167I$		
$u = -1.131213 + 0.112806I$		
$a = -0.733591 - 0.853437I$	$-9.57353 - 3.10518I$	$-15.5481 + 1.1215I$
$b = -0.905943 + 0.572167I$		
$u = -1.056954 - 0.545848I$		
$a = 0.208689 - 0.551098I$	$-2.67134 - 5.68638I$	$-9.28283 + 6.03203I$
$b = 1.020057 + 0.148712I$		
$u = -1.056954 + 0.545848I$		
$a = 0.208689 + 0.551098I$	$-2.67134 + 5.68638I$	$-9.28283 - 6.03203I$
$b = 1.020057 - 0.148712I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.049434 - 0.693298I$ $a = -1.32203 + 1.27305I$ $b = -0.376111 - 1.147868I$	$4.46403 - 6.01634I$	$-2.45151 + 3.40874I$
$u = -1.049434 + 0.693298I$ $a = -1.32203 - 1.27305I$ $b = -0.376111 + 1.147868I$	$4.46403 + 6.01634I$	$-2.45151 - 3.40874I$
$u = -1.046439 - 0.103775I$ $a = 0.681099 - 0.610527I$ $b = 0.332202 - 1.081847I$	$-2.03076 + 3.48760I$	$-11.21893 - 4.87765I$
$u = -1.046439 + 0.103775I$ $a = 0.681099 + 0.610527I$ $b = 0.332202 + 1.081847I$	$-2.03076 - 3.48760I$	$-11.21893 + 4.87765I$
$u = -0.971423$ $a = 1.33586$ $b = 0.757439$	-5.46066	-16.9087
$u = -0.942860 - 0.714978I$ $a = -0.78435 + 1.79433I$ $b = -1.03147 - 1.21286I$	$0.59518 - 6.86334I$	$-9.64440 + 7.55709I$
$u = -0.942860 + 0.714978I$ $a = -0.78435 - 1.79433I$ $b = -1.03147 + 1.21286I$	$0.59518 + 6.86334I$	$-9.64440 - 7.55709I$
$u = -0.935408 - 0.527321I$ $a = -0.86462 + 2.90843I$ $b = -0.207875 - 1.010243I$	$-4.63959 - 6.23446I$	$-9.98798 + 7.46006I$
$u = -0.935408 + 0.527321I$ $a = -0.86462 - 2.90843I$ $b = -0.207875 + 1.010243I$	$-4.63959 + 6.23446I$	$-9.98798 - 7.46006I$
$u = -0.914999 - 0.533114I$ $a = 1.51015 - 1.36327I$ $b = 0.73110 + 1.33781I$	$0.92165 - 4.97911I$	$-8.41760 + 5.12177I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.914999 + 0.533114I$ $a = 1.51015 + 1.36327I$ $b = 0.73110 - 1.33781I$	$0.92165 + 4.97911I$	$-8.41760 - 5.12177I$
$u = -0.838743 - 0.586229I$ $a = -0.283784 + 0.310721I$ $b = -0.589308 + 0.180708I$	$1.63611 - 2.33220I$	$-2.37027 + 3.97647I$
$u = -0.838743 + 0.586229I$ $a = -0.283784 - 0.310721I$ $b = -0.589308 - 0.180708I$	$1.63611 + 2.33220I$	$-2.37027 - 3.97647I$
$u = -0.813349 - 0.501390I$ $a = -0.766920 + 1.077029I$ $b = 0.55474 - 1.54764I$	$1.29451 + 0.79166I$	$-8.58724 + 0.74302I$
$u = -0.813349 + 0.501390I$ $a = -0.766920 - 1.077029I$ $b = 0.55474 + 1.54764I$	$1.29451 - 0.79166I$	$-8.58724 - 0.74302I$
$u = -0.768826 - 0.492020I$ $a = 2.46598 - 2.55062I$ $b = -0.012025 + 0.813250I$	$-4.06248 + 2.06222I$	$-7.24265 + 0.44542I$
$u = -0.768826 + 0.492020I$ $a = 2.46598 + 2.55062I$ $b = -0.012025 - 0.813250I$	$-4.06248 - 2.06222I$	$-7.24265 - 0.44542I$
$u = -0.763420 - 0.761760I$ $a = 0.973936 - 0.865621I$ $b = -0.85674 + 1.29167I$	$1.14157 + 1.26918I$	$-8.63454 - 0.96883I$
$u = -0.763420 + 0.761760I$ $a = 0.973936 + 0.865621I$ $b = -0.85674 - 1.29167I$	$1.14157 - 1.26918I$	$-8.63454 + 0.96883I$
$u = -0.664677 - 0.252947I$ $a = 0.205579 - 0.749494I$ $b = 0.732836 - 0.736371I$	$-0.78313 + 1.64097I$	$-1.66824 - 0.93836I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.664677 + 0.252947I$ $a = 0.205579 + 0.749494I$ $b = 0.732836 + 0.736371I$	$-0.78313 - 1.64097I$	$-1.66824 + 0.93836I$
$u = -0.614279 - 0.844816I$ $a = 0.06379 - 1.49673I$ $b = -0.219292 + 1.201959I$	$5.79981 + 0.28419I$	$-0.44004 + 1.72905I$
$u = -0.614279 + 0.844816I$ $a = 0.06379 + 1.49673I$ $b = -0.219292 - 1.201959I$	$5.79981 - 0.28419I$	$-0.44004 - 1.72905I$
$u = -0.481764 - 1.013273I$ $a = -0.35439 + 1.57120I$ $b = 0.323971 - 1.259514I$	$3.90791 + 4.63787I$	$-3.86788 - 5.87328I$
$u = -0.481764 + 1.013273I$ $a = -0.35439 - 1.57120I$ $b = 0.323971 + 1.259514I$	$3.90791 - 4.63787I$	$-3.86788 + 5.87328I$
$u = -0.186177 - 0.504914I$ $a = -0.700709 - 0.678816I$ $b = 0.526788 - 0.321365I$	$-0.67069 + 1.40506I$	$-6.14953 - 4.21758I$
$u = -0.186177 + 0.504914I$ $a = -0.700709 + 0.678816I$ $b = 0.526788 + 0.321365I$	$-0.67069 - 1.40506I$	$-6.14953 + 4.21758I$
$u = -0.089516 - 0.711684I$ $a = 0.174468 + 0.352691I$ $b = -0.325409 - 0.982794I$	$-2.36639 + 0.26933I$	$-7.90830 + 0.43010I$
$u = -0.089516 + 0.711684I$ $a = 0.174468 - 0.352691I$ $b = -0.325409 + 0.982794I$	$-2.36639 - 0.26933I$	$-7.90830 - 0.43010I$
$u = 0.228391 - 0.589108I$ $a = -0.05996 + 1.99843I$ $b = 0.234801 - 1.210160I$	$2.17927 + 2.72756I$	$-0.28263 - 2.49984I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.228391 + 0.589108I$ $a = -0.05996 - 1.99843I$ $b = 0.234801 + 1.210160I$	$2.17927 - 2.72756I$	$-0.28263 + 2.49984I$
$u = 0.471917 - 0.702478I$ $a = 0.572616 - 1.060121I$ $b = -1.144529 + 0.094381I$	$-4.65745 - 5.03247I$	$-9.49279 + 3.83658I$
$u = 0.471917 + 0.702478I$ $a = 0.572616 + 1.060121I$ $b = -1.144529 - 0.094381I$	$-4.65745 + 5.03247I$	$-9.49279 - 3.83658I$
$u = 0.476265 - 1.137205I$ $a = 0.061878 - 1.260733I$ $b = -0.227503 + 0.997805I$	$-1.16692 + 5.02448I$	$-5.97428 - 9.80375I$
$u = 0.476265 + 1.137205I$ $a = 0.061878 + 1.260733I$ $b = -0.227503 - 0.997805I$	$-1.16692 - 5.02448I$	$-5.97428 + 9.80375I$
$u = 0.488547 - 0.241932I$ $a = -1.66058 + 1.59540I$ $b = -0.692567 + 0.483700I$	$-4.39462 + 4.01027I$	$-12.15712 - 6.29625I$
$u = 0.488547 + 0.241932I$ $a = -1.66058 - 1.59540I$ $b = -0.692567 - 0.483700I$	$-4.39462 - 4.01027I$	$-12.15712 + 6.29625I$
$u = 0.516212 - 0.960636I$ $a = 0.42670 + 1.54053I$ $b = -0.57898 - 1.31209I$	$-0.87258 - 11.01472I$	$-7.03755 + 5.74789I$
$u = 0.516212 + 0.960636I$ $a = 0.42670 - 1.54053I$ $b = -0.57898 + 1.31209I$	$-0.87258 + 11.01472I$	$-7.03755 - 5.74789I$
$u = 0.521170 - 0.758710I$ $a = 0.03417 - 1.68577I$ $b = 0.424961 + 1.276362I$	$3.02744 - 4.89516I$	$-4.45221 + 3.85938I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.521170 + 0.758710I$ $a = 0.03417 + 1.68577I$ $b = 0.424961 - 1.276362I$	$3.02744 + 4.89516I$	$-4.45221 - 3.85938I$
$u = 0.596089 - 0.557713I$ $a = -0.347197 + 0.090408I$ $b = 0.773058 + 0.097107I$	$-1.089045 - 0.486692I$	$-7.73280 + 0.29333I$
$u = 0.596089 + 0.557713I$ $a = -0.347197 - 0.090408I$ $b = 0.773058 - 0.097107I$	$-1.089045 + 0.486692I$	$-7.73280 - 0.29333I$
$u = 0.701904$ $a = -0.582122$ $b = 0.199043$	-0.948107	-10.6511
$u = 0.798838 - 0.677298I$ $a = -1.19317 - 1.38455I$ $b = 0.34954 + 1.41280I$	$2.12448 - 0.03164I$	$-5.68636 - 1.82196I$
$u = 0.798838 + 0.677298I$ $a = -1.19317 + 1.38455I$ $b = 0.34954 - 1.41280I$	$2.12448 + 0.03164I$	$-5.68636 + 1.82196I$
$u = 0.845759 - 0.569884I$ $a = -1.65496 - 1.53990I$ $b = -0.147553 + 1.309787I$	$1.66836 + 0.23942I$	$-5.08057 - 0.02824I$
$u = 0.845759 + 0.569884I$ $a = -1.65496 + 1.53990I$ $b = -0.147553 - 1.309787I$	$1.66836 - 0.23942I$	$-5.08057 + 0.02824I$
$u = 0.848735 - 0.552750I$ $a = 0.80963 + 1.88902I$ $b = 0.03682 - 1.54888I$	$1.67908 + 4.25752I$	$-5.76821 - 6.98563I$
$u = 0.848735 + 0.552750I$ $a = 0.80963 - 1.88902I$ $b = 0.03682 + 1.54888I$	$1.67908 - 4.25752I$	$-5.76821 + 6.98563I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.886751 - 0.914091I$ $a = 0.71937 + 1.38169I$ $b = -0.068110 - 0.784716I$	$-2.24639 + 3.36926I$	$-9.82605 - 2.17894I$
$u = 0.886751 + 0.914091I$ $a = 0.71937 - 1.38169I$ $b = -0.068110 + 0.784716I$	$-2.24639 - 3.36926I$	$-9.82605 + 2.17894I$
$u = 0.909276 - 0.647697I$ $a = 0.98702 + 1.94972I$ $b = 0.58065 - 1.37768I$	$1.77553 + 5.16233I$	$-5.67766 - 3.16569I$
$u = 0.909276 + 0.647697I$ $a = 0.98702 - 1.94972I$ $b = 0.58065 + 1.37768I$	$1.77553 - 5.16233I$	$-5.67766 + 3.16569I$
$u = 0.924233 - 0.381001I$ $a = -1.189090 + 0.186102I$ $b = -0.584907 - 0.883967I$	$-5.50829 - 1.23925I$	$-14.2731 - 0.5680I$
$u = 0.924233 + 0.381001I$ $a = -1.189090 - 0.186102I$ $b = -0.584907 + 0.883967I$	$-5.50829 + 1.23925I$	$-14.2731 + 0.5680I$
$u = 0.961253 - 0.594515I$ $a = 0.251395 + 0.984707I$ $b = 0.850842 + 0.051552I$	$-2.09802 + 5.16082I$	$-9.86972 - 5.73300I$
$u = 0.961253 + 0.594515I$ $a = 0.251395 - 0.984707I$ $b = 0.850842 - 0.051552I$	$-2.09802 - 5.16082I$	$-9.86972 + 5.73300I$
$u = 0.968420 - 0.136764I$ $a = -0.704553 + 0.369797I$ $b = 0.165468 + 0.727616I$	$-0.639069 + 0.016973I$	$-7.60329 - 0.83282I$
$u = 0.968420 + 0.136764I$ $a = -0.704553 - 0.369797I$ $b = 0.165468 - 0.727616I$	$-0.639069 - 0.016973I$	$-7.60329 + 0.83282I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.061023 - 0.614747I$ $a = 0.288056 - 0.710613I$ $b = -1.345652 - 0.262453I$	$-6.34457 + 10.11977I$	$-11.44335 - 8.15345I$
$u = 1.061023 + 0.614747I$ $a = 0.288056 + 0.710613I$ $b = -1.345652 + 0.262453I$	$-6.34457 - 10.11977I$	$-11.44335 + 8.15345I$
$u = 1.066262 - 0.631314I$ $a = 1.69408 + 1.38250I$ $b = 0.521263 - 1.244828I$	$1.40099 + 10.18497I$	$-7.77859 - 8.73916I$
$u = 1.066262 + 0.631314I$ $a = 1.69408 - 1.38250I$ $b = 0.521263 + 1.244828I$	$1.40099 - 10.18497I$	$-7.77859 + 8.73916I$
$u = 1.096910 - 0.382434I$ $a = -1.061398 + 0.276192I$ $b = -0.531659 + 0.788541I$	$-5.82688 + 3.28009I$	$-14.0899 - 4.3200I$
$u = 1.096910 + 0.382434I$ $a = -1.061398 - 0.276192I$ $b = -0.531659 - 0.788541I$	$-5.82688 - 3.28009I$	$-14.0899 + 4.3200I$
$u = 1.134836 - 0.703653I$ $a = -1.17173 - 1.58065I$ $b = -0.67909 + 1.35235I$	$-2.7877 + 17.0880I$	$-9.17275 - 9.40572I$
$u = 1.134836 + 0.703653I$ $a = -1.17173 + 1.58065I$ $b = -0.67909 - 1.35235I$	$-2.7877 - 17.0880I$	$-9.17275 + 9.40572I$
$u = 1.14069 - 0.84432I$ $a = -0.51171 - 1.44701I$ $b = -0.239373 + 1.032901I$	$-2.98338 + 3.56955I$	$-13.36285 - 4.37782I$
$u = 1.14069 + 0.84432I$ $a = -0.51171 + 1.44701I$ $b = -0.239373 - 1.032901I$	$-2.98338 - 3.56955I$	$-13.36285 + 4.37782I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.239176 - 0.296514I$	$-4.43546 + 1.79841I$	$-15.3051 - 0.8350I$
$a = 0.196626 + 0.608379I$		
$b = 0.407542 - 0.459768I$		
$u = 1.239176 + 0.296514I$	$-4.43546 - 1.79841I$	$-15.3051 + 0.8350I$
$a = 0.196626 - 0.608379I$		
$b = 0.407542 + 0.459768I$		
$u = 1.35887 - 0.47598I$	$-4.54385 + 1.75387I$	$-18.7473 + 3.9276I$
$a = 0.227188 + 0.474705I$		
$b = 0.005261 - 0.633644I$		
$u = 1.35887 + 0.47598I$	$-4.54385 - 1.75387I$	$-18.7473 - 3.9276I$
$a = 0.227188 - 0.474705I$		
$b = 0.005261 + 0.633644I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{16} - 4u^{14} + \dots - 4u^2 + 1)(u^{84} + 5u^{83} + \dots - 84u - 17)$
c_2	$(u^{16} + 8u^{15} + \dots + 8u + 1)(u^{84} + 35u^{83} + \dots + 4574u + 289)$
c_3	$(u^{16} - 8u^{14} + \dots + 4u + 1)(u^{84} + u^{83} + \dots + 344u - 313)$
c_4	$(u^{16} - 4u^{15} + \dots - 2u + 1)(u^{84} + 3u^{83} + \dots + 36000u + 7373)$
c_5	$(u^{16} - 4u^{14} + \dots - 4u^2 + 1)(u^{84} + 5u^{83} + \dots - 84u - 17)$
c_6	$(u^{16} - u^{15} + \dots + 3u + 1)(u^{84} + 2u^{83} + \dots - 2657u + 1007)$
c_7	$(u^{16} - 2u^{14} + \dots + 4u + 1)(u^{84} + u^{83} + \dots + 1236u - 149)$
c_8	$(u^{16} - 3u^{15} + \dots + u + 1)(u^{84} + 4u^{83} + \dots - 943u + 169)$
c_9	$(u^{16} - 8u^{14} + \dots - 4u + 1)(u^{84} + u^{83} + \dots + 344u - 313)$
c_{10}	$(u^{16} + u^{15} + \dots - 3u + 1)(u^{84} + 2u^{83} + \dots - 2657u + 1007)$
c_{11}	$(u^{16} + 3u^{15} + \dots - u + 1)(u^{84} + 4u^{83} + \dots - 943u + 169)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{16} - 8y^{15} + \dots - 8y + 1)(y^{84} - 35y^{83} + \dots - 4574y + 289)$
c_2	$(y^{16} + 8y^{15} + \dots + 12y + 1)(y^{84} + 37y^{83} + \dots + 1003798y + 83521)$
c_3	$(y^{16} - 16y^{15} + \dots - 22y + 1)(y^{84} - 63y^{83} + \dots - 575316y + 97969)$
c_4	$(y^{16} + 8y^{14} + \dots + 18y^2 + 1)$ $(y^{84} - 23y^{83} + \dots - 1969346598y + 54361129)$
c_6, c_{10}	$(y^{16} + 13y^{15} + \dots + 13y + 1)$ $(y^{84} + 58y^{83} + \dots - 14592009y + 1014049)$
c_7	$(y^{16} - 4y^{15} + \dots - 6y + 1)(y^{84} + 9y^{83} + \dots - 735016y + 22201)$
c_8, c_{11}	$(y^{16} + 13y^{15} + \dots + 13y + 1)(y^{84} + 54y^{83} + \dots - 133481y + 28561)$
c_9	$(y^{16} - 16y^{15} + \dots - 22y + 1)(y^{84} - 63y^{83} + \dots - 575316y + 97969)$