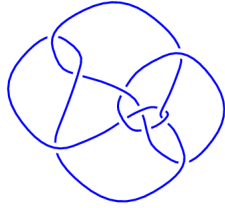
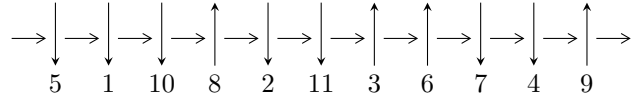


11a₁₂₅ (K11a₁₂₅)

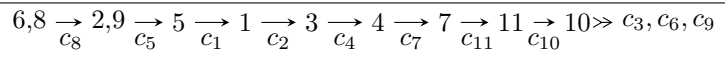


1

Arc Sequences



Solving Sequence



Representation Ideals

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

$$\begin{aligned} I_1^u &= \langle u^{21} + 2u^{20} + \dots - 2u + 1, -11u^{20} - 15u^{19} + \dots + a - 5, -14u^{20} - 19u^{19} + \dots + b - 5 \rangle \\ I_2^u &= \langle u^{108} + 3u^{107} + \dots - 10u - 1, \\ &\quad - 5.49254 \times 10^{159} u^{107} + 6.79079 \times 10^{160} u^{106} + \dots + 3.31211 \times 10^{161} b + 3.02813 \times 10^{161}, \\ &\quad - 4.45803 \times 10^{161} u^{107} - 1.18367 \times 10^{162} u^{106} + \dots + 3.31211 \times 10^{161} a + 3.05471 \times 10^{161} \rangle \end{aligned}$$

There are 2 irreducible components with 129 representations.

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

$$\langle u^{21} + 2u^{20} + \dots - 2u + 1, -11u^{20} - 15u^{19} + \dots + a - 5, -14u^{20} - 19u^{19} + \dots + b - 5 \rangle$$

I. $I_1^u =$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 11u^{20} + 15u^{19} + \dots - 19u + 5 \\ 14u^{20} + 19u^{19} + \dots - 30u + 5 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 11u^{20} + 15u^{19} + \dots - 19u + 5 \\ 6u^{20} + 7u^{19} + \dots - 5u - 2 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2u^{20} + 4u^{19} + \dots - 28u + 10 \\ 4u^{19} - 2u^{18} + \dots - 31u + 14 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 7u^{20} + 9u^{19} + \dots - 15u + 7 \\ 9u^{20} + 13u^{19} + \dots + 6u^2 - 15u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 7u^{19} + 12u^{18} + \dots + 13u - 15 \\ -8u^{20} - 12u^{19} + \dots + 27u - 8 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3u^{20} + 10u^{19} + \dots + 7u - 10 \\ 7u^{20} + 15u^{19} + \dots - 36u + 6 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3u^{20} + 10u^{19} + \dots + 7u - 10 \\ 7u^{20} + 15u^{19} + \dots - 36u + 6 \end{pmatrix}$$

(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
$u = -1.68969$ $a = -0.102976$ $b = -0.277344$	-10.1449	126.413
$u = -1.044114 - 0.594524I$ $a = -0.54611 + 1.49697I$ $b = -0.94737 + 2.54486I$	$0.56292 - 7.20934I$	$-5.36435 + 8.25630I$
$u = -1.044114 + 0.594524I$ $a = -0.54611 - 1.49697I$ $b = -0.94737 - 2.54486I$	$0.56292 + 7.20934I$	$-5.36435 - 8.25630I$
$u = -0.928122 - 0.341742I$ $a = 0.895106 + 0.629909I$ $b = 0.109582 - 0.467969I$	$-4.60181 - 6.44318I$	$-7.37974 + 8.53245I$
$u = -0.928122 + 0.341742I$ $a = 0.895106 - 0.629909I$ $b = 0.109582 + 0.467969I$	$-4.60181 + 6.44318I$	$-7.37974 - 8.53245I$
$u = -0.888407 - 0.351836I$ $a = -0.114491 - 1.354436I$ $b = -0.73773 - 2.92782I$	$-4.47877 + 3.55604I$	$-8.08226 - 2.55945I$
$u = -0.888407 + 0.351836I$ $a = -0.114491 + 1.354436I$ $b = -0.73773 + 2.92782I$	$-4.47877 - 3.55604I$	$-8.08226 + 2.55945I$
$u = -0.871885 - 0.807028I$ $a = -0.379316 + 0.437578I$ $b = 0.375802 + 0.945776I$	$3.93251 - 3.01415I$	$-34.7582 + 22.9567I$
$u = -0.871885 + 0.807028I$ $a = -0.379316 - 0.437578I$ $b = 0.375802 - 0.945776I$	$3.93251 + 3.01415I$	$-34.7582 - 22.9567I$
$u = -0.560459 - 0.693761I$ $a = -1.71590 + 0.58265I$ $b = -0.516146 + 0.038951I$	$2.04450 + 2.21685I$	$-1.36797 - 1.77620I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.560459 + 0.693761I$		
$a = -1.71590 - 0.58265I$	$2.04450 - 2.21685I$	$-1.36797 + 1.77620I$
$b = -0.516146 - 0.038951I$		
$u = 0.456143 - 0.070819I$		
$a = 1.98845 - 0.80650I$	$0.03935 - 2.07134I$	$-2.34444 + 4.05360I$
$b = -0.049317 - 1.196163I$		
$u = 0.456143 + 0.070819I$		
$a = 1.98845 + 0.80650I$	$0.03935 + 2.07134I$	$-2.34444 - 4.05360I$
$b = -0.049317 + 1.196163I$		
$u = 0.622378 - 0.840811I$		
$a = 0.696066 - 0.016150I$	$-1.12577 - 3.02403I$	$-1.94886 + 3.97151I$
$b = -0.203380 - 0.218528I$		
$u = 0.622378 + 0.840811I$		
$a = 0.696066 + 0.016150I$	$-1.12577 + 3.02403I$	$-1.94886 - 3.97151I$
$b = -0.203380 + 0.218528I$		
$u = 0.963059 - 0.270263I$		
$a = 0.93451 - 1.07635I$	$-1.73524 - 1.16661I$	$-7.91238 + 0.48584I$
$b = 1.33253 - 1.72716I$		
$u = 0.963059 + 0.270263I$		
$a = 0.93451 + 1.07635I$	$-1.73524 + 1.16661I$	$-7.91238 - 0.48584I$
$b = 1.33253 + 1.72716I$		
$u = 1.010285 - 0.630959I$		
$a = -0.169842 + 0.915280I$	$-2.32920 + 8.44205I$	$-5.83292 - 8.04405I$
$b = -0.07482 + 2.13106I$		
$u = 1.010285 + 0.630959I$		
$a = -0.169842 - 0.915280I$	$-2.32920 - 8.44205I$	$-5.83292 + 8.04405I$
$b = -0.07482 - 2.13106I$		
$u = 1.085965 - 0.236229I$		
$a = -0.036993 + 0.630764I$	$-2.04047 + 2.71990I$	$-4.21528 - 3.94147I$
$b = 0.349524 + 0.424961I$		
Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.085965 + 0.236229I$		
$a = -0.036993 - 0.630764I$	$-2.04047 - 2.71990I$	$-4.21528 + 3.94147I$
$b = 0.349524 - 0.424961I$		

$$\text{II. } I_2^u = \langle u^{108} + 3u^{107} + \dots - 10u - 1, -5.49 \times 10^{159}u^{107} + 6.79 \times 10^{160}u^{106} + \dots + 3.31 \times 10^{161}b + 3.03 \times 10^{161}, -4.46 \times 10^{161}u^{107} - 1.18 \times 10^{162}u^{106} + \dots + 3.31 \times 10^{161}a + 3.05 \times 10^{161} \rangle$$

(i) Arc colorings

$$\begin{aligned} a_6 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_8 &= \begin{pmatrix} 1.34598u^{107} + 3.57376u^{106} + \dots - 50.9229u - 0.922285 \\ 0.0165832u^{107} - 0.205029u^{106} + \dots - 1.33698u - 0.914262 \end{pmatrix} \\ a_2 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 1.34598u^{107} + 3.57376u^{106} + \dots - 50.9229u - 0.922285 \\ -0.510604u^{107} - 1.32441u^{106} + \dots + 1.95881u - 0.450084 \end{pmatrix} \\ a_5 &= \begin{pmatrix} u \\ u \end{pmatrix} \\ a_1 &= \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix} \\ a_3 &= \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix} \\ a_4 &= \begin{pmatrix} 0.823368u^{107} + 3.63105u^{106} + \dots - 91.7169u - 12.4285 \\ -2.11187u^{107} - 5.09557u^{106} + \dots + 24.2953u + 1.49448 \end{pmatrix} \\ a_7 &= \begin{pmatrix} 1.50972u^{107} + 3.84434u^{106} + \dots - 41.3780u + 0.956129 \\ -0.848414u^{107} - 2.09116u^{106} + \dots + 6.68584u - 0.0628058 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} 0.229778u^{107} + 0.577092u^{106} + \dots - 24.5195u - 7.96602 \\ 0.818975u^{107} + 1.04002u^{106} + \dots + 3.48639u + 0.496291 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -0.944722u^{107} - 3.32145u^{106} + \dots + 72.6790u + 7.61399 \\ 0.709217u^{107} + 1.23183u^{106} + \dots - 5.34442u + 0.595649 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -0.944722u^{107} - 3.32145u^{106} + \dots + 72.6790u + 7.61399 \\ 0.709217u^{107} + 1.23183u^{106} + \dots - 5.34442u + 0.595649 \end{pmatrix} \end{aligned}$$

(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
$u = -1.302874 - 0.070877I$		
$a = 0.571742 + 0.517763I$	$-3.21665 + 3.93627I$	$-7.29459 - 7.11767I$
$b = 1.01429 + 1.02617I$		
$u = -1.302874 + 0.070877I$		
$a = 0.571742 - 0.517763I$	$-3.21665 - 3.93627I$	$-7.29459 + 7.11767I$
$b = 1.01429 - 1.02617I$		
$u = -1.174854 - 0.482403I$		
$a = -0.663031 + 0.175657I$	$-0.85408 - 1.78433I$	$0.416338 + 1.302091I$
$b = -1.36184 + 0.47504I$		
$u = -1.174854 + 0.482403I$		
$a = -0.663031 - 0.175657I$	$-0.85408 + 1.78433I$	$0.416338 - 1.302091I$
$b = -1.36184 - 0.47504I$		
$u = -1.149257 - 0.689680I$		
$a = 0.022150 + 0.856058I$	$-3.85058 - 9.33974I$	$-9.9758 + 10.2810I$
$b = -0.35277 + 1.70123I$		
$u = -1.149257 + 0.689680I$		
$a = 0.022150 - 0.856058I$	$-3.85058 + 9.33974I$	$-9.9758 - 10.2810I$
$b = -0.35277 - 1.70123I$		
$u = -1.145324 - 0.653800I$		
$a = 0.463133 - 1.226072I$	$-2.7876 - 18.6455I$	$-5.34671 + 10.43856I$
$b = 0.97105 - 2.50253I$		
$u = -1.145324 + 0.653800I$		
$a = 0.463133 + 1.226072I$	$-2.7876 + 18.6455I$	$-5.34671 - 10.43856I$
$b = 0.97105 + 2.50253I$		
$u = -1.121984 - 0.651321I$		
$a = 0.292945 - 0.853751I$	$-4.87730 - 7.27293I$	$-9.51790 + 6.51371I$
$b = 0.26738 - 1.95786I$		
$u = -1.121984 + 0.651321I$		
$a = 0.292945 + 0.853751I$	$-4.87730 + 7.27293I$	$-9.51790 - 6.51371I$
$b = 0.26738 + 1.95786I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.084891 - 0.314421I$ $a = 0.002124 + 0.693897I$ $b = -1.20689 + 1.14504I$	$-4.84250 - 3.77355I$	$-11.40323 + 4.06074I$
$u = -1.084891 + 0.314421I$ $a = 0.002124 - 0.693897I$ $b = -1.20689 - 1.14504I$	$-4.84250 + 3.77355I$	$-11.40323 - 4.06074I$
$u = -1.080821 - 0.475112I$ $a = 1.187540 + 0.145873I$ $b = 1.202261 + 0.240100I$	$-4.29595 - 1.62915I$	$-11.04050 + 1.65429I$
$u = -1.080821 + 0.475112I$ $a = 1.187540 - 0.145873I$ $b = 1.202261 - 0.240100I$	$-4.29595 + 1.62915I$	$-11.04050 - 1.65429I$
$u = -1.066310 - 0.574479I$ $a = -0.39753 + 1.42287I$ $b = -0.72094 + 3.03002I$	$-0.02612 - 8.87697I$	$-3.19781 + 11.10391I$
$u = -1.066310 + 0.574479I$ $a = -0.39753 - 1.42287I$ $b = -0.72094 - 3.03002I$	$-0.02612 + 8.87697I$	$-3.19781 - 11.10391I$
$u = -1.000873 - 0.400546I$ $a = -0.699173 - 0.858082I$ $b = 0.00495 - 2.56901I$	$-5.57876 + 2.04823I$	$-11.52154 - 0.23262I$
$u = -1.000873 + 0.400546I$ $a = -0.699173 + 0.858082I$ $b = 0.00495 + 2.56901I$	$-5.57876 - 2.04823I$	$-11.52154 + 0.23262I$
$u = -0.998201 - 0.164858I$ $a = -0.429925 - 0.679311I$ $b = -1.13417 - 1.14274I$	$-1.78626 - 0.19440I$	$-6.62499 + 2.10710I$
$u = -0.998201 + 0.164858I$ $a = -0.429925 + 0.679311I$ $b = -1.13417 + 1.14274I$	$-1.78626 + 0.19440I$	$-6.62499 - 2.10710I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.996917 - 0.618317I$ $a = 0.183895 - 0.585061I$ $b = 0.76286 - 2.36151I$	$-1.23164 - 9.21086I$	$-0.46803 + 12.28562I$
$u = -0.996917 + 0.618317I$ $a = 0.183895 + 0.585061I$ $b = 0.76286 + 2.36151I$	$-1.23164 + 9.21086I$	$-0.46803 - 12.28562I$
$u = -0.996270 - 0.508137I$ $a = 1.52676 + 1.27697I$ $b = 1.35417 + 2.11897I$	$-4.55602 - 8.69100I$	$-9.5519 + 10.7782I$
$u = -0.996270 + 0.508137I$ $a = 1.52676 - 1.27697I$ $b = 1.35417 - 2.11897I$	$-4.55602 + 8.69100I$	$-9.5519 - 10.7782I$
$u = -0.977623 - 0.388503I$ $a = 0.596245 - 0.866352I$ $b = -0.03486 - 1.57327I$	$-2.32226 - 1.24315I$	$-7.51601 + 1.77666I$
$u = -0.977623 + 0.388503I$ $a = 0.596245 + 0.866352I$ $b = -0.03486 + 1.57327I$	$-2.32226 + 1.24315I$	$-7.51601 - 1.77666I$
$u = -0.975707 - 0.610762I$ $a = -0.62324 + 1.36227I$ $b = -0.52722 + 1.88564I$	$1.33081 - 5.80685I$	$-0.49748 + 2.96583I$
$u = -0.975707 + 0.610762I$ $a = -0.62324 - 1.36227I$ $b = -0.52722 - 1.88564I$	$1.33081 + 5.80685I$	$-0.49748 - 2.96583I$
$u = -0.975191 - 0.802312I$ $a = 0.342519 - 0.375317I$ $b = 0.668184 - 0.592960I$	$-0.17375 + 2.12643I$	$1.82540 - 2.47762I$
$u = -0.975191 + 0.802312I$ $a = 0.342519 + 0.375317I$ $b = 0.668184 + 0.592960I$	$-0.17375 - 2.12643I$	$1.82540 + 2.47762I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.924727 - 0.517678I$ $a = -0.863560 + 0.619122I$ $b = 0.467139 + 0.806199I$	$0.45026 - 4.79181I$	$-0.15259 + 7.03829I$
$u = -0.924727 + 0.517678I$ $a = -0.863560 - 0.619122I$ $b = 0.467139 - 0.806199I$	$0.45026 + 4.79181I$	$-0.15259 - 7.03829I$
$u = -0.752985 - 0.489193I$ $a = -0.627058 + 0.474059I$ $b = -0.55835 + 1.75677I$	$1.014238 + 0.642379I$	$1.80721 - 0.11992I$
$u = -0.752985 + 0.489193I$ $a = -0.627058 - 0.474059I$ $b = -0.55835 - 1.75677I$	$1.014238 - 0.642379I$	$1.80721 + 0.11992I$
$u = -0.739122$ $a = -0.248901$ $b = -0.983119$	-1.38852	-6.88264
$u = -0.673774 - 0.680573I$ $a = -1.39584 + 0.55251I$ $b = -0.818171 + 0.436330I$	$2.25905 + 0.80230I$	$0.92534 + 2.59442I$
$u = -0.673774 + 0.680573I$ $a = -1.39584 - 0.55251I$ $b = -0.818171 - 0.436330I$	$2.25905 - 0.80230I$	$0.92534 - 2.59442I$
$u = -0.664713 - 0.901270I$ $a = 0.316246 - 0.768516I$ $b = 0.0867298 - 0.0233442I$	$0.76601 - 8.29993I$	$-0.30770 + 8.55328I$
$u = -0.664713 + 0.901270I$ $a = 0.316246 + 0.768516I$ $b = 0.0867298 + 0.0233442I$	$0.76601 + 8.29993I$	$-0.30770 - 8.55328I$
$u = -0.625758 - 0.688459I$ $a = 0.830176 - 0.299949I$ $b = -1.004243 + 0.207988I$	$-0.11523 + 4.15027I$	$0.94080 - 7.78143I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.625758 + 0.688459I$ $a = 0.830176 + 0.299949I$ $b = -1.004243 - 0.207988I$	$-0.11523 - 4.15027I$	$0.94080 + 7.78143I$
$u = -0.615476 - 0.379015I$ $a = -1.00225 - 2.24377I$ $b = -0.43531 - 1.63448I$	$-3.30658 + 4.72348I$	$-5.58332 - 6.33030I$
$u = -0.615476 + 0.379015I$ $a = -1.00225 + 2.24377I$ $b = -0.43531 + 1.63448I$	$-3.30658 - 4.72348I$	$-5.58332 + 6.33030I$
$u = -0.496050 - 0.990597I$ $a = -0.739619 + 0.115008I$ $b = -0.009229 - 0.339720I$	$-1.79007 + 3.25272I$	$-13.0435 - 8.7098I$
$u = -0.496050 + 0.990597I$ $a = -0.739619 - 0.115008I$ $b = -0.009229 + 0.339720I$	$-1.79007 - 3.25272I$	$-13.0435 + 8.7098I$
$u = -0.449623 - 0.869894I$ $a = 0.880654 - 0.367992I$ $b = -0.207885 - 0.261854I$	$-2.85677 + 1.64370I$	$-7.75943 - 2.24753I$
$u = -0.449623 + 0.869894I$ $a = 0.880654 + 0.367992I$ $b = -0.207885 + 0.261854I$	$-2.85677 - 1.64370I$	$-7.75943 + 2.24753I$
$u = -0.447859 - 0.671931I$ $a = -1.87642 + 0.56474I$ $b = 0.130961 + 0.090449I$	$1.77660 + 4.02492I$	$0.17347 - 6.76364I$
$u = -0.447859 + 0.671931I$ $a = -1.87642 - 0.56474I$ $b = 0.130961 - 0.090449I$	$1.77660 - 4.02492I$	$0.17347 + 6.76364I$
$u = -0.428715 - 0.913019I$ $a = 1.34702 - 0.75017I$ $b = -0.0435374 + 0.0339032I$	$-0.60805 + 12.89858I$	$-2.78591 - 6.86408I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.428715 + 0.913019I$ $a = 1.34702 + 0.75017I$ $b = -0.0435374 - 0.0339032I$	$-0.60805 - 12.89858I$	$-2.78591 + 6.86408I$
$u = -0.354109 - 0.566658I$ $a = -0.20839 + 1.71453I$ $b = 0.158951 + 0.037957I$	$1.64684 - 2.43797I$	$2.84733 + 5.71641I$
$u = -0.354109 + 0.566658I$ $a = -0.20839 - 1.71453I$ $b = 0.158951 - 0.037957I$	$1.64684 + 2.43797I$	$2.84733 - 5.71641I$
$u = -0.218358 - 0.637926I$ $a = -0.06873 - 1.63031I$ $b = 0.108551 - 0.766721I$	$-1.85031 - 2.56322I$	$-6.18413 + 3.93965I$
$u = -0.218358 + 0.637926I$ $a = -0.06873 + 1.63031I$ $b = 0.108551 + 0.766721I$	$-1.85031 + 2.56322I$	$-6.18413 - 3.93965I$
$u = -0.101920 - 0.161611I$ $a = 5.08879 + 2.76540I$ $b = -0.813297 + 0.791546I$	$-3.57518 - 4.92310I$	$-5.82846 + 5.55723I$
$u = -0.101920 + 0.161611I$ $a = 5.08879 - 2.76540I$ $b = -0.813297 - 0.791546I$	$-3.57518 + 4.92310I$	$-5.82846 - 5.55723I$
$u = 0.006650 - 0.312081I$ $a = 2.03856 - 0.08521I$ $b = 0.374046 - 0.586181I$	$-0.10044 - 1.46604I$	$-1.33207 + 4.65115I$
$u = 0.006650 + 0.312081I$ $a = 2.03856 + 0.08521I$ $b = 0.374046 + 0.586181I$	$-0.10044 + 1.46604I$	$-1.33207 - 4.65115I$
$u = 0.075086 - 0.748808I$ $a = -0.181568 + 0.737649I$ $b = 0.146756 - 0.694641I$	$-1.112250 + 0.388404I$	$-7.25189 + 0.86947I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.075086 + 0.748808I$ $a = -0.181568 - 0.737649I$ $b = 0.146756 + 0.694641I$	$-1.112250 - 0.388404I$	$-7.25189 - 0.86947I$
$u = 0.405104 - 0.752731I$ $a = 0.901410 + 1.035964I$ $b = 0.0826174 - 0.1073362I$	$2.65024 - 1.18829I$	$2.48161 + 2.04057I$
$u = 0.405104 + 0.752731I$ $a = 0.901410 - 1.035964I$ $b = 0.0826174 + 0.1073362I$	$2.65024 + 1.18829I$	$2.48161 - 2.04057I$
$u = 0.429981 - 0.911902I$ $a = -1.120145 - 0.766369I$ $b = 0.0212002 - 0.1044097I$	$2.97894 - 6.84382I$	$-0.18545 + 5.41332I$
$u = 0.429981 + 0.911902I$ $a = -1.120145 + 0.766369I$ $b = 0.0212002 + 0.1044097I$	$2.97894 + 6.84382I$	$-0.18545 - 5.41332I$
$u = 0.466725 - 0.737603I$ $a = 1.42032 + 0.91870I$ $b = 0.1156979 - 0.0795019I$	$2.86820 - 1.36185I$	$3.07135 - 2.06335I$
$u = 0.466725 + 0.737603I$ $a = 1.42032 - 0.91870I$ $b = 0.1156979 + 0.0795019I$	$2.86820 + 1.36185I$	$3.07135 + 2.06335I$
$u = 0.634934 - 0.802709I$ $a = 1.47403 + 0.38556I$ $b = 0.659853 - 0.244147I$	$1.86423 - 3.20245I$	$-1.94768 + 8.18741I$
$u = 0.634934 + 0.802709I$ $a = 1.47403 - 0.38556I$ $b = 0.659853 + 0.244147I$	$1.86423 + 3.20245I$	$-1.94768 - 8.18741I$
$u = 0.672652 - 0.846131I$ $a = -0.468744 - 0.608150I$ $b = 0.167158 - 0.147970I$	$4.46641 + 2.42852I$	$4.91374 - 5.95654I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.672652 + 0.846131I$ $a = -0.468744 + 0.608150I$ $b = 0.167158 + 0.147970I$	$4.46641 - 2.42852I$	$4.91374 + 5.95654I$
$u = 0.750807 - 0.299367I$ $a = 0.175645 - 0.346534I$ $b = -1.04719 + 1.88145I$	$-3.99132 - 4.54373I$	$-5.61333 + 7.29573I$
$u = 0.750807 + 0.299367I$ $a = 0.175645 + 0.346534I$ $b = -1.04719 - 1.88145I$	$-3.99132 + 4.54373I$	$-5.61333 - 7.29573I$
$u = 0.806626 - 0.328363I$ $a = 1.12678 - 1.29527I$ $b = 0.67077 - 1.59191I$	$-0.86286 - 1.24545I$	$0.709038 - 0.323843I$
$u = 0.806626 + 0.328363I$ $a = 1.12678 + 1.29527I$ $b = 0.67077 + 1.59191I$	$-0.86286 + 1.24545I$	$0.709038 + 0.323843I$
$u = 0.870044 - 0.480517I$ $a = 0.175943 + 1.161660I$ $b = 0.90343 + 2.07533I$	$-0.01641 + 4.09614I$	$-1.96735 - 7.01436I$
$u = 0.870044 + 0.480517I$ $a = 0.175943 - 1.161660I$ $b = 0.90343 - 2.07533I$	$-0.01641 - 4.09614I$	$-1.96735 + 7.01436I$
$u = 0.879002 - 0.787037I$ $a = -0.414150 - 0.438911I$ $b = 0.364802 - 1.004687I$	$4.02171 + 2.95510I$	$27.8991 + 17.9786I$
$u = 0.879002 + 0.787037I$ $a = -0.414150 + 0.438911I$ $b = 0.364802 + 1.004687I$	$4.02171 - 2.95510I$	$27.8991 - 17.9786I$
$u = 0.880058 - 0.464769I$ $a = 1.331637 - 0.207829I$ $b = 0.072069 - 0.785508I$	$-0.029889 - 0.257369I$	$-1.67167 + 0.16087I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.880058 + 0.464769I$		
$a = 1.331637 + 0.207829I$	$-0.029889 + 0.257369I$	$-1.67167 - 0.16087I$
$b = 0.072069 + 0.785508I$		
$u = 0.965778 - 0.375285I$		
$a = -0.86506 - 1.56678I$	$-5.45176 - 2.92622I$	$-12.94139 + 0.39217I$
$b = -0.04516 - 2.52906I$		
$u = 0.965778 + 0.375285I$		
$a = -0.86506 + 1.56678I$	$-5.45176 + 2.92622I$	$-12.94139 - 0.39217I$
$b = -0.04516 + 2.52906I$		
$u = 0.973650 - 0.694839I$		
$a = -0.318730 - 0.484842I$	$3.55118 + 3.28339I$	$4.03404 - 1.71658I$
$b = -0.47806 - 1.33120I$		
$u = 0.973650 + 0.694839I$		
$a = -0.318730 + 0.484842I$	$3.55118 - 3.28339I$	$4.03404 + 1.71658I$
$b = -0.47806 + 1.33120I$		
$u = 0.987727 - 0.470053I$		
$a = -0.874102 + 1.101592I$	$-1.83419 + 4.63645I$	$-4.58372 - 7.30891I$
$b = -0.41974 + 1.75918I$		
$u = 0.987727 + 0.470053I$		
$a = -0.874102 - 1.101592I$	$-1.83419 - 4.63645I$	$-4.58372 + 7.30891I$
$b = -0.41974 - 1.75918I$		
$u = 0.995542 - 0.475110I$		
$a = 0.138752 + 0.755747I$	$-5.13430 + 8.04503I$	$-9.6013 - 10.6646I$
$b = -1.33493 + 2.41258I$		
$u = 0.995542 + 0.475110I$		
$a = 0.138752 - 0.755747I$	$-5.13430 - 8.04503I$	$-9.6013 + 10.6646I$
$b = -1.33493 - 2.41258I$		
$u = 1.011091 - 0.221470I$		
$a = 0.848423 - 0.857911I$	$-2.35042 - 2.26476I$	$-8.58667 + 4.38593I$
$b = 1.46054 - 2.02416I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.011091 + 0.221470I$ $a = 0.848423 + 0.857911I$ $b = 1.46054 + 2.02416I$	$-2.35042 + 2.26476I$	$-8.58667 - 4.38593I$
$u = 1.014497 - 0.332558I$ $a = -1.306438 - 0.407224I$ $b = -1.14854 - 1.31518I$	$-5.27860 + 5.21926I$	$-11.60944 - 4.37162I$
$u = 1.014497 + 0.332558I$ $a = -1.306438 + 0.407224I$ $b = -1.14854 + 1.31518I$	$-5.27860 - 5.21926I$	$-11.60944 + 4.37162I$
$u = 1.020190 - 0.667572I$ $a = 0.33571 + 1.48326I$ $b = 0.78618 + 2.13512I$	$0.67232 + 8.72797I$	$-2.71573 - 11.48589I$
$u = 1.020190 + 0.667572I$ $a = 0.33571 - 1.48326I$ $b = 0.78618 - 2.13512I$	$0.67232 - 8.72797I$	$-2.71573 + 11.48589I$
$u = 1.075408 - 0.597824I$ $a = 0.587104 + 1.271128I$ $b = 1.24856 + 2.38063I$	$1.06241 + 6.45710I$	$0.00929 - 1.42723I$
$u = 1.075408 + 0.597824I$ $a = 0.587104 - 1.271128I$ $b = 1.24856 - 2.38063I$	$1.06241 - 6.45710I$	$0.00929 + 1.42723I$
$u = 1.100374 - 0.437749I$ $a = -0.0070112 + 0.1117927I$ $b = 1.136960 - 0.207869I$	$-4.12669 + 3.67423I$	$-10.07734 - 4.03813I$
$u = 1.100374 + 0.437749I$ $a = -0.0070112 - 0.1117927I$ $b = 1.136960 + 0.207869I$	$-4.12669 - 3.67423I$	$-10.07734 + 4.03813I$
$u = 1.127018 - 0.597691I$ $a = 0.516035 + 0.834251I$ $b = 1.15114 + 1.56862I$	$0.49504 + 6.34073I$	$-1.73992 - 6.59022I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.127018 + 0.597691I$ $a = 0.516035 - 0.834251I$ $b = 1.15114 - 1.56862I$	$0.49504 - 6.34073I$	$-1.73992 + 6.59022I$
$u = 1.143248 - 0.655258I$ $a = -0.505428 - 1.065154I$ $b = -0.88668 - 2.16265I$	$0.81340 + 12.59147I$	$-2.92122 - 8.68202I$
$u = 1.143248 + 0.655258I$ $a = -0.505428 + 1.065154I$ $b = -0.88668 + 2.16265I$	$0.81340 - 12.59147I$	$-2.92122 + 8.68202I$
$u = 1.252007 - 0.048226I$ $a = -0.260654 + 0.718199I$ $b = -0.16836 + 1.55486I$	$-8.89731 + 0.89969I$	$-13.64478 + 0.29275I$
$u = 1.252007 + 0.048226I$ $a = -0.260654 - 0.718199I$ $b = -0.16836 - 1.55486I$	$-8.89731 - 0.89969I$	$-13.64478 - 0.29275I$
$u = 1.287219 - 0.072108I$ $a = -0.680498 + 0.663142I$ $b = -1.38360 + 1.39268I$	$-6.77231 - 10.02237I$	$-8.58955 + 7.28512I$
$u = 1.287219 + 0.072108I$ $a = -0.680498 - 0.663142I$ $b = -1.38360 - 1.39268I$	$-6.77231 + 10.02237I$	$-8.58955 - 7.28512I$
$u = 1.67861$ $a = -0.00106092$ $b = 0.146541$	-10.1758	-132.062

III. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{21} + 2u^{20} + \dots - 2u + 1)(u^{108} + 3u^{107} + \dots - 10u - 1)$
c_2	$(u^{21} + 12u^{20} + \dots + 16u + 1)(u^{108} + 49u^{107} + \dots - 24u + 1)$
c_3	$(u^{21} - 6u^{19} + \dots + u - 1)(u^{108} + u^{107} + \dots - 83u - 59)$
c_4	$(u^{21} + 4u^{19} + \dots + 4u - 1)(u^{108} + u^{107} + \dots + 9996u + 1033)$
c_5	$(u^{21} - 2u^{20} + \dots - 2u - 1)(u^{108} + 3u^{107} + \dots - 10u - 1)$
c_6	$(u^{21} + 4u^{20} + \dots - 2u + 1)(u^{108} + 5u^{107} + \dots - 40u + 1)$
c_7	$(u^{21} - 2u^{19} + \dots - u - 1)(u^{108} + u^{107} + \dots - 47121u - 5231)$
c_8	$(u^{21} - 10u^{20} + \dots + 14u - 1)(u^{108} + 3u^{107} + \dots + 554u - 1)$
c_9	$(u^{21} + 11u^{20} + \dots + 13u + 1)(u^{108} + 6u^{107} + \dots + 4092u + 176)$
c_{10}	$(u^{21} - 6u^{19} + \dots + u + 1)(u^{108} + u^{107} + \dots - 83u - 59)$
c_{11}	$(u^{21} - 2u^{20} + \dots + 4u + 1)(u^{108} + 11u^{107} + \dots + 776u + 56)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{21} - 12y^{20} + \dots + 16y - 1)(y^{108} - 49y^{107} + \dots + 24y + 1)$
c_2	$(y^{21} - 32y^{19} + \dots + 32y - 1)(y^{108} + 27y^{107} + \dots + 756y + 1)$
c_3	$(y^{21} - 12y^{20} + \dots + 17y - 1)(y^{108} - 65y^{107} + \dots - 78869y + 3481)$
c_4	$(y^{21} + 8y^{20} + \dots + 10y - 1)$ $(y^{108} - 5y^{107} + \dots + 107533242y + 1067089)$
c_6	$(y^{21} - 12y^{20} + \dots + 10y - 1)(y^{108} - 9y^{107} + \dots - 94y + 1)$
c_7	$(y^{21} - 4y^{20} + \dots - 13y - 1)$ $(y^{108} + 19y^{107} + \dots + 1542196424y + 27363361)$
c_8	$(y^{21} + 4y^{20} + \dots + 30y - 1)(y^{108} - 13y^{107} + \dots - 315250y + 1)$
c_9	$(y^{21} + 3y^{20} + \dots + 9y - 1)(y^{108} - 22y^{107} + \dots - 5774384y + 30976)$
c_{10}	$(y^{21} - 12y^{20} + \dots + 17y - 1)(y^{108} - 65y^{107} + \dots - 78869y + 3481)$
c_{11}	$(y^{21} - 10y^{20} + \dots + 12y - 1)(y^{108} - 3y^{107} + \dots + 93344y + 3136)$