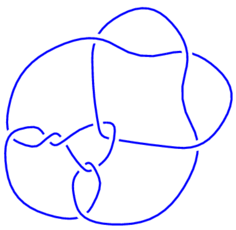
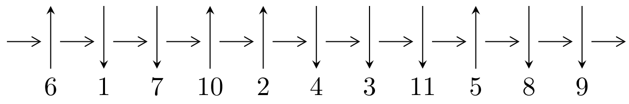
$11a_{102}$ ($K11a_{102}$)



[1]

Arc Sequences



Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{4} I_i^u$$

$$\begin{aligned}
I_1^u &= \langle a^4 + 3a^2 + 1,\ -a^3 - 2a + u,\ -a^3 + a^2 + b - 2a + 2\rangle \\
I_2^u &= \langle u^4 - u^3 + 3u^2 - 2u + 1,\ u^3 + 2b + 3u + 1,\ -u^3 + u^2 + a - 3u + 2\rangle \\
I_3^u &= \langle u^{15} + 5u^{13} + 3u^{12} + 10u^{11} + 12u^{10} + 14u^9 + 18u^8 + 17u^7 + 13u^6 + 13u^5 + 5u^4 + 3u^3 + u^2 - u - 1, \\
&\quad u^{11} + 3u^9 + 2u^8 + 4u^7 + 4u^6 + 5u^5 + 4u^4 + 3u^3 + 2u^2 + b + u, \\
&\quad u^{11} + 4u^9 + 2u^8 + 6u^7 + 6u^6 + 6u^5 + 6u^4 + 5u^3 + 2u^2 + a + 2u\rangle \\
I_4^u &= \langle u^{42} - 2u^{41} + \cdots - 48u + 9, \\
&\quad - 7.99709 \times 10^{21} u^{41} + 1.02860 \times 10^{22} u^{40} + \cdots + 1.31722 \times 10^{22} a + 1.40009 \times 10^{23}, \\
&\quad - 1.01341 \times 10^{22} u^{41} + 1.66129 \times 10^{22} u^{40} + \cdots + 2.63445 \times 10^{22} b + 9.20064 \times 10^{22}\rangle
\end{aligned}$$

There are 4 irreducible components with 65 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. $\boldsymbol{I_1^u = \langle a^4 + 3a^2 + 1,\ -a^3 - 2a + u,\ -a^3 + a^2 + b - 2a + 2\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ a^3 + 2a \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ a^3 - a^2 + 2a - 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a^3 + a \\ a^3 + 3a - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a^3 + a \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a^3 + a + 1 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a^3 + 2a \\ a^3 + 2a \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} a^3 + 2a \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a \\ a^3 - a^2 + 3a - 2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -a^2 \\ a^3 + 2a \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -a^2 \\ a^3 + 2a \end{pmatrix}$$

(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
$u = -1.00000I$ $a = -0.618034I$ $b = -1.61803 - 1.00000I$	-0.986960	-8.00000
$u = 1.00000I$ $a = 0.618034I$ $b = -1.61803 + 1.00000I$	-0.986960	-8.00000
$u = 1.00000I$ $a = -1.61803I$ $b = 0.618034 + 1.000000I$	-8.88264	-8.00000
$u = -1.00000I$ $a = 1.61803I$ $b = 0.618034 - 1.000000I$	-8.88264	-8.00000

II. $\boldsymbol{I_2^u = \langle u^4 - u^3 + 3u^2 - 2u + 1,\ u^3 + 2b + 3u + 1,\ -u^3 + u^2 + a - 3u + 2\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 - u^2 + 3u - 2 \\ -\frac{1}{2}u^3 - \frac{3}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 - u^2 + 3u - 2 \\ -\frac{1}{2}u^3 - \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 - u^2 + 3u - 2 \\ -\frac{1}{2}u^3 - \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

(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
$u = \quad 0.10488 - 1.55249I$ $a = -0.043315 - 0.641200I$ $b = -0.278726 + 0.483420I$	$5.14581 + 3.16396I$	$2.13894 + 0.11292I$
$u = \quad 0.10488 + 1.55249I$ $a = -0.043315 + 0.641200I$ $b = -0.278726 - 0.483420I$	$5.14581 - 3.16396I$	$2.13894 - 0.11292I$
$u = \quad 0.395123 - 0.506844I$ $a = -0.95668 - 1.22719I$ $b = -0.971274 + 0.813859I$	$-1.85594 + 1.41510I$	$-3.26394 - 5.88934I$
$u = \quad 0.395123 + 0.506844I$ $a = -0.95668 + 1.22719I$ $b = -0.971274 - 0.813859I$	$-1.85594 - 1.41510I$	$-3.26394 + 5.88934I$

III.

$$\boldsymbol{I_3^u = \langle u^{15} + 5u^{13} + \cdots - u - 1,\ u^{11} + 3u^9 + \cdots + b + u,\ u^{11} + 4u^9 + \cdots + a + 2u\rangle}$$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{11} - 4u^9 - 2u^8 - 6u^7 - 6u^6 - 6u^5 - 6u^4 - 5u^3 - 2u^2 - 2u \\ -u^{11} - 3u^9 - 2u^8 - 4u^7 - 4u^6 - 5u^5 - 4u^4 - 3u^3 - 2u^2 - u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^8 - 3u^6 - 2u^5 - 3u^4 - 4u^3 - 2u^2 - 2u - 1 \\ -u^{10} - 4u^8 - 2u^7 - 5u^6 - 6u^5 - 4u^4 - 4u^3 - 3u^2 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{11} - 4u^9 - 2u^8 - 6u^7 - 6u^6 - 6u^5 - 6u^4 - 5u^3 - 2u^2 - 2u \\ u^{13} + 3u^{11} + 2u^{10} + 3u^9 + 4u^8 + 2u^7 + 2u^6 - 2u^4 - u^3 - 2u^2 - u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^5 - u^3 - u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^5 - u^3 - u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =**unknown**

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.874669 - 0.344338I$ $a = -1.48983 + 0.33594I$ $b = -1.93202 - 0.08403I$	$-5.87256 - 4.40083I$	$-6.74431 + 3.49859I$
$u = -0.874669 + 0.344338I$ $a = -1.48983 - 0.33594I$ $b = -1.93202 + 0.08403I$	$-5.87256 + 4.40083I$	$-6.74431 - 3.49859I$
$u = -0.550495 - 0.307358I$ $a = 0.854377 + 0.521914I$ $b = 0.171819 - 0.000842I$	$-0.32910 - 1.53058I$	$-2.51511 + 4.43065I$
$u = -0.550495 + 0.307358I$ $a = 0.854377 - 0.521914I$ $b = 0.171819 + 0.000842I$	$-0.32910 + 1.53058I$	$-2.51511 - 4.43065I$
$u = -0.239239 - 1.082454I$ $a = 0.237058 - 1.072584I$ $b = 2.91128 + 1.65716I$	-2.40108	-3.48114
$u = -0.239239 + 1.082454I$ $a = 0.237058 + 1.072584I$ $b = 2.91128 - 1.65716I$	-2.40108	-3.48114
$u = 0.157939 - 1.235434I$ $a = -0.469512 - 0.190833I$ $b = -1.82301 - 0.19779I$	$-0.32910 + 1.53058I$	$-2.51511 - 4.43065I$
$u = 0.157939 + 1.235434I$ $a = -0.469512 + 0.190833I$ $b = -1.82301 + 0.19779I$	$-0.32910 - 1.53058I$	$-2.51511 + 4.43065I$
$u = 0.25402 - 1.40443I$ $a = 0.328044 + 0.950888I$ $b = 2.06537 - 0.05212I$	$-5.87256 + 4.40083I$	$-6.74431 - 3.49859I$
$u = 0.25402 + 1.40443I$ $a = 0.328044 - 0.950888I$ $b = 2.06537 + 0.05212I$	$-5.87256 - 4.40083I$	$-6.74431 + 3.49859I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.392556 - 0.928076I$ $a = 0.382795 - 0.495847I$ $b = 0.115873 - 0.630746I$	$-0.32910 - 1.53058I$	$-2.51511 + 4.43065I$
$u = 0.392556 + 0.928076I$ $a = 0.382795 + 0.495847I$ $b = 0.115873 + 0.630746I$	$-0.32910 + 1.53058I$	$-2.51511 - 4.43065I$
$u = 0.478478$ $a = -2.54502$ $b = -1.68075$	-2.40108	-3.48114
$u = 0.620645 - 1.060089I$ $a = 0.429576 + 1.086861I$ $b = 1.33107 - 0.91192I$	$-5.87256 - 4.40083I$	$-6.74431 + 3.49859I$
$u = 0.620645 + 1.060089I$ $a = 0.429576 - 1.086861I$ $b = 1.33107 + 0.91192I$	$-5.87256 + 4.40083I$	$-6.74431 - 3.49859I$

IV. $\boldsymbol{I^u_4 =}$
$\boldsymbol{\langle u^{42} - 2u^{41} + \cdots - 48u + 9,\ -8.00 \times 10^{21} u^{41} + 1.03 \times 10^{22} u^{40} + \cdots + 1.32 \times 10^{22} a + 1.40 \times 10^{23},\ -1.01 \times 10^{22} u^{41} + 1.66 \times 10^{22} u^{40} + \cdots + 2.63 \times 10^{22} b + 9.20 \times 10^{22} \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.607117u^{41} - 0.780881u^{40} + \cdots + 39.2356u - 10.6291 \\ 0.384676u^{41} - 0.630601u^{40} + \cdots + 11.3534u - 3.49244 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.156368u^{41} + 0.202779u^{40} + \cdots - 5.83398u + 0.985881 \\ -0.0795184u^{41} + 0.213521u^{40} + \cdots - 15.5452u + 3.30729 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.0179531u^{41} - 0.298526u^{40} + \cdots + 7.15707u - 1.16257 \\ -0.321754u^{41} + 0.449573u^{40} + \cdots - 9.45646u + 1.29102 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.478299u^{41} + 0.451049u^{40} + \cdots - 18.1689u + 5.16489 \\ -0.496252u^{41} + 0.749576u^{40} + \cdots - 25.3260u + 5.32746 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.607117u^{41} - 0.780881u^{40} + \cdots + 39.2356u - 10.6291 \\ 0.155857u^{41} - 0.142101u^{40} + \cdots - 3.98351u + 0.407741 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0863918u^{41} + 0.0143476u^{40} + \cdots - 0.349456u - 1.21758 \\ -0.205565u^{41} + 0.367169u^{40} + \cdots - 6.26652u + 1.19185 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0863918u^{41} + 0.0143476u^{40} + \cdots - 0.349456u - 1.21758 \\ -0.205565u^{41} + 0.367169u^{40} + \cdots - 6.26652u + 1.19185 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.721971 - 0.167290I$ $a = 1.85361 - 0.25337I$ $b = 2.40555 + 0.48631I$	$-5.07603 - 3.61628I$	$-8.76999 + 3.97464I$
$u = -0.721971 + 0.167290I$ $a = 1.85361 + 0.25337I$ $b = 2.40555 - 0.48631I$	$-5.07603 + 3.61628I$	$-8.76999 - 3.97464I$
$u = -0.685316 - 0.861119I$ $a = -0.715702 + 1.021237I$ $b = -1.34241 - 0.61978I$	$-4.33907 - 0.92313I$	$-6.58218 + 1.96577I$
$u = -0.685316 + 0.861119I$ $a = -0.715702 - 1.021237I$ $b = -1.34241 + 0.61978I$	$-4.33907 + 0.92313I$	$-6.58218 - 1.96577I$
$u = -0.547526 - 0.434925I$ $a = -0.447661 - 0.232192I$ $b = -0.478555 - 0.505398I$	$-0.14555 - 1.89662I$	$-0.46549 + 4.15100I$
$u = -0.547526 + 0.434925I$ $a = -0.447661 + 0.232192I$ $b = -0.478555 + 0.505398I$	$-0.14555 + 1.89662I$	$-0.46549 - 4.15100I$
$u = -0.34592 - 1.45551I$ $a = -0.442549 + 0.865413I$ $b = -2.02717 - 0.86796I$	$-0.13244 - 8.79986I$	$-2.66885 + 5.03818I$
$u = -0.34592 + 1.45551I$ $a = -0.442549 - 0.865413I$ $b = -2.02717 + 0.86796I$	$-0.13244 + 8.79986I$	$-2.66885 - 5.03818I$
$u = -0.292799 - 1.363811I$ $a = 0.374793 - 1.004435I$ $b = 1.93193 + 1.82849I$	$-0.22800 - 7.29302I$	$-3.85885 + 5.40090I$
$u = -0.292799 + 1.363811I$ $a = 0.374793 + 1.004435I$ $b = 1.93193 - 1.82849I$	$-0.22800 + 7.29302I$	$-3.85885 - 5.40090I$

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.233928-0.613039I$ $a=\ \ 0.422347+0.000410I$ $b=-0.110077-0.379155I$	$0.165616-1.199761I$	$1.09413+6.46841I$
$u=-0.233928+0.613039I$ $a=\ \ 0.422347-0.000410I$ $b=-0.110077+0.379155I$	$0.165616+1.199761I$	$1.09413-6.46841I$
$u=-0.23140-1.40351I$ $a=\ \ 0.623929-0.059962I$ $b=\ \ 0.965902+0.293545I$	$5.09584-4.47116I$	$1.35353+3.51083I$
$u=-0.23140+1.40351I$ $a=\ \ 0.623929+0.059962I$ $b=\ \ 0.965902-0.293545I$	$5.09584+4.47116I$	$1.35353-3.51083I$
$u=-0.16943-1.45640I$ $a=-0.386896+0.252041I$ $b=-0.667170-0.867135I$	$5.99098-4.47238I$	$2.83567+4.51985I$
$u=-0.16943+1.45640I$ $a=-0.386896-0.252041I$ $b=-0.667170+0.867135I$	$5.99098+4.47238I$	$2.83567-4.51985I$
$u=-0.088530-1.329414I$ $a=-0.356281-0.818610I$ $b=-0.691424+0.486857I$	$2.61565+0.48442I$	$-1.18826-1.33056I$
$u=-0.088530+1.329414I$ $a=-0.356281+0.818610I$ $b=-0.691424-0.486857I$	$2.61565-0.48442I$	$-1.18826+1.33056I$
$u=-0.07935-1.63033I$ $a=-0.070287+0.733138I$ $b=-0.326444-0.381680I$	$4.54070-3.45793I$	$-8.56940+4.77216I$
$u=-0.07935+1.63033I$ $a=-0.070287-0.733138I$ $b=-0.326444+0.381680I$	$4.54070+3.45793I$	$-8.56940-4.77216I$

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.03966 - 1.45077I$ $a = 0.457785 + 0.143329I$ $b = 0.664565 - 0.643345I$	$6.85342 - 1.08907I$	$3.57208 + 1.87970I$
$u = 0.03966 + 1.45077I$ $a = 0.457785 - 0.143329I$ $b = 0.664565 + 0.643345I$	$6.85342 + 1.08907I$	$3.57208 - 1.87970I$
$u = 0.136661 - 0.369266I$ $a = -1.33208 - 2.23399I$ $b = -0.68810 + 1.33005I$	$-2.24911 + 0.80040I$	$-10.34390 + 2.30566I$
$u = 0.136661 + 0.369266I$ $a = -1.33208 + 2.23399I$ $b = -0.68810 - 1.33005I$	$-2.24911 - 0.80040I$	$-10.34390 - 2.30566I$
$u = 0.145595 - 1.190175I$ $a = 0.106269 + 1.407179I$ $b = 0.38127 - 1.45641I$	$-8.34619 + 1.31277I$	$-3.80780 - 5.75825I$
$u = 0.145595 + 1.190175I$ $a = 0.106269 - 1.407179I$ $b = 0.38127 + 1.45641I$	$-8.34619 - 1.31277I$	$-3.80780 + 5.75825I$
$u = 0.183767 - 1.330836I$ $a = -0.345054 - 0.964778I$ $b = -1.77648 + 1.39586I$	$1.90495 + 2.38439I$	$-0.748912 - 0.739188I$
$u = 0.183767 + 1.330836I$ $a = -0.345054 + 0.964778I$ $b = -1.77648 - 1.39586I$	$1.90495 - 2.38439I$	$-0.748912 + 0.739188I$
$u = 0.238530 - 1.347953I$ $a = 0.409461 - 0.757225I$ $b = 0.090813 + 0.281522I$	$1.07465 + 4.16567I$	$-3.63331 - 3.63134I$
$u = 0.238530 + 1.347953I$ $a = 0.409461 + 0.757225I$ $b = 0.090813 - 0.281522I$	$1.07465 - 4.16567I$	$-3.63331 + 3.63134I$

Solution to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.32163 - 1.40565I$ $a = -0.696116 - 0.089376I$ $b = -0.950880 + 0.691902I$	$2.78819 + 9.89486I$	$-2.06286 - 7.44629I$
$u = 0.32163 + 1.40565I$ $a = -0.696116 + 0.089376I$ $b = -0.950880 - 0.691902I$	$2.78819 - 9.89486I$	$-2.06286 + 7.44629I$
$u = 0.39883 - 1.43016I$ $a = 0.513637 + 0.893993I$ $b = 2.32607 - 1.14325I$	$-3.0695 + 14.6861I$	$-5.13652 - 8.10029I$
$u = 0.39883 + 1.43016I$ $a = 0.513637 - 0.893993I$ $b = 2.32607 + 1.14325I$	$-3.0695 - 14.6861I$	$-5.13652 + 8.10029I$
$u = 0.595387 - 0.224674I$ $a = 2.33450 + 0.67070I$ $b = 1.58096 + 0.51334I$	$-11.12093 + 1.23717I$	$-12.55029 - 0.91395I$
$u = 0.595387 + 0.224674I$ $a = 2.33450 - 0.67070I$ $b = 1.58096 - 0.51334I$	$-11.12093 - 1.23717I$	$-12.55029 + 0.91395I$
$u = 0.596491 - 0.127774I$ $a = -0.96038 - 1.18419I$ $b = -0.897982 + 0.287975I$	$-3.60913 + 1.10388I$	$-10.34002 - 1.20607I$
$u = 0.596491 + 0.127774I$ $a = -0.96038 + 1.18419I$ $b = -0.897982 - 0.287975I$	$-3.60913 - 1.10388I$	$-10.34002 + 1.20607I$
$u = 0.792407 - 0.241239I$ $a = -0.708585 + 0.788677I$ $b = -0.371841 + 0.410028I$	$-2.45148 + 5.86761I$	$-6.25811 - 7.21816I$
$u = 0.792407 + 0.241239I$ $a = -0.708585 - 0.788677I$ $b = -0.371841 - 0.410028I$	$-2.45148 - 5.86761I$	$-6.25811 + 7.21816I$

Solution to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.947212 - 0.236763I$ $a = 1.53192 + 0.06227I$ $b = 2.23148 - 0.05406I$	$-8.35687 + 9.85804I$	$-8.74565 - 6.87807I$
$u = 0.947212 + 0.236763I$ $a = 1.53192 - 0.06227I$ $b = 2.23148 + 0.05406I$	$-8.35687 - 9.85804I$	$-8.74565 + 6.87807I$

V. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^2+1)^2(u^4-u^3+u^2+1)(u^{15}+5u^{13}+\cdots-u+1)$ $(u^{42}+2u^{41}+\cdots+36u+9)$
c_2	$(u+1)^4(u^4+u^3+\cdots+2u+1)(u^{15}+10u^{14}+\cdots+3u-1)$ $(u^{42}+18u^{41}+\cdots+936u+81)$
c_3	$(u^2+1)^2(u^4-u^3+\cdots-2u+1)(u^{15}+5u^{13}+\cdots-u+1)$ $(u^{42}+2u^{41}+\cdots+48u+9)$
c_4, c_9	$u^4(u^4+3u^2+1)(u^5+u^4+2u^3+u^2+u+1)^3$ $(u^{42}-2u^{41}+\cdots-48u+64)$
c_5	$(u^2+1)^2(u^4+u^3+u^2+1)(u^{15}+5u^{13}+\cdots-u+1)$ $(u^{42}+2u^{41}+\cdots+36u+9)$
c_6, c_7	$(u^2+1)^2(u^4+u^3+\cdots+2u+1)(u^{15}+5u^{13}+\cdots-u+1)$ $(u^{42}+2u^{41}+\cdots+48u+9)$
c_8	$(u-1)^4(u^2+u-1)^2(u^5+u^4-2u^3-u^2+u-1)^3$ $(u^{42}+4u^{41}+\cdots-3u+4)$
c_{10}, c_{11}	$(u+1)^4(u^2-u-1)^2(u^5+u^4-2u^3-u^2+u-1)^3$ $(u^{42}+4u^{41}+\cdots-3u+4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y+1)^4(y^4+y^3+\cdots+2y+1)(y^{15}+10y^{14}+\cdots+3y-1)$ $(y^{42}+18y^{41}+\cdots+936y+81)$
c_2	$(y-1)^4(y^4+5y^3+\cdots+2y+1)(y^{15}-10y^{14}+\cdots+15y-1)$ $(y^{42}+18y^{41}+\cdots+43092y+6561)$
c_3, c_6, c_7	$(y+1)^4(y^4+5y^3+\cdots+2y+1)(y^{15}+10y^{14}+\cdots+3y-1)$ $(y^{42}+42y^{41}+\cdots+648y+81)$
c_4, c_9	$y^4(y^2+3y+1)^2(y^5+3y^4+4y^3+y^2-y-1)^3$ $(y^{42}+24y^{41}+\cdots+37632y+4096)$
c_8, c_{10}, c_{11}	$(y-1)^4(y^2-3y+1)^2(y^5-5y^4+8y^3-3y^2-y-1)^3$ $(y^{42}-40y^{41}+\cdots+431y+16)$