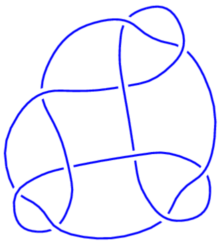
10_{75} $(K10a_{27})$



[1]

Arc Sequences

$$\to \overset{\uparrow}{8} \to \overset{\downarrow}{9} \to \overset{\uparrow}{10} \to \overset{\downarrow}{3} \to \overset{\uparrow}{1} \to \overset{\downarrow}{5} \to \overset{\uparrow}{2} \to \overset{\downarrow}{7} \to \overset{\uparrow}{4} \to \overset{\uparrow}{6} \to$$

Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{6} I_i^u$$

$$\begin{aligned}
I_1^u &= \langle u^2 + 1,\ b + u,\ a - 2u + 1 \rangle \\
I_2^u &= \langle a^6 - 2a^5 + 6a^4 - 11a^3 + 20a^2 - 15a + 9,\ -a^5 + 11a^4 - 9a^3 + 44a^2 + 48b - 32a + 63, \\
&\quad - 11a^5 + 13a^4 - 51a^3 + 88a^2 - 148a + 48u + 57 \rangle \\
I_3^u &= \langle u^6 + u^5 + 2u^4 + u^3 + 2u^2 + 2u + 1,\ b - u,\ u^4 + u^3 + u^2 + a + u + 1 \rangle \\
I_4^u &= \langle u^{10} - u^9 + 3u^8 - 3u^7 + 5u^6 - 5u^5 + 4u^4 - 4u^3 + 3u^2 - 2u + 1,\ -u^8 - 2u^6 - 2u^4 + b + u, \\
&\quad - u^9 + 2u^8 - 3u^7 + 5u^6 - 5u^5 + 7u^4 - 4u^3 + 4u^2 + a - 4u + 2 \rangle \\
I_5^u &= \langle u^{10} - u^9 + 3u^8 - 3u^7 + 5u^6 - 5u^5 + 4u^4 - 4u^3 + 3u^2 - 2u + 1,\ b - u,\ -u^9 - u^7 - u^5 + 2u^3 + a - 1 \rangle \\
I_6^u &= \langle u^{10} + 2u^9 + 5u^8 + 6u^7 + 7u^6 + 6u^5 + 4u^4 + 4u^3 + 3u^2 + 3u + 2,\ u^9 + u^7 - 2u^6 - u^5 - 2u^4 + 2a - u - 1, \\
&\quad - u^9 - u^8 - 3u^7 - 2u^6 - 3u^5 - 2u^4 - 2u^3 - 2u^2 + b - u - 1 \rangle
\end{aligned}$$

There are 6 irreducible components with 44 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. $I^u_1 = \langle u^2+1,\ b+u,\ a-2u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000I$ $a = -1.00000 - 2.00000I$ $b = 1.00000I$	-4.93480	-8.00000
$u = 1.00000I$ $a = -1.00000 + 2.00000I$ $b = -1.00000I$	-4.93480	-8.00000

II. $\boldsymbol{I_2^u = \langle a^6 - 2a^5 + 6a^4 - 11a^3 + 20a^2 - 15a + 9,\ -a^5 + 11a^4 - 9a^3 + 44a^2 + 48b - 32a + 63,\ -11a^5 + 48u + \cdots - 148a + 57\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} a \\ \frac{1}{48}a^5 - \frac{11}{48}a^4 + \cdots + \frac{2}{3}a - \frac{21}{16} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{3}{16}a^5 - \frac{1}{16}a^4 + \cdots + a + \frac{19}{16} \\ -\frac{1}{6}a^5 + \frac{1}{12}a^4 + \cdots - \frac{7}{12}a - \frac{1}{4} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ 0.229167a^5 - 0.270833a^4 + \cdots + 3.08333a - 1.18750 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.229167a^5 + 0.270833a^4 + \cdots - 3.08333a + 1.18750 \\ 0.229167a^5 - 0.270833a^4 + \cdots + 3.08333a - 1.18750 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.229167a^5 - 0.270833a^4 + \cdots + 3.08333a - 0.187500 \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{5}{24}a^5 - \frac{7}{24}a^4 + \cdots + \frac{8}{3}a - \frac{1}{8} \\ -0.145833a^5 - 0.145833a^4 + \cdots + 0.0833333a - 1.56250 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.0208333a^5 + 0.229167a^4 + \cdots - 1.66667a + 1.31250 \\ -0.0208333a^5 + 0.229167a^4 + \cdots - 0.666667a + 1.31250 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.270833a^5 + 0.729167a^4 + \cdots - 5.41667a + 3.81250 \\ \frac{1}{4}a^5 - \frac{1}{4}a^4 + \cdots + \frac{7}{2}a - \frac{1}{4} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ \frac{1}{48}a^5 - \frac{11}{48}a^4 + \cdots + \frac{5}{3}a - \frac{37}{16} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2$

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.341164 - 1.161541I$ $a = -0.57395 - 1.95409I$ $b = 0.341164 + 1.161541I$	-4.93480	-2.00000
$u = 0.341164 + 1.161541I$ $a = -0.57395 + 1.95409I$ $b = 0.341164 - 1.161541I$	-4.93480	-2.00000
$u = 0.341164 - 1.161541I$ $a = 0.449542 - 0.792552I$ $b = -0.682328$	-4.93480	-2.00000
$u = 0.341164 + 1.161541I$ $a = 0.449542 + 0.792552I$ $b = -0.682328$	-4.93480	-2.00000
$u = -0.682328$ $a = 1.12441 - 1.16154I$ $b = 0.341164 + 1.161541I$	-4.93480	-2.00000
$u = -0.682328$ $a = 1.12441 + 1.16154I$ $b = 0.341164 - 1.161541I$	-4.93480	-2.00000

III. $\boldsymbol{I_3^u = \langle u^6 + u^5 + 2u^4 + u^3 + 2u^2 + 2u + 1,\ b - u,\ u^4 + u^3 + u^2 + a + u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^4 - u^3 - u^2 - u - 1 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5 + u^4 + u^3 + u^2 + u + 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 - u^4 - u^3 - u^2 - u - 1 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^4 + u^3 + u^2 + 1 \\ -u^4 - u^3 - u^2 - u - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 + u^3 + u^2 + u + 1 \\ -u^4 - u^2 - u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6u^5 + 6u^4 + 6u^3 + 6u + 10$

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.560586 - 0.395699I$ $a = -0.512291 + 0.123240I$ $b = -0.560586 - 0.395699I$	$1.168614 + 0.699600I$	$7.03823 - 3.46364I$
$u = -0.560586 + 0.395699I$ $a = -0.512291 - 0.123240I$ $b = -0.560586 + 0.395699I$	$1.168614 - 0.699600I$	$7.03823 + 3.46364I$
$u = -0.540906 - 1.210937I$ $a = -1.16821 + 2.26348I$ $b = -0.540906 - 1.210937I$	$-6.7946 + 13.4307I$	$-3.19420 - 9.00183I$
$u = -0.540906 + 1.210937I$ $a = -1.16821 - 2.26348I$ $b = -0.540906 + 1.210937I$	$-6.7946 - 13.4307I$	$-3.19420 + 9.00183I$
$u = 0.601492 - 0.919611I$ $a = 1.18050 + 1.17568I$ $b = 0.601492 - 0.919611I$	$0.69113 - 7.13350I$	$2.15597 + 8.90831I$
$u = 0.601492 + 0.919611I$ $a = 1.18050 - 1.17568I$ $b = 0.601492 + 0.919611I$	$0.69113 + 7.13350I$	$2.15597 - 8.90831I$

IV.

$$\boldsymbol{I^u_4 = \langle u^{10} - u^9 + \cdots - 2u + 1,\ -u^8 - 2u^6 - 2u^4 + b + u,\ -u^9 + 2u^8 + \cdots + a + 2\rangle}$$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^9 - 2u^8 + 3u^7 - 5u^6 + 5u^5 - 7u^4 + 4u^3 - 4u^2 + 4u - 2\\ u^8 + 2u^6 + 2u^4 - u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^9 - u^7 + 2u^3 - 1\\ u^9 + 2u^7 + 2u^5 + 1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-u^3\\u^3 + u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^9 - 2u^8 + 3u^7 - 4u^6 + 5u^5 - 6u^4 + 4u^3 - 3u^2 + 3u - 2\\ -u^9 + 2u^8 - 3u^7 + 4u^6 - 5u^5 + 5u^4 - 4u^3 + 2u^2 - 3u + 1\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^9 - u^7 - u^5 + 2u^3 - u - 1\\ u^9 + u^7 + u^5 - 2u^3 + 1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^9 - u^7 - u^5 + 2u^3 - 1\\ u^9 + u^7 + u^5 - u^3 + 1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}1\\u^2\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^9 + 4u^8 - 8u^7 + 8u^6 - 8u^5 + 12u^4 + 4u^2 - 4u + 2$

(iv) Complex Volumes and Cusp Shapes

Solution to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.584958 - 0.771492I$ $a = -0.018849 - 0.242851I$ $b = 0.642886 - 0.580182I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = -0.584958 + 0.771492I$ $a = -0.018849 + 0.242851I$ $b = 0.642886 + 0.580182I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$
$u = -0.449566 - 1.164785I$ $a = 0.63928 - 2.01183I$ $b = -0.350885 + 1.264619I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = -0.449566 + 1.164785I$ $a = 0.63928 + 2.01183I$ $b = -0.350885 - 1.264619I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$
$u = 0.248527 - 0.782547I$ $a = -0.42945 - 2.34029I$ $b = 0.060791 + 1.179490I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.248527 + 0.782547I$ $a = -0.42945 + 2.34029I$ $b = 0.060791 - 1.179490I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = 0.524355 - 1.163405I$ $a = 0.549985 - 0.545833I$ $b = -0.871979 - 0.168588I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$
$u = 0.524355 + 1.163405I$ $a = 0.549985 + 0.545833I$ $b = -0.871979 + 0.168588I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = 0.761643 - 0.208049I$ $a = -0.740974 + 0.750766I$ $b = -0.480814 - 1.084508I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = 0.761643 + 0.208049I$ $a = -0.740974 - 0.750766I$ $b = -0.480814 + 1.084508I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$

V. $\boldsymbol{I^u_5 = \langle u^{10} - u^9 + \cdots - 2u + 1,\ b - u,\ -u^9 - u^7 - u^5 + 2u^3 + a - 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9 + u^7 + u^5 - 2u^3 + 1 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^9 + 2u^8 - 3u^7 + 4u^6 - 5u^5 + 6u^4 - 4u^3 + 3u^2 - 3u + 2 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^9 + u^7 - 2u^3 + 1 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^9 + u^8 - 3u^7 + 3u^6 - 5u^5 + 5u^4 - 4u^3 + 4u^2 - 3u + 2 \\ u^8 + 2u^6 + 2u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^9 + 2u^8 - 3u^7 + 5u^6 - 5u^5 + 7u^4 - 4u^3 + 4u^2 - 4u + 2 \\ u^9 + 3u^7 - u^6 + 5u^5 - 2u^4 + 3u^3 - 3u^2 + 2u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^9 + 4u^8 - 8u^7 + 8u^6 - 8u^5 + 12u^4 + 4u^2 - 4u + 2$

(iv) Complex Volumes and Cusp Shapes

Solution to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.584958 - 0.771492I$ $a = -1.066306 + 0.701097I$ $b = -0.584958 - 0.771492I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = -0.584958 + 0.771492I$ $a = -1.066306 - 0.701097I$ $b = -0.584958 + 0.771492I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$
$u = -0.449566 - 1.164785I$ $a = -1.60331 + 2.32638I$ $b = -0.449566 - 1.164785I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = -0.449566 + 1.164785I$ $a = -1.60331 - 2.32638I$ $b = -0.449566 + 1.164785I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$
$u = 0.248527 - 0.782547I$ $a = 2.10718 - 0.66119I$ $b = 0.248527 - 0.782547I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.248527 + 0.782547I$ $a = 2.10718 + 0.66119I$ $b = 0.248527 + 0.782547I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = 0.524355 - 1.163405I$ $a = 1.31976 + 2.14170I$ $b = 0.524355 - 1.163405I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$
$u = 0.524355 + 1.163405I$ $a = 1.31976 - 2.14170I$ $b = 0.524355 + 1.163405I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = 0.761643 - 0.208049I$ $a = 0.242678 + 0.144404I$ $b = 0.761643 - 0.208049I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = 0.761643 + 0.208049I$ $a = 0.242678 - 0.144404I$ $b = 0.761643 + 0.208049I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$

VI. $I^u_6 = \langle u^{10}+2u^9+\cdots+3u+2,\ u^9+u^7-2u^6-u^5-2u^4+2a-u-1,\ -u^9-u^8+\cdots+b-1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{1}{2}u^9 - \frac{1}{2}u^7 + \cdots + \frac{1}{2}u + \frac{1}{2} \\ u^9 + u^8 + 3u^7 + 2u^6 + 3u^5 + 2u^4 + 2u^3 + 2u^2 + u + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{2}u^9 + 2u^8 + \cdots + \frac{5}{2}u + \frac{3}{2} \\ -u^9 - 2u^8 - 4u^7 - 4u^6 - 4u^5 - 2u^4 - 2u^3 - u^2 - 2u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{1}{2}u^9 - 2u^8 + \cdots - \frac{5}{2}u - \frac{3}{2} \\ u^9 + 2u^8 + 3u^7 + 4u^6 + 2u^5 + 3u^4 + u^3 + 2u^2 + 2u + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{1}{2}u^9 - u^8 + \cdots - \frac{3}{2}u - \frac{3}{2} \\ u^9 + u^8 + 3u^7 + 2u^6 + 3u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{2}u^9 + \frac{1}{2}u^7 + \cdots - \frac{1}{2}u - \frac{1}{2} \\ u^9 + 2u^8 + 5u^7 + 5u^6 + 7u^5 + 4u^4 + 4u^3 + 3u^2 + 3u + 3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^7 - 8u^5 - 4u^3 + 4u - 2$

(iv) Complex Volumes and Cusp Shapes

Solution to I_6^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.871979 - 0.168588I$ $a = 0.581138 + 0.949670I$ $b = 0.524355 - 1.163405I$	$-3.67102 - 8.28632I$	$-0.17560 + 6.14881I$
$u = -0.871979 + 0.168588I$ $a = 0.581138 - 0.949670I$ $b = 0.524355 + 1.163405I$	$-3.67102 + 8.28632I$	$-0.17560 - 6.14881I$
$u = -0.480814 - 1.084508I$ $a = -0.419995 - 0.562559I$ $b = 0.761643 - 0.208049I$	$-0.87626 + 3.47839I$	$3.19503 - 2.79515I$
$u = -0.480814 + 1.084508I$ $a = -0.419995 + 0.562559I$ $b = 0.761643 + 0.208049I$	$-0.87626 - 3.47839I$	$3.19503 + 2.79515I$
$u = -0.350885 - 1.264619I$ $a = 0.65329 - 1.89901I$ $b = -0.449566 + 1.164785I$	$-8.16652 - 4.14585I$	$-4.98134 + 3.97600I$
$u = -0.350885 + 1.264619I$ $a = 0.65329 + 1.89901I$ $b = -0.449566 - 1.164785I$	$-8.16652 + 4.14585I$	$-4.98134 - 3.97600I$
$u = 0.060791 - 1.179490I$ $a = -0.29211 - 1.62812I$ $b = 0.248527 + 0.782547I$	$-3.73792 + 1.23169I$	$-0.90177 - 5.44908I$
$u = 0.060791 + 1.179490I$ $a = -0.29211 + 1.62812I$ $b = 0.248527 - 0.782547I$	$-3.73792 - 1.23169I$	$-0.90177 + 5.44908I$
$u = 0.642886 - 0.580182I$ $a = -0.272322 - 0.002172I$ $b = -0.584958 - 0.771492I$	$1.64732 + 2.31006I$	$4.86369 - 3.52133I$
$u = 0.642886 + 0.580182I$ $a = -0.272322 + 0.002172I$ $b = -0.584958 + 0.771492I$	$1.64732 - 2.31006I$	$4.86369 + 3.52133I$

VII. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_3, c_5 c_7, c_9, c_{10}	$(u^2+1)(u^3+u+1)^2(u^6+u^5+2u^4+u^3+2u^2+2u+1)$ $(u^{10}-u^9+3u^8-3u^7+5u^6-5u^5+4u^4-4u^3+3u^2-2u+1)^2$ $(u^{10}+2u^9+5u^8+6u^7+7u^6+6u^5+4u^4+4u^3+3u^2+3u+2)$
c_2	$u^2(u-1)^6(u^6+u^5-u^4+3u^3+4u^2-4u+4)$ $(u^{10}+2u^9-u^8-5u^7-3u^6+4u^5+12u^4+13u^3+5u^2+u+2)^3$
c_4, c_6, c_8	$(u+1)^2(u^3+2u^2+u-1)^2(u^6+3u^5+6u^4+5u^3+4u^2+1)$ $(u^{10}+5u^9+13u^8+19u^7+17u^6+7u^5-2u^3+u^2+2u+1)^2$ $(u^{10}+6u^9+15u^8+18u^7+7u^6-6u^5-6u^4+u^2+3u+4)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_3, c_5 c_7, c_9, c_{10}	$(y+1)^2(y^3+2y^2+y-1)^2(y^6+3y^5+6y^4+5y^3+4y^2+1)$ $(y^{10}+5y^9+13y^8+19y^7+17y^6+7y^5-2y^3+y^2+2y+1)^2$ $(y^{10}+6y^9+15y^8+18y^7+7y^6-6y^5-6y^4+y^2+3y+4)$
c_2	$y^2(y-1)^6(y^6-3y^5+3y^4-y^3+32y^2+16y+16)$ $(4+19y+47y^2-69y^3+16y^4+32y^5-17y^6-11y^7+15y^8-6y^9+y^{10})^3$
c_4, c_6, c_8	$(y-1)^2(-1+5y-2y^2+y^3)^2(y^6+3y^5+\cdots+8y+1)$ $(y^{10}-6y^9+\cdots-y+16)$ $(y^{10}+y^9+13y^8+11y^7+45y^6+35y^5+12y^4+2y^3+9y^2-2y+1)^2$