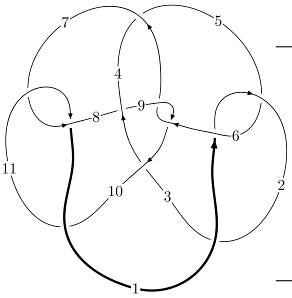
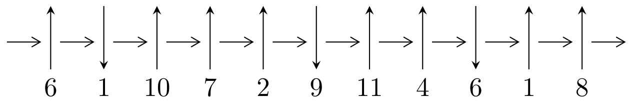
$11n_{84}$ ($K11n_{84}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$\begin{aligned}
I_1^u = \langle & 3u^8 + 4u^7 + 24u^6 + 25u^5 + 51u^4 + 41u^3 + 6u^2 + 4b + 3u + 5, \\
& -u^8 - 2u^7 - 8u^6 - 13u^5 - 17u^4 - 21u^3 + 4a + 5u + 3, \\
& u^9 + 2u^8 + 9u^7 + 14u^6 + 24u^5 + 27u^4 + 15u^3 + 5u^2 + 3u + 1\rangle \\
I_2^u = \langle & -347u^{13} - 980u^{12} + \cdots + 877b - 863,\ -2540u^{13} - 9801u^{12} + \cdots + 877a - 12943, \\
& u^{14} + 4u^{13} + \cdots + 19u + 1\rangle \\
I_3^u = \langle & -au + b - a - u - 1,\ a^2 + 2a + 2,\ u^2 + u + 1\rangle \\
I_4^u = \langle & b - u,\ a - u + 1,\ u^2 - u + 1\rangle \\
I_5^u = \langle & au + b - u - 1,\ a^2 + 2au - u,\ u^2 + u + 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 33 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I.

$\boldsymbol{I_1^u = \langle 3u^8+4u^7+\cdots+4b+5,\ -u^8-2u^7+\cdots+4a+3,\ u^9+2u^8+\cdots+3u+1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u^2+1\\-u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\u^3+u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}\frac{1}{4}u^8+\frac{1}{2}u^7+\cdots-\frac{5}{4}u-\frac{3}{4}\\-\frac{3}{4}u^8-u^7+\cdots-\frac{3}{4}u-\frac{5}{4}\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}\frac{1}{4}u^8+\frac{1}{4}u^7+\cdots+\frac{1}{4}u+2\\-u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^8+\frac{5}{4}u^7+\cdots-2u+\frac{1}{4}\\-\frac{1}{4}u^8-\frac{1}{4}u^7+\cdots+\frac{1}{4}u-\frac{1}{2}\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-\frac{3}{4}u^8-\frac{3}{2}u^7+\cdots-\frac{5}{4}u-\frac{1}{4}\\\frac{1}{4}u^8+\frac{1}{4}u^7+\cdots-\frac{3}{2}u^2+\frac{1}{4}u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}\frac{1}{4}u^8+\frac{1}{4}u^7+\cdots+\frac{5}{4}u+2\\-u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}\frac{1}{4}u^8+\frac{1}{4}u^7+\cdots+\frac{5}{4}u+2\\-\frac{1}{4}u^7-\frac{1}{4}u^6+\cdots-\frac{3}{2}u-\frac{1}{4}\end{pmatrix}$$
$$a_9 = \begin{pmatrix}\frac{1}{4}u^8+\frac{1}{4}u^7+\cdots+\frac{5}{4}u+2\\-\frac{1}{4}u^7-\frac{1}{4}u^6+\cdots-\frac{3}{2}u-\frac{1}{4}\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{3}{2}u^8-10u^6+\frac{5}{2}u^5-\frac{27}{2}u^4+\frac{19}{2}u^3+17u^2+\frac{3}{2}u+\frac{13}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_{10}	$u^9 - 2u^8 + 9u^7 - 14u^6 + 24u^5 - 27u^4 + 15u^3 - 5u^2 + 3u - 1$
c_2	$u^9 + 14u^8 + 73u^7 + 158u^6 + 76u^5 - 99u^4 + 71u^3 + 11u^2 - u - 1$
c_3	$u^9 + 14u^7 - 26u^6 + 44u^5 - 169u^4 + 122u^3 + 114u^2 - 57u - 31$
c_4	$u^9 + 6u^7 - 6u^6 + 24u^5 - 19u^4 + 34u^3 - 20u^2 + 15u + 1$
c_6, c_9	$u^9 - 5u^8 + 14u^7 - 25u^6 + 35u^5 - 39u^4 + 38u^3 - 27u^2 + 16u - 4$
c_7, c_8, c_{11}	$u^9 - u^7 + 4u^5 + u^4 - 3u^3 + u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_{10}	$y^9 + 14y^8 + 73y^7 + 158y^6 + 76y^5 - 99y^4 + 71y^3 + 11y^2 - y - 1$
c_2	$y^9 - 50y^8 + \cdots + 23y - 1$
c_3	$y^9 + 28y^8 + \cdots + 10317y - 961$
c_4	$y^9 + 12y^8 + \cdots + 265y - 1$
c_6, c_9	$y^9 + 3y^8 + \cdots + 40y - 16$
c_7, c_8, c_{11}	$y^9 - 2y^8 + 9y^7 - 14y^6 + 24y^5 - 27y^4 + 15y^3 - 5y^2 + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.727682+0.313317I$ $a=-0.701346+1.009510I$ $b=\ \ 0.871765-0.179703I$	$3.76690-2.81495I$	$13.8794+4.7349I$
$u=-0.727682-0.313317I$ $a=-0.701346-1.009510I$ $b=\ \ 0.871765+0.179703I$	$3.76690+2.81495I$	$13.8794-4.7349I$
$u=-0.478419$ $a=-0.563873$ $b=-0.691679$	1.19447	7.73920
$u=\ \ 0.170878+0.444157I$ $a=-1.35805-1.02770I$ $b=-0.390522+0.568670I$	$0.55350-1.83926I$	$2.90943+3.36389I$
$u=\ \ 0.170878-0.444157I$ $a=-1.35805+1.02770I$ $b=-0.390522-0.568670I$	$0.55350+1.83926I$	$2.90943-3.36389I$
$u=\ \ 0.14897+1.92931I$ $a=\ \ 0.300783-0.966751I$ $b=\ \ 0.945009-1.020790I$	$-12.44850-2.94293I$	$2.46663+2.24617I$
$u=\ \ 0.14897-1.92931I$ $a=\ \ 0.300783+0.966751I$ $b=\ \ 0.945009+1.020790I$	$-12.44850+2.94293I$	$2.46663-2.24617I$
$u=-0.35296+1.94993I$ $a=\ \ 0.040547+1.255940I$ $b=-1.080410+0.902403I$	$-11.3859-11.4316I$	$3.87498+6.27440I$
$u=-0.35296-1.94993I$ $a=\ \ 0.040547-1.255940I$ $b=-1.080410-0.902403I$	$-11.3859+11.4316I$	$3.87498-6.27440I$

II. $\boldsymbol{I_2^u = \langle -347u^{13} - 980u^{12} + \cdots + 877b - 863,\ -2540u^{13} - 9801u^{12} + \cdots + 877a - 12943,\ u^{14} + 4u^{13} + \cdots + 19u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2.89624u^{13} + 11.1756u^{12} + \cdots + 252.946u + 14.7583 \\ 0.395667u^{13} + 1.11745u^{12} + \cdots + 20.7822u + 0.984036 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3.98632u^{13} - 15.5063u^{12} + \cdots - 401.345u - 30.6956 \\ -0.391106u^{13} - 1.25884u^{12} + \cdots - 39.2098u - 3.02965 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.95781u^{13} - 7.57013u^{12} + \cdots - 227.044u - 28.2623 \\ 0.101482u^{13} + 0.127708u^{12} + \cdots - 27.8883u - 3.48575 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 3.96807u^{13} + 15.2657u^{12} + \cdots + 389.676u + 42.5861 \\ 0.438997u^{13} + 1.34436u^{12} + \cdots + 45.0445u + 4.98632 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3.59521u^{13} - 14.2474u^{12} + \cdots - 362.136u - 27.6659 \\ -0.391106u^{13} - 1.25884u^{12} + \cdots - 39.2098u - 3.02965 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -3.59521u^{13} - 14.2474u^{12} + \cdots - 362.136u - 27.6659 \\ -0.409350u^{13} - 1.68415u^{12} + \cdots - 40.2702u - 2.89624 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -3.59521u^{13} - 14.2474u^{12} + \cdots - 362.136u - 27.6659 \\ -0.409350u^{13} - 1.68415u^{12} + \cdots - 40.2702u - 2.89624 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1470}{877}u^{13} + \frac{4092}{877}u^{12} + \cdots + \frac{81882}{877}u + \frac{15012}{877}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_{10}	$u^{14} - 4u^{13} + \cdots - 19u + 1$
c_2	$u^{14} + 20u^{13} + \cdots - 119u + 1$
c_3	$u^{14} + 2u^{13} + \cdots - 325u + 169$
c_4	$u^{14} + 2u^{13} + \cdots - 35u + 71$
c_6, c_9	$(u^7 + u^6 + u^5 - u^4 + 2u^3 - 2u^2 + u + 1)^2$
c_7, c_8, c_{11}	$u^{14} - 2u^{13} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_{10}	$y^{14} + 20y^{13} + \cdots - 119y + 1$
c_2	$y^{14} - 36y^{13} + \cdots - 3183y + 1$
c_3	$y^{14} + 24y^{13} + \cdots + 94809y + 28561$
c_4	$y^{14} + 12y^{13} + \cdots + 15957y + 5041$
c_6, c_9	$(y^7 + y^6 + 7y^5 + 9y^4 + 2y^2 + 5y - 1)^2$
c_7, c_8, c_{11}	$y^{14} - 4y^{13} + \cdots - 19y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.043461 + 1.144030I$ $a = -0.160092 - 0.469191I$ $b = 1.114750 - 0.491580I$	$-1.06225 - 5.14002I$	$3.39387 + 6.24395I$
$u = 0.043461 - 1.144030I$ $a = -0.160092 + 0.469191I$ $b = 1.114750 + 0.491580I$	$-1.06225 + 5.14002I$	$3.39387 - 6.24395I$
$u = -0.555192 + 1.007120I$ $a = 0.060823 - 1.111620I$ $b = 0.332695 - 0.054624I$	$1.80997 - 2.06468I$	$8.36726 + 2.56334I$
$u = -0.555192 - 1.007120I$ $a = 0.060823 + 1.111620I$ $b = 0.332695 + 0.054624I$	$1.80997 + 2.06468I$	$8.36726 - 2.56334I$
$u = -0.607165 + 1.075310I$ $a = 0.087467 - 0.856283I$ $b = -0.959701 - 0.560232I$	-0.224468	$2.93248 + 0.I$
$u = -0.607165 - 1.075310I$ $a = 0.087467 + 0.856283I$ $b = -0.959701 + 0.560232I$	-0.224468	$2.93248 + 0.I$
$u = -1.00102 + 1.09598I$ $a = 0.213982 + 0.982289I$ $b = -0.742091 + 0.770818I$	$-1.06225 - 5.14002I$	$3.39387 + 6.24395I$
$u = -1.00102 - 1.09598I$ $a = 0.213982 - 0.982289I$ $b = -0.742091 - 0.770818I$	$-1.06225 + 5.14002I$	$3.39387 - 6.24395I$
$u = 0.36666 + 1.79136I$ $a = -0.101694 + 1.285900I$ $b = 1.032640 + 0.962970I$	$-12.15000 + 4.31290I$	$2.77263 - 1.98970I$
$u = 0.36666 - 1.79136I$ $a = -0.101694 - 1.285900I$ $b = 1.032640 - 0.962970I$	$-12.15000 - 4.31290I$	$2.77263 + 1.98970I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.1077020+0.0363463I$ $a=-7.32712+5.78823I$ $b=-0.923363+0.545351I$	$1.80997-2.06468I$	$8.36726+2.56334I$
$u=-0.1077020-0.0363463I$ $a=-7.32712-5.78823I$ $b=-0.923363-0.545351I$	$1.80997+2.06468I$	$8.36726-2.56334I$
$u=-0.13904+1.98881I$ $a=-0.273361-1.021490I$ $b=-0.854936-1.047650I$	$-12.15000-4.31290I$	$2.77263+1.98970I$
$u=-0.13904-1.98881I$ $a=-0.273361+1.021490I$ $b=-0.854936+1.047650I$	$-12.15000+4.31290I$	$2.77263-1.98970I$

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

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$

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

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

$$a_8 = \begin{pmatrix} a \\ au+a+u+1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -au-a-2u-1 \\ -u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u-1 \\ au+u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -au-2u+1 \\ -au-a+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -au-a-u-1 \\ -u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -au-a-u-1 \\ -au-2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -au-a-u-1 \\ -au-2u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u + 12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_{10}	$(u^2+u+1)^2$
c_3, c_4	$u^4+2u^3+2u^2-2u+1$
c_5	$(u^2-u+1)^2$
c_6, c_9	$(u^2+1)^2$
c_7, c_8, c_{11}	u^4-u^2+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$(y^2 + y + 1)^2$
c_3, c_4	$y^4 + 14y^2 + 1$
c_6, c_9	$(y + 1)^4$
c_7, c_8, c_{11}	$(y^2 - y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = -1.00000 + 1.00000I$ $b = -0.866025 + 0.500000I$	$1.64493 - 4.05977I$	$8.00000 + 6.92820I$
$u = -0.500000 + 0.866025I$ $a = -1.00000 - 1.00000I$ $b = 0.866025 - 0.500000I$	$1.64493 - 4.05977I$	$8.00000 + 6.92820I$
$u = -0.500000 - 0.866025I$ $a = -1.00000 + 1.00000I$ $b = 0.866025 + 0.500000I$	$1.64493 + 4.05977I$	$8.00000 - 6.92820I$
$u = -0.500000 - 0.866025I$ $a = -1.00000 - 1.00000I$ $b = -0.866025 - 0.500000I$	$1.64493 + 4.05977I$	$8.00000 - 6.92820I$

IV. $I_4^u = \langle b - u,\ a - u + 1,\ u^2 - u + 1\rangle$

(i) Arc colorings

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

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

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

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

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

$$a_8 = \begin{pmatrix} u-1 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u-1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u-1 \\ u+1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -u+1 \\ u-1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u+1 \\ -1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u+1 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_7 c_8, c_{10}, c_{11}	$u^2 + u + 1$
c_6, c_9	$(u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_7 c_8, c_{10}, c_{11}	$y^2 + y + 1$
c_6, c_9	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -0.500000 + 0.866025I$ $b = 0.500000 + 0.866025I$	-3.28987	0
$u = 0.500000 - 0.866025I$ $a = -0.500000 - 0.866025I$ $b = 0.500000 - 0.866025I$	-3.28987	0

V. $\boldsymbol{I_5^u = \langle au+b-u-1,\ a^2+2au-u,\ u^2+u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_{10}	$(u^2+u+1)^2$
c_3	$u^4-4u^3+5u^2-2u+1$
c_4	$u^4+2u^3+5u^2+4u+1$
c_5	$(u^2-u+1)^2$
c_6, c_9	$(u^2+1)^2$
c_7, c_8, c_{11}	u^4-u^2+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$(y^2 + y + 1)^2$
c_3	$y^4 - 6y^3 + 11y^2 + 6y + 1$
c_4	$y^4 + 6y^3 + 11y^2 - 6y + 1$
c_6, c_9	$(y + 1)^4$
c_7, c_8, c_{11}	$(y^2 - y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = \quad 0.500000 + 0.133975I$ $b = \quad 0.866025 + 0.500000I$	1.64493	8.00000
$u = -0.500000 + 0.866025I$ $a = \quad 0.50000 - 1.86603I$ $b = -0.866025 - 0.500000I$	1.64493	8.00000
$u = -0.500000 - 0.866025I$ $a = \quad 0.500000 - 0.133975I$ $b = \quad 0.866025 - 0.500000I$	1.64493	8.00000
$u = -0.500000 - 0.866025I$ $a = \quad 0.50000 + 1.86603I$ $b = -0.866025 + 0.500000I$	1.64493	8.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^2+u+1)^5$ $\cdot(u^9-2u^8+9u^7-14u^6+24u^5-27u^4+15u^3-5u^2+3u-1)$ $\cdot(u^{14}-4u^{13}+\cdots-19u+1)$
c_2	$(u^2+u+1)^5$ $\cdot(u^9+14u^8+73u^7+158u^6+76u^5-99u^4+71u^3+11u^2-u-1)$ $\cdot(u^{14}+20u^{13}+\cdots-119u+1)$
c_3	$(u^2+u+1)(u^4-4u^3+5u^2-2u+1)(u^4+2u^3+2u^2-2u+1)$ $\cdot(u^9+14u^7-26u^6+44u^5-169u^4+122u^3+114u^2-57u-31)$ $\cdot(u^{14}+2u^{13}+\cdots-325u+169)$
c_4	$(u^2+u+1)(u^4+2u^3+2u^2-2u+1)(u^4+2u^3+5u^2+4u+1)$ $\cdot(u^9+6u^7-6u^6+24u^5-19u^4+34u^3-20u^2+15u+1)$ $\cdot(u^{14}+2u^{13}+\cdots-35u+71)$
c_5	$(u^2-u+1)^4(u^2+u+1)$ $\cdot(u^9-2u^8+9u^7-14u^6+24u^5-27u^4+15u^3-5u^2+3u-1)$ $\cdot(u^{14}-4u^{13}+\cdots-19u+1)$
c_6, c_9	$(u+1)^2(u^2+1)^4(u^7+u^6+u^5-u^4+2u^3-2u^2+u+1)^2$ $\cdot(u^9-5u^8+14u^7-25u^6+35u^5-39u^4+38u^3-27u^2+16u-4)$
c_7, c_8, c_{11}	$(u^2+u+1)(u^4-u^2+1)^2(u^9-u^7+4u^5+u^4-3u^3+u^2+u-1)$ $\cdot(u^{14}-2u^{13}+\cdots+3u+1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_{10}	$(y^2+y+1)^5$ $\cdot (y^9+14y^8+73y^7+158y^6+76y^5-99y^4+71y^3+11y^2-y-1)$ $\cdot (y^{14}+20y^{13}+\cdots-119y+1)$
c_2	$((y^2+y+1)^5)(y^9-50y^8+\cdots+23y-1)$ $\cdot (y^{14}-36y^{13}+\cdots-3183y+1)$
c_3	$(y^2+y+1)(y^4+14y^2+1)(y^4-6y^3+11y^2+6y+1)$ $\cdot (y^9+28y^8+\cdots+10317y-961)$ $\cdot (y^{14}+24y^{13}+\cdots+94809y+28561)$
c_4	$(y^2+y+1)(y^4+14y^2+1)(y^4+6y^3+11y^2-6y+1)$ $\cdot (y^9+12y^8+\cdots+265y-1)(y^{14}+12y^{13}+\cdots+15957y+5041)$
c_6, c_9	$(y-1)^2(y+1)^8(y^7+y^6+7y^5+9y^4+2y^2+5y-1)^2$ $\cdot (y^9+3y^8+\cdots+40y-16)$
c_7, c_8, c_{11}	$(y^2-y+1)^4(y^2+y+1)$ $\cdot (y^9-2y^8+9y^7-14y^6+24y^5-27y^4+15y^3-5y^2+3y-1)$ $\cdot (y^{14}-4y^{13}+\cdots-19y+1)$