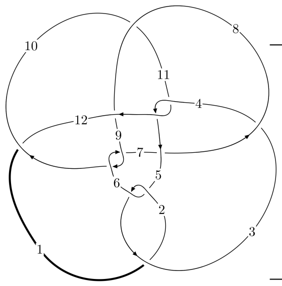
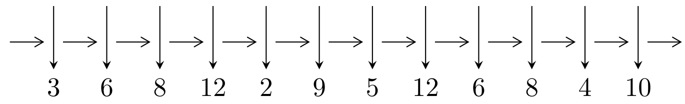
$12n_{0426}$ ($K12n_{0426}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$8,12 \xrightarrow[c_8]{} 5,9 \xrightarrow[c_4]{} 4 \xrightarrow[c_3]{} 3 \xrightarrow[c_7]{} 7 \xrightarrow[c_6]{} 6 \xrightarrow[c_2]{} 2 \xrightarrow[c_{11}]{} 11 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_{12}]{} 1 \twoheadrightarrow c_1, c_5, c_9$$

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

$$\begin{aligned}
I_1^u &= \langle -u^6 + 2u^5 - u^4 - u^3 - u^2 + 3b + u - 1,\ 5u^6 - 16u^5 + 11u^4 + 20u^3 - 19u^2 + 6a - 14u + 14, \\
&\quad u^7 - 4u^6 + 5u^5 + 2u^4 - 7u^3 + 6u - 2\rangle \\
I_2^u &= \langle -u^5 - 2u^4 + u^3 + 3u^2 + b + u - 1,\ 3u^5 + 4u^4 - 10u^3 - 11u^2 + 2a + 5u + 12, \\
&\quad u^6 + 2u^5 - 2u^4 - 5u^3 - u^2 + 4u + 2\rangle \\
I_3^u &= \langle b + u,\ a + u,\ u^2 + u - 1\rangle \\
I_4^u &= \langle b - a - u - 1,\ a^2 + au + 2a + 2u + 1,\ u^2 + u - 1\rangle \\
I_5^u &= \langle u^3 - 2u^2 + b + 2u - 1,\ -u^3 + 2u^2 + a - 3u + 2,\ u^4 - 2u^3 + 4u^2 - 3u + 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 23 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. $\boldsymbol{I_1^u = \langle -u^6 + 2u^5 - u^4 - u^3 - u^2 + 3b + u - 1,\ 5u^6 - 16u^5 + \cdots + 6a + 14,\ u^7 - 4u^6 + 5u^5 + 2u^4 - 7u^3 + 6u - 2\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{5}{6}u^6 + \frac{8}{3}u^5 + \cdots + \frac{7}{3}u - \frac{7}{3} \\ \frac{1}{3}u^6 - \frac{2}{3}u^5 + \cdots - \frac{1}{3}u + \frac{1}{3} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{5}{6}u^6 + \frac{8}{3}u^5 + \cdots + \frac{7}{3}u - \frac{7}{3} \\ \frac{2}{3}u^6 - \frac{7}{3}u^5 + \cdots - \frac{8}{3}u + \frac{5}{3} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{6}u^6 + \frac{1}{3}u^5 + \cdots - \frac{1}{3}u - \frac{2}{3} \\ \frac{2}{3}u^6 - \frac{7}{3}u^5 + \cdots - \frac{8}{3}u + \frac{5}{3} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{6}u^6 - \frac{1}{3}u^5 + \cdots - \frac{2}{3}u + \frac{5}{3} \\ \frac{1}{3}u^6 - \frac{2}{3}u^5 + \cdots - \frac{4}{3}u + \frac{1}{3} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{6}u^6 + \frac{1}{3}u^5 + \cdots - \frac{1}{3}u + \frac{4}{3} \\ -u^6 + 3u^5 - 2u^4 - 3u^3 + 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^6 + u^5 + \frac{1}{2}u^4 - 3u^3 + \frac{1}{2}u^2 + 2u - 1 \\ -\frac{1}{3}u^6 + \frac{2}{3}u^5 + \cdots + \frac{7}{3}u - \frac{1}{3} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{6}u^6 + \frac{1}{3}u^5 + \cdots + \frac{2}{3}u + \frac{1}{3} \\ \frac{1}{3}u^6 - \frac{2}{3}u^5 + \cdots - \frac{1}{3}u + \frac{1}{3} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{6}u^6 - \frac{1}{3}u^5 + \cdots + \frac{1}{3}u + \frac{2}{3} \\ \frac{1}{3}u^6 - \frac{2}{3}u^5 + \cdots - \frac{1}{3}u + \frac{1}{3} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{6}u^6 - \frac{1}{3}u^5 + \cdots + \frac{1}{3}u - \frac{1}{3} \\ u^5 - u^4 - 2u^3 + 2u^2 + 3u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^6 - 6u^5 + 4u^4 + 6u^3 - 10u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^7 + 6u^6 + 27u^5 + 62u^4 + 93u^3 + 76u^2 + 36u + 4$
c_2, c_5, c_8	$u^7 + 4u^6 + 5u^5 - 2u^4 - 7u^3 + 6u + 2$
c_3, c_4, c_{11}	$u^7 + 3u^6 - 2u^5 - 8u^4 + 2u^3 + 4u^2 + 3u + 1$
c_6, c_7, c_9 c_{12}	$u^7 - u^6 + 6u^5 + 6u^4 + 12u^3 + 8u^2 + 5u + 1$
c_{10}	$u^7 - 9u^6 + 29u^5 - 47u^4 + 60u^3 - 40u^2 + 12u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^7 + 18y^6 + 171y^5 + 338y^4 + 1121y^3 + 424y^2 + 688y - 16$
c_2, c_5, c_8	$y^7 - 6y^6 + 27y^5 - 62y^4 + 93y^3 - 76y^2 + 36y - 4$
c_3, c_4, c_{11}	$y^7 - 13y^6 + 56y^5 - 90y^4 + 50y^3 + 12y^2 + y - 1$
c_6, c_7, c_9 c_{12}	$y^7 + 11y^6 + 72y^5 + 134y^4 + 110y^3 + 44y^2 + 9y - 1$
c_{10}	$y^7 - 23y^6 + 115y^5 + 575y^4 + 608y^3 + 216y^2 + 464y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.877051+0.401438I$ $a=\ \ 0.390423-0.367676I$ $b=\ \ 0.173321-0.977693I$	$1.59409+3.78166I$	$-7.32325-7.33619I$
$u=-0.877051-0.401438I$ $a=\ \ 0.390423+0.367676I$ $b=\ \ 0.173321+0.977693I$	$1.59409-3.78166I$	$-7.32325+7.33619I$
$u=\ \ 1.140270+0.557068I$ $a=\ \ 0.742429-0.652700I$ $b=\ \ 0.353960+0.627763I$	$-2.78671-4.23450I$	$-16.3139+4.7703I$
$u=\ \ 1.140270-0.557068I$ $a=\ \ 0.742429+0.652700I$ $b=\ \ 0.353960-0.627763I$	$-2.78671+4.23450I$	$-16.3139-4.7703I$
$u=\ \ 0.389062$ $a=-1.16362$ $b=\ \ 0.276584$	-0.727542	-13.4920
$u=\ \ 1.54225+1.02576I$ $a=-1.051040+0.651247I$ $b=-1.16557-2.38792I$	$4.02380-9.18258I$	$-12.61674+3.92434I$
$u=\ \ 1.54225-1.02576I$ $a=-1.051040-0.651247I$ $b=-1.16557+2.38792I$	$4.02380+9.18258I$	$-12.61674-3.92434I$

II. $\boldsymbol{I_2^u = \langle -u^5 - 2u^4 + u^3 + 3u^2 + b + u - 1,\ 3u^5 + 4u^4 - 10u^3 - 11u^2 + 2a + 5u + 12,\ u^6 + 2u^5 - 2u^4 - 5u^3 - u^2 + 4u + 2\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{3}{2}u^5 - 2u^4 + 5u^3 + \frac{11}{2}u^2 - \frac{5}{2}u - 6 \\ u^5 + 2u^4 - u^3 - 3u^2 - u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{3}{2}u^5 - 2u^4 + 5u^3 + \frac{11}{2}u^2 - \frac{5}{2}u - 6 \\ u^5 + 2u^4 - 2u^3 - 4u^2 + 3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{2}u^5 + 3u^3 + \frac{3}{2}u^2 - \frac{5}{2}u - 3 \\ u^5 + 2u^4 - 2u^3 - 4u^2 + 3 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{3}{2}u^5 + 2u^4 - 4u^3 - \frac{9}{2}u^2 + \frac{3}{2}u + 6 \\ u^3 + u^2 - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{2}u^5 + u^4 - u^3 - \frac{5}{2}u^2 + \frac{1}{2}u + 3 \\ -u^5 - u^4 + 4u^3 + 3u^2 - 2u - 3 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{3}{2}u^5 + 2u^4 - 4u^3 - \frac{7}{2}u^2 + \frac{3}{2}u + 4 \\ u^2 + u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{7}{2}u^5 - 5u^4 + 10u^3 + \frac{23}{2}u^2 - \frac{7}{2}u - 12 \\ 2u^5 + 3u^4 - 6u^3 - 7u^2 + 3u + 7 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{3}{2}u^5 - 2u^4 + 4u^3 + \frac{9}{2}u^2 - \frac{1}{2}u - 5 \\ 2u^5 + 3u^4 - 6u^3 - 7u^2 + 3u + 7 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{9}{2}u^5 + 6u^4 - 13u^3 - \frac{27}{2}u^2 + \frac{9}{2}u + 14 \\ -4u^5 - 6u^4 + 11u^3 + 15u^2 - 3u - 15 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^4 - 2u^3 + u^2 + 2u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^6 - 8u^5 + 22u^4 - 33u^3 + 33u^2 - 20u + 4$
c_2, c_8	$u^6 + 2u^5 - 2u^4 - 5u^3 - u^2 + 4u + 2$
c_3, c_{11}	$(u^3 + 2u^2 + 1)^2$
c_4	$(u^3 - 2u^2 - 1)^2$
c_5	$u^6 - 2u^5 - 2u^4 + 5u^3 - u^2 - 4u + 2$
c_6	$u^6 - 3u^5 + 3u^4 - 3u^3 - 3u^2 + 4u - 1$
c_7, c_9, c_{12}	$u^6 + 3u^5 + 3u^4 + 3u^3 - 3u^2 - 4u - 1$
c_{10}	$u^6 + 6u^5 + 3u^4 - 21u^3 - 5u^2 + 25u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^6 - 20y^5 + 22y^4 + 51y^3 - 55y^2 - 136y + 16$
c_2, c_5, c_8	$y^6 - 8y^5 + 22y^4 - 33y^3 + 33y^2 - 20y + 4$
c_3, c_4, c_{11}	$(y^3 - 4y^2 - 4y - 1)^2$
c_6, c_7, c_9 c_{12}	$y^6 - 3y^5 - 15y^4 - 5y^3 + 27y^2 - 10y + 1$
c_{10}	$y^6 - 30y^5 + 251y^4 - 745y^3 + 1153y^2 - 755y + 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.853859+0.662904I$ $a=\ \ 0.452623-0.427953I$ $b=-0.456155+0.029114I$	$1.03690+2.56897I$	$-11.22670-1.46771I$
$u=-0.853859-0.662904I$ $a=\ \ 0.452623+0.427953I$ $b=-0.456155-0.029114I$	$1.03690-2.56897I$	$-11.22670+1.46771I$
$u=\ \ 1.183340+0.139351I$ $a=-0.020355+0.564750I$ $b=-0.31715+1.43860I$	$1.03690+2.56897I$	$-11.22670-1.46771I$
$u=\ \ 1.183340-0.139351I$ $a=-0.020355-0.564750I$ $b=-0.31715-1.43860I$	$1.03690-2.56897I$	$-11.22670+1.46771I$
$u=-0.579846$ $a=-3.80372$ $b=\ \ 0.926680$	-13.5883	-10.5470
$u=-2.07912$ $a=-1.06082$ $b=-2.38008$	-13.5883	-10.5470

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

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} -u \\ u-1 \end{pmatrix}$$

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

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

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

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

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

$$a_{10} = \begin{pmatrix} 1 \\ -2u+2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u \\ -3u+2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -20$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_{11}	$u^2 - 3u + 1$
c_2, c_6, c_8	$u^2 + u - 1$
c_4	$u^2 + 3u + 1$
c_5, c_7, c_9 c_{12}	$u^2 - u - 1$
c_{10}	$u^2 + 6u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_{11}	$y^2 - 7y + 1$
c_2, c_5, c_6 c_7, c_8, c_9 c_{12}	$y^2 - 3y + 1$
c_{10}	$y^2 - 28y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -0.618034$ $b = -0.618034$	-1.97392	-20.0000
$u = -1.61803$ $a = 1.61803$ $b = 1.61803$	-17.7653	-20.0000

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

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

$$a_7 = \begin{pmatrix} a + 2u + 2 \\ -au + u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u + 1 \\ -a - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} au + a + u + 2 \\ 1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -au - a - u - 1 \\ -2u + 1 \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+3u+1)^2$
c_2, c_5, c_8	$(u^2-u-1)^2$
c_3, c_4, c_{11}	$u^4+u^3-6u^2-10u-5$
c_6, c_7, c_9 c_{12}	$u^4-u^3-2u^2-2u-1$
c_{10}	$(u^2+4u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2 - 7y + 1)^2$
c_2, c_5, c_8	$(y^2 - 3y + 1)^2$
c_3, c_4, c_{11}	$y^4 - 13y^3 + 46y^2 - 40y + 25$
c_6, c_7, c_9 c_{12}	$y^4 - 5y^3 - 2y^2 + 1$
c_{10}	$(y^2 - 18y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_4	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -1.30902 + 0.72287I$ $b = 0.309017 + 0.722871I$	-0.328987	-14.0000
$u = 0.618034$ $a = -1.30902 - 0.72287I$ $b = 0.309017 - 0.722871I$	-0.328987	-14.0000
$u = -1.61803$ $a = 1.31651$ $b = 0.698478$	-16.1204	-14.0000
$u = -1.61803$ $a = -1.69848$ $b = -2.31651$	-16.1204	-14.0000

V.

$\boldsymbol{I^u_5 = \langle u^3 - 2u^2 + b + 2u - 1,\ -u^3 + 2u^2 + a - 3u + 2,\ u^4 - 2u^3 + 4u^2 - 3u + 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 - 2u^2 + 3u - 2 \\ -u^3 + 2u^2 - 2u + 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 - 2u^2 + 3u - 2 \\ u^2 - u + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^3 - u^2 + 2u - 1 \\ u^2 - u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 - 2u + 2 \\ -u^3 - u^2 + 2u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 + 2u^2 - 3u + 2 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0 \\ u^2 - u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 - u + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 - u^2 \\ u^3 + u^2 - u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^2 + u - 13$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^4 - 4u^3 + 6u^2 + u + 1$
c_2, c_5, c_8	$u^4 + 2u^3 + 4u^2 + 3u + 1$
c_3, c_4, c_{11}	$(u^2 - u - 1)^2$
c_6, c_7, c_9 c_{12}	$u^4 - u^3 + 6u^2 + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^4 - 4y^3 + 46y^2 + 11y + 1$
c_2, c_5, c_8	$y^4 + 4y^3 + 6y^2 - y + 1$
c_3, c_4, c_{11}	$(y^2 - 3y + 1)^2$
c_6, c_7, c_9 c_{12}	$y^4 + 11y^3 + 46y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.363271I$ $a = -0.809017 + 0.587785I$ $b = 0.309017 - 0.224514I$	-0.657974	$-12.61803 + 0.I$
$u = 0.500000 - 0.363271I$ $a = -0.809017 - 0.587785I$ $b = 0.309017 + 0.224514I$	-0.657974	$-12.61803 + 0.I$
$u = 0.50000 + 1.53884I$ $a = 0.309017 - 0.951057I$ $b = -0.80902 + 2.48990I$	7.23771	$-10.38197 + 0.I$
$u = 0.50000 - 1.53884I$ $a = 0.309017 + 0.951057I$ $b = -0.80902 - 2.48990I$	7.23771	$-10.38197 + 0.I$

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-3u+1)(u^2+3u+1)^2(u^4-4u^3+6u^2+u+1)$ $\cdot(u^6-8u^5+22u^4-33u^3+33u^2-20u+4)$ $\cdot(u^7+6u^6+27u^5+62u^4+93u^3+76u^2+36u+4)$
c_2, c_8	$(u^2-u-1)^2(u^2+u-1)(u^4+2u^3+4u^2+3u+1)$ $\cdot(u^6+2u^5-2u^4-5u^3-u^2+4u+2)$ $\cdot(u^7+4u^6+5u^5-2u^4-7u^3+6u+2)$
c_3, c_{11}	$(u^2-3u+1)(u^2-u-1)^2(u^3+2u^2+1)^2(u^4+u^3+\cdots-10u-5)$ $\cdot(u^7+3u^6-2u^5-8u^4+2u^3+4u^2+3u+1)$
c_4	$((u^2-u-1)^2)(u^2+3u+1)(u^3-2u^2-1)^2(u^4+u^3+\cdots-10u-5)$ $\cdot(u^7+3u^6-2u^5-8u^4+2u^3+4u^2+3u+1)$
c_5	$(u^2-u-1)^3(u^4+2u^3+4u^2+3u+1)$ $\cdot(u^6-2u^5-2u^4+5u^3-u^2-4u+2)$ $\cdot(u^7+4u^6+5u^5-2u^4-7u^3+6u+2)$
c_6	$(u^2+u-1)(u^4-u^3-2u^2-2u-1)(u^4-u^3+6u^2+4u+1)$ $\cdot(u^6-3u^5+3u^4-3u^3-3u^2+4u-1)$ $\cdot(u^7-u^6+6u^5+6u^4+12u^3+8u^2+5u+1)$
c_7, c_9, c_{12}	$(u^2-u-1)(u^4-u^3-2u^2-2u-1)(u^4-u^3+6u^2+4u+1)$ $\cdot(u^6+3u^5+3u^4+3u^3-3u^2-4u-1)$ $\cdot(u^7-u^6+6u^5+6u^4+12u^3+8u^2+5u+1)$
c_{10}	$(u^2+4u-1)^2(u^2+6u+4)(u^4-4u^3+6u^2+u+1)$ $\cdot(u^6+6u^5+3u^4-21u^3-5u^2+25u+13)$ $\cdot(u^7-9u^6+29u^5-47u^4+60u^3-40u^2+12u+4)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2-7y+1)^3(y^4-4y^3+46y^2+11y+1)$ $\cdot(y^6-20y^5+22y^4+51y^3-55y^2-136y+16)$ $\cdot(y^7+18y^6+171y^5+338y^4+1121y^3+424y^2+688y-16)$
c_2, c_5, c_8	$(y^2-3y+1)^3(y^4+4y^3+6y^2-y+1)$ $\cdot(y^6-8y^5+22y^4-33y^3+33y^2-20y+4)$ $\cdot(y^7-6y^6+27y^5-62y^4+93y^3-76y^2+36y-4)$
c_3, c_4, c_{11}	$(y^2-7y+1)(y^2-3y+1)^2(y^3-4y^2-4y-1)^2$ $\cdot(y^4-13y^3+46y^2-40y+25)$ $\cdot(y^7-13y^6+56y^5-90y^4+50y^3+12y^2+y-1)$
c_6, c_7, c_9 c_{12}	$(y^2-3y+1)(y^4-5y^3-2y^2+1)(y^4+11y^3+46y^2-4y+1)$ $\cdot(y^6-3y^5-15y^4-5y^3+27y^2-10y+1)$ $\cdot(y^7+11y^6+72y^5+134y^4+110y^3+44y^2+9y-1)$
c_{10}	$(y^2-28y+16)(y^2-18y+1)^2(y^4-4y^3+46y^2+11y+1)$ $\cdot(y^6-30y^5+251y^4-745y^3+1153y^2-755y+169)$ $\cdot(y^7-23y^6+115y^5+575y^4+608y^3+216y^2+464y-16)$