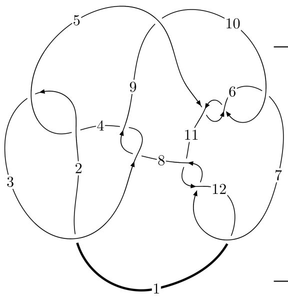
$12n_{0245}$ ($K12n_{0245}$)



A knot diagram[1]

Linearized knot diagam

$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow$

3 5 9 2 11 10 12 3 5 6 8 7

Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & u^9 - u^8 + 5u^7 - 7u^6 + 9u^5 - 16u^4 + 7u^3 - 10u^2 + 4b + 3u + 3, \\
& u^9 + 3u^8 + 5u^7 + 5u^6 + 5u^5 - 8u^4 - 5u^3 - 22u^2 + 8a - u - 5, \\
& u^{10} + 4u^8 - 2u^7 + 6u^6 - 7u^5 + 3u^4 - 7u^3 + u^2 - 2u - 1\rangle \\
I_2^u = \langle & 22u^{15} + 71u^{14} + \cdots + 125b + 158,\ 121u^{15} + 203u^{14} + \cdots + 125a - 6,\ u^{16} + 2u^{15} + \cdots + 2u + 1\rangle \\
I_3^u = \langle & b + 1,\ u^2 + 2a + u + 3,\ u^3 + 2u - 1\rangle \\
I_4^u = \langle & b + 1,\ u^3 + u^2 + a + u + 2,\ u^4 + u^3 + 2u^2 + 2u + 1\rangle
\end{aligned}$$

* 4 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.

$$\boldsymbol{I_1^u = \langle u^9 - u^8 + \cdots + 4b + 3,\ u^9 + 3u^8 + \cdots + 8a - 5,\ u^{10} + 4u^8 + \cdots - 2u - 1\rangle}$$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -\frac{1}{8}u^9 - \frac{3}{8}u^8 + \cdots + \frac{1}{8}u + \frac{5}{8} \\ -\frac{1}{4}u^9 + \frac{1}{4}u^8 + \cdots - \frac{3}{4}u - \frac{3}{4} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{3}{8}u^9 - \frac{1}{8}u^8 + \cdots - \frac{5}{8}u - \frac{1}{8} \\ -\frac{1}{4}u^9 + \frac{1}{4}u^8 + \cdots - \frac{3}{4}u - \frac{3}{4} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3 - 2u \\ u^9 + 3u^7 - 2u^6 + 2u^5 - 5u^4 - 3u^3 - 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{13}{8}u^9 + \frac{1}{8}u^8 + \cdots - \frac{3}{8}u + \frac{1}{8} \\ -\frac{5}{4}u^9 + \frac{1}{4}u^8 + \cdots - \frac{3}{4}u - \frac{3}{4} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1 \\ u^8 + 3u^6 - 2u^5 + 3u^4 - 5u^3 - u^2 - 2u - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u \\ u^9 + 3u^7 - 2u^6 + 3u^5 - 5u^4 - u^3 - 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= \frac{15}{16}u^9 - \frac{51}{16}u^8 + \frac{51}{16}u^7 - \frac{197}{16}u^6 + \frac{171}{16}u^5 - \frac{35}{2}u^4 + \frac{293}{16}u^3 - \frac{53}{8}u^2 + \frac{145}{16}u - \frac{219}{16}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} + 14u^9 + \cdots + 625u + 16$
c_2, c_4	$u^{10} - 2u^9 - 5u^8 + 7u^7 + 14u^6 - 36u^4 - 8u^3 + 42u^2 - 17u - 4$
c_3, c_8	$u^{10} + 3u^9 + \cdots + 88u + 32$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$u^{10} + 4u^8 - 2u^7 + 6u^6 - 7u^5 + 3u^4 - 7u^3 + u^2 - 2u - 1$
c_9	$u^{10} - 6u^9 + 9u^8 + 2u^7 + 7u^6 - 51u^5 + 50u^4 - 20u^3 + 7u^2 - 4u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} - 34y^9 + \cdots - 333665y + 256$
c_2, c_4	$y^{10} - 14y^9 + \cdots - 625y + 16$
c_3, c_8	$y^{10} - 15y^9 + \cdots - 3392y + 1024$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$y^{10} + 8y^9 + \cdots - 6y + 1$
c_9	$y^{10} - 18y^9 + \cdots - 72y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.408860+1.019830I$ $a=-0.623231-0.763538I$ $b=-0.84308+1.25661I$	$0.76752+5.23818I$	$-10.88397-7.30305I$
$u=-0.408860-1.019830I$ $a=-0.623231+0.763538I$ $b=-0.84308-1.25661I$	$0.76752-5.23818I$	$-10.88397+7.30305I$
$u=\ 1.10481$ $a=\ 1.89244$ $b=\ 1.98176$	-16.4276	-16.3110
$u=\ 0.331850+0.653227I$ $a=-0.698518+0.937685I$ $b=-1.56733-0.09555I$	$-1.76206-1.44138I$	$-14.1408+4.6887I$
$u=\ 0.331850-0.653227I$ $a=-0.698518-0.937685I$ $b=-1.56733+0.09555I$	$-1.76206+1.44138I$	$-14.1408-4.6887I$
$u=\ 0.24366+1.40906I$ $a=\ 0.325341-0.085189I$ $b=\ 0.683278-0.384377I$	$8.38588-4.49014I$	$-3.00164+0.77612I$
$u=\ 0.24366-1.40906I$ $a=\ 0.325341+0.085189I$ $b=\ 0.683278+0.384377I$	$8.38588+4.49014I$	$-3.00164-0.77612I$
$u=-0.56211+1.36382I$ $a=\ 0.87591+1.14263I$ $b=\ 1.81943-0.43136I$	$-7.9485+11.8019I$	$-10.95990-5.74637I$
$u=-0.56211-1.36382I$ $a=\ 0.87591-1.14263I$ $b=\ 1.81943+0.43136I$	$-7.9485-11.8019I$	$-10.95990+5.74637I$
$u=-0.313895$ $a=\ 0.848562$ $b=-0.166359$	-0.552314	-17.9670

II. $I_2^u = \langle 22u^{15} + 71u^{14} + \cdots + 125b + 158,\ 121u^{15} + 203u^{14} + \cdots + 125a - 6,\ u^{16} + 2u^{15} + \cdots + 2u + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.968000u^{15} - 1.62400u^{14} + \cdots - 0.976000u + 0.0480000 \\ -0.176000u^{15} - 0.568000u^{14} + \cdots - 0.632000u - 1.26400 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.14400u^{15} - 2.19200u^{14} + \cdots - 1.60800u - 1.21600 \\ -0.176000u^{15} - 0.568000u^{14} + \cdots - 0.632000u - 1.26400 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.93600u^{15} - 3.24800u^{14} + \cdots - 1.95200u - 2.90400 \\ -0.496000u^{15} - 0.328000u^{14} + \cdots + 1.12800u - 0.744000 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.03200u^{15} - 2.37600u^{14} + \cdots - 3.02400u - 1.04800 \\ -1.03200u^{15} - 1.37600u^{14} + \cdots - 2.02400u - 2.04800 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.784000u^{15} + 0.712000u^{14} + \cdots + 3.08800u + 1.17600 \\ 0.904000u^{15} + 0.872000u^{14} + \cdots + 0.928000u + 1.85600 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.144000u^{15} - 1.19200u^{14} + \cdots - 0.608000u - 1.21600 \\ 1.79200u^{15} + 2.05600u^{14} + \cdots + 3.34400u + 1.68800 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{121}{125}u^{15} - \frac{47}{125}u^{14} + \cdots + \frac{622}{125}u - \frac{1506}{125}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^8+13u^7+68u^6+185u^5+287u^4+249u^3+77u^2+3u+1)^2$
c_2, c_4	$(u^8-3u^7-2u^6+9u^5+5u^4-13u^3-3u^2+3u-1)^2$
c_3, c_8	$(u^8-u^7-7u^6+4u^5+16u^4+3u^3-9u^2+8u-4)^2$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$u^{16}+2u^{15}+\cdots+2u+1$
c_9	$(u^8+2u^7-7u^6-12u^5+5u^4-3u^3-2u^2-2u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^8 - 33y^7 + \cdots + 145y + 1)^2$
c_2, c_4	$(y^8 - 13y^7 + 68y^6 - 185y^5 + 287y^4 - 249y^3 + 77y^2 - 3y + 1)^2$
c_3, c_8	$(y^8 - 15y^7 + 89y^6 - 252y^5 + 366y^4 - 305y^3 - 95y^2 + 8y + 16)^2$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$y^{16} + 10y^{15} + \cdots + 12y^2 + 1$
c_9	$(y^8 - 18y^7 + 107y^6 - 206y^5 - 9y^4 - 91y^3 + 2y^2 - 8y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_2	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.152816 + 1.034440I$ $a = 1.33690 - 2.28052I$ $b = -0.736738$	2.18625	$-12.78715 + 0.I$
$u = -0.152816 - 1.034440I$ $a = 1.33690 + 2.28052I$ $b = -0.736738$	2.18625	$-12.78715 + 0.I$
$u = 0.316903 + 0.894740I$ $a = -0.695071 + 1.182330I$ $b = -1.178780 - 0.606721I$	$-1.14222 - 1.62541I$	$-14.5850 + 1.4256I$
$u = 0.316903 - 0.894740I$ $a = -0.695071 - 1.182330I$ $b = -1.178780 + 0.606721I$	$-1.14222 + 1.62541I$	$-14.5850 - 1.4256I$
$u = -1.103920 + 0.013257I$ $a = 1.85395 + 0.11352I$ $b = 1.89776 + 0.22684I$	$-12.14610 - 5.90409I$	$-13.72541 + 2.82977I$
$u = -1.103920 - 0.013257I$ $a = 1.85395 - 0.11352I$ $b = 1.89776 - 0.22684I$	$-12.14610 + 5.90409I$	$-13.72541 - 2.82977I$
$u = -0.125010 + 1.233150I$ $a = 0.441765 - 0.140806I$ $b = 0.238510 + 0.243220I$	$2.92647 + 1.66195I$	$-6.61632 - 3.48117I$
$u = -0.125010 - 1.233150I$ $a = 0.441765 + 0.140806I$ $b = 0.238510 - 0.243220I$	$2.92647 - 1.66195I$	$-6.61632 + 3.48117I$
$u = 0.506035 + 0.355900I$ $a = 1.129350 - 0.256604I$ $b = 0.238510 - 0.243220I$	$2.92647 - 1.66195I$	$-6.61632 + 3.48117I$
$u = 0.506035 - 0.355900I$ $a = 1.129350 + 0.256604I$ $b = 0.238510 + 0.243220I$	$2.92647 + 1.66195I$	$-6.61632 - 3.48117I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.443597 + 0.298423I$ $a = \ \ 0.117192 - 0.758722I$ $b = -1.178780 - 0.606721I$	$-1.14222 - 1.62541I$	$-14.5850 + 1.4256I$
$u = -0.443597 - 0.298423I$ $a = \ \ 0.117192 + 0.758722I$ $b = -1.178780 + 0.606721I$	$-1.14222 + 1.62541I$	$-14.5850 - 1.4256I$
$u = \ \ 0.55989 + 1.37681I$ $a = \ \ 0.721990 - 1.125960I$ $b = \ \ 1.89776 + 0.22684I$	$-12.14610 - 5.90409I$	$-13.72541 + 2.82977I$
$u = \ \ 0.55989 - 1.37681I$ $a = \ \ 0.721990 + 1.125960I$ $b = \ \ 1.89776 - 0.22684I$	$-12.14610 + 5.90409I$	$-13.72541 - 2.82977I$
$u = -0.55749 + 1.39010I$ $a = \ \ 0.593934 + 1.012530I$ $b = \ \ 1.82176$	-7.78143	$-11.35940 + 0.I$
$u = -0.55749 - 1.39010I$ $a = \ \ 0.593934 - 1.012530I$ $b = \ \ 1.82176$	-7.78143	$-11.35940 + 0.I$

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{1}{2}u^2 - \frac{1}{2}u - \frac{3}{2} \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{2}u^2 - \frac{1}{2}u - \frac{5}{2} \\ -1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{1}{2}u^2 - \frac{1}{2}u - \frac{3}{2} \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ -u+1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2+1 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{7}{4}u^2 - \frac{21}{4}u - \frac{57}{4}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.22670 + 1.46771I$ $a = -0.335258 - 0.401127I$ $b = -1.00000$	$7.79580 + 5.13794I$	$-9.37996 - 6.54094I$
$u = -0.22670 - 1.46771I$ $a = -0.335258 + 0.401127I$ $b = -1.00000$	$7.79580 - 5.13794I$	$-9.37996 + 6.54094I$
$u = 0.453398$ $a = -1.82948$ $b = -1.00000$	-2.43213	-16.9900

IV. $\boldsymbol{I_4^u = \langle b+1,\ u^3+u^2+a+u+2,\ u^4+u^3+2u^2+2u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^3-4u-15$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.621744 + 0.440597I$ $a = -1.69244 - 0.31815I$ $b = -1.00000$	$1.64493 + 2.02988I$	$-13.00000 - 3.46410I$
$u = -0.621744 - 0.440597I$ $a = -1.69244 + 0.31815I$ $b = -1.00000$	$1.64493 - 2.02988I$	$-13.00000 + 3.46410I$
$u = \quad 0.121744 + 1.306620I$ $a = \quad 0.192440 + 0.547877I$ $b = -1.00000$	$1.64493 - 2.02988I$	$-13.00000 + 3.46410I$
$u = \quad 0.121744 - 1.306620I$ $a = \quad 0.192440 - 0.547877I$ $b = -1.00000$	$1.64493 + 2.02988I$	$-13.00000 - 3.46410I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^7$ $\cdot (u^8+13u^7+68u^6+185u^5+287u^4+249u^3+77u^2+3u+1)^2$ $\cdot (u^{10}+14u^9+\cdots+625u+16)$
c_2	$(u-1)^7(u^8-3u^7-2u^6+9u^5+5u^4-13u^3-3u^2+3u-1)^2$ $\cdot (u^{10}-2u^9-5u^8+7u^7+14u^6-36u^4-8u^3+42u^2-17u-4)$
c_3, c_8	$u^7(u^8-u^7-7u^6+4u^5+16u^4+3u^3-9u^2+8u-4)^2$ $\cdot (u^{10}+3u^9+\cdots+88u+32)$
c_4	$(u+1)^7(u^8-3u^7-2u^6+9u^5+5u^4-13u^3-3u^2+3u-1)^2$ $\cdot (u^{10}-2u^9-5u^8+7u^7+14u^6-36u^4-8u^3+42u^2-17u-4)$
c_5, c_6, c_7	$(u^3+2u-1)(u^4+u^3+2u^2+2u+1)$ $\cdot (u^{10}+4u^8-2u^7+6u^6-7u^5+3u^4-7u^3+u^2-2u-1)$ $\cdot (u^{16}+2u^{15}+\cdots+2u+1)$
c_9	$(u^2-u+1)^2(u^3+3u^2+5u+2)$ $\cdot (u^8+2u^7-7u^6-12u^5+5u^4-3u^3-2u^2-2u+1)^2$ $\cdot (u^{10}-6u^9+9u^8+2u^7+7u^6-51u^5+50u^4-20u^3+7u^2-4u-4)$
c_{10}, c_{11}, c_{12}	$(u^3+2u+1)(u^4-u^3+2u^2-2u+1)$ $\cdot (u^{10}+4u^8-2u^7+6u^6-7u^5+3u^4-7u^3+u^2-2u-1)$ $\cdot (u^{16}+2u^{15}+\cdots+2u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^7)(y^8-33y^7+\cdots+145y+1)^2$ $\cdot(y^{10}-34y^9+\cdots-333665y+256)$
c_2, c_4	$(y-1)^7$ $\cdot(y^8-13y^7+68y^6-185y^5+287y^4-249y^3+77y^2-3y+1)^2$ $\cdot(y^{10}-14y^9+\cdots-625y+16)$
c_3, c_8	$y^7(y^8-15y^7+89y^6-252y^5+366y^4-305y^3-95y^2+8y+16)^2$ $\cdot(y^{10}-15y^9+\cdots-3392y+1024)$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$(y^3+4y^2+4y-1)(y^4+3y^3+2y^2+1)(y^{10}+8y^9+\cdots-6y+1)$ $\cdot(y^{16}+10y^{15}+\cdots+12y^2+1)$
c_9	$(y^2+y+1)^2(y^3+y^2+13y-4)$ $\cdot(y^8-18y^7+107y^6-206y^5-9y^4-91y^3+2y^2-8y+1)^2$ $\cdot(y^{10}-18y^9+\cdots-72y+16)$