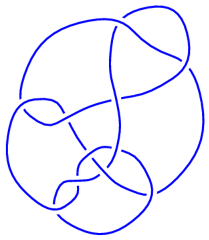
$11n_{39}$ ($K11n_{39}$)



[1]

Arc Sequences

$\to \downarrow 4 \to \downarrow 1 \to \uparrow 8 \to \downarrow 2 \to \uparrow 10 \to \downarrow 9 \to \uparrow 3 \to \downarrow 11 \to \uparrow 1 \to \downarrow 8 \to \uparrow 6 \to$

Solving Sequence

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

Representation Ideals

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

$$\begin{aligned}
I_1^u = \langle & 9a^{12} - 24a^{11} + 2a^{10} + 35a^9 + 14a^8 - 75a^7 + 16a^6 + 43a^5 + 10a^4 - 37a^3 + 6a^2 + 7a + 1, \\
& - 716396616a^{11} + 263745113b + \cdots - 374049402a - 73369744, \\
& - 410540292a^{11} + 263745113u + \cdots - 2044126867a - 369175518\rangle \\
I_2^u = \langle & u^6 - 6u^5 + 11u^4 - 4u^3 - u^2 - u + 1,\ -u^5 + 6u^4 - 11u^3 + 4u^2 + a + u + 1, \\
& 3u^5 - 13u^4 + 7u^3 + 17u^2 + 13b + 8u - 7\rangle \\
I_3^u = \langle & u^6 + 6u^5 + 11u^4 + 4u^3 - u^2 + u + 1,\ 3u^5 + 13u^4 + 7u^3 - 17u^2 + 13b + 8u + 7, \\
& 21u^5 + 117u^4 + 179u^3 - 2u^2 + 13a - 35u + 23\rangle \\
I_4^u = \langle & u^{12} + 11u^{11} + 45u^{10} + 132u^9 + 363u^8 + 440u^7 + 892u^6 + 262u^5 + 448u^4 - 241u^3 - 175u^2 + 26u + 17, \\
& - 3.24712 \times 10^{14}u^{11} - 3.40329 \times 10^{15}u^{10} + \cdots + 4.19367 \times 10^{16}b - 2.43530 \times 10^{16}, \\
& 6.08778 \times 10^{16}u^{11} + 6.63150 \times 10^{17}u^{10} + \cdots + 7.12924 \times 10^{17}a + 1.91045 \times 10^{18}\rangle
\end{aligned}$$

There are 4 irreducible components with 36 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.

$\boldsymbol{I_1^u = \langle 9a^{12} - 24a^{11} + \cdots + 7a + 1,\ 2.64 \times 10^8 b - 7.16 \times 10^8 a^{11} + \cdots - 3.74 \times 10^8 a - 7.34 \times 10^7,\ 2.64 \times 10^8 u - 4.11 \times 10^8 a^{11} + \cdots - 2.04 \times 10^9 a - 3.69 \times 10^8 \rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ 1.55658a^{11} - 6.67995a^{10} + \cdots + 7.75039a + 1.39974 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a \\ 2.71625a^{11} - 6.26861a^{10} + \cdots + 1.41822a + 0.278184 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -0.467857a^{11} + 1.58935a^{10} + \cdots + 1.79411a + 0.281008 \\ 2.73950a^{11} - 7.30187a^{10} + \cdots + 8.57417a + 1.63340 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.94598a^{11} - 4.39757a^{10} + \cdots - 3.17158a + 0.700778 \\ 5.76845a^{11} - 16.4903a^{10} + \cdots + 0.465582a + 1.71218 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -3.20735a^{11} + 8.89122a^{10} + \cdots - 6.78007a - 1.35239 \\ 2.73950a^{11} - 7.30187a^{10} + \cdots + 8.57417a + 1.63340 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -3.20735a^{11} + 8.89122a^{10} + \cdots - 6.78007a - 1.35239 \\ 2.62673a^{11} - 10.8456a^{10} + \cdots + 7.18779a + 2.59583 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.489083a^{11} + 0.0896889a^{10} + \cdots + 1.16589a + 0.803097 \\ -0.0254170a^{11} - 3.11632a^{10} + \cdots + 9.16399a + 1.35611 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.482184a^{11} + 2.78223a^{10} + \cdots + 0.171244a + 1.19432 \\ 12.0102a^{11} - 28.0103a^{10} + \cdots + 14.0214a + 3.58774 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 13.3420a^{11} - 29.8730a^{10} + \cdots + 2.95914a + 1.08538 \\ 19.4429a^{11} - 37.3345a^{10} + \cdots - 21.0429a - 3.75506 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.10036a^{11} - 3.74367a^{10} + \cdots - 1.39524a - 0.337983 \\ 5.40924a^{11} - 11.5039a^{10} + \cdots - 4.31951a - 0.798845 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.10036a^{11} - 3.74367a^{10} + \cdots - 1.39524a - 0.337983 \\ 5.40924a^{11} - 11.5039a^{10} + \cdots - 4.31951a - 0.798845 \end{pmatrix}$$

(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
$u = 0.287706 + 0.831147I$ $a = -0.960631 - 0.671826I$ $b = -0.142924 + 1.159516I$	$2.99789 + 2.65597I$	$1.54637 - 3.55162I$
$u = 0.287706 - 0.831147I$ $a = -0.960631 + 0.671826I$ $b = -0.142924 - 1.159516I$	$2.99789 - 2.65597I$	$1.54637 + 3.55162I$
$u = 0.26437 + 2.03792I$ $a = -0.645041 - 0.612930I$ $b = -0.03547 - 1.77530I$	$13.70954 - 3.42721I$	$0.48765 + 2.36550I$
$u = 0.26437 - 2.03792I$ $a = -0.645041 + 0.612930I$ $b = -0.03547 + 1.77530I$	$13.70954 + 3.42721I$	$0.48765 - 2.36550I$
$u = -0.552079 - 0.783280I$ $a = -0.205082 - 0.070064I$ $b = -0.321608 - 0.359079I$	$-1.90302 - 1.10871I$	$-2.03402 + 2.13465I$
$u = -0.552079 + 0.783280I$ $a = -0.205082 + 0.070064I$ $b = -0.321608 + 0.359079I$	$-1.90302 + 1.10871I$	$-2.03402 - 2.13465I$
$u = 0.26437 + 2.03792I$ $a = 0.718893 - 0.432703I$ $b = -0.03547 - 1.77530I$	$13.70954 - 3.42721I$	$0.48765 + 2.36550I$
$u = 0.26437 - 2.03792I$ $a = 0.718893 + 0.432703I$ $b = -0.03547 + 1.77530I$	$13.70954 + 3.42721I$	$0.48765 - 2.36550I$
$u = -0.552079 - 0.783280I$ $a = 0.987935 - 0.622278I$ $b = -0.321608 - 0.359079I$	$-1.90302 - 1.10871I$	$-2.03402 + 2.13465I$
$u = -0.552079 + 0.783280I$ $a = 0.987935 + 0.622278I$ $b = -0.321608 + 0.359079I$	$-1.90302 + 1.10871I$	$-2.03402 - 2.13465I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.287706 - 0.831147I$ $a = 1.43726 - 0.44693I$ $b = -0.142924 - 1.159516I$	$2.99789 - 2.65597I$	$1.54637 + 3.55162I$
$u = 0.287706 + 0.831147I$ $a = 1.43726 + 0.44693I$ $b = -0.142924 + 1.159516I$	$2.99789 + 2.65597I$	$1.54637 - 3.55162I$

II. $\boldsymbol{I_2^u = \langle u^6 - 6u^5 + 11u^4 - 4u^3 - u^2 - u + 1,\ -u^5 + 6u^4 - 11u^3 + 4u^2 + a + u + 1,\ 3u^5 - 13u^4 + 7u^3 + 17u^2 + 13b + 8u - 7\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^5 - 6u^4 + 11u^3 - 4u^2 - u - 1 \\ -\frac{3}{13}u^5 + u^4 + \cdots - \frac{8}{13}u + \frac{7}{13} \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -u^5 + 6u^4 - 11u^3 + 4u^2 + u + 1 \\ \frac{3}{13}u^5 - u^4 + \cdots + \frac{21}{13}u - \frac{7}{13} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{7}{13}u^5 + 3u^4 + \cdots - \frac{10}{13}u - \frac{1}{13} \\ -1.15385u^5 + 6u^4 + \cdots + 0.923077u + 0.692308 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.23077u^5 + 7u^4 + \cdots - 0.615385u + 1.53846 \\ \frac{3}{13}u^5 - u^4 + \cdots + \frac{21}{13}u - \frac{7}{13} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.23077u^5 + 7u^4 + \cdots - 0.615385u + 1.53846 \\ \frac{7}{13}u^5 - 3u^4 + \cdots + \frac{10}{13}u - \frac{12}{13} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ \frac{19}{13}u^5 - 8u^4 + \cdots - \frac{10}{13}u - \frac{27}{13} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ \frac{25}{13}u^5 - 10u^4 + \cdots - \frac{7}{13}u - \frac{28}{13} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.23077u^5 + 7u^4 + \cdots - 0.615385u + 1.53846 \\ \frac{3}{13}u^5 - u^4 + \cdots + \frac{21}{13}u - \frac{7}{13} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.346225 - 0.393823I$ $a = 1.25915 - 1.43225I$ $b = 0.655968 - 0.098281I$	$0.245672 + 0.924305I$	$1.12292 - 1.33143I$
$u = -0.346225 + 0.393823I$ $a = 1.25915 + 1.43225I$ $b = 0.655968 + 0.098281I$	$0.245672 - 0.924305I$	$1.12292 + 1.33143I$
$u = 0.658836 - 0.177500I$ $a = -1.41511 - 0.38125I$ $b = -0.415113 + 0.381252I$	$-1.64493 - 5.69302I$	$-0.29418 + 2.69056I$
$u = 0.658836 + 0.177500I$ $a = -1.41511 + 0.38125I$ $b = -0.415113 - 0.381252I$	$-1.64493 + 5.69302I$	$-0.29418 - 2.69056I$
$u = 2.68739 - 0.76772I$ $a = -0.344032 - 0.098281I$ $b = 2.25915 - 1.43225I$	$-3.53554 - 0.92430I$	$-6.82874 + 7.13914I$
$u = 2.68739 + 0.76772I$ $a = -0.344032 + 0.098281I$ $b = 2.25915 + 1.43225I$	$-3.53554 + 0.92430I$	$-6.82874 - 7.13914I$

III. $\boldsymbol{I_3^u = \langle u^6 + 6u^5 + 11u^4 + 4u^3 - u^2 + u + 1,\ 3u^5 + 13u^4 + 7u^3 - 17u^2 + 13b + 8u + 7,\ 21u^5 + 117u^4 + \cdots + 13a + 23\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.61538u^5 - 9u^4 + \cdots + 2.69231u - 1.76923 \\ -\frac{3}{13}u^5 - u^4 + \cdots - \frac{8}{13}u - \frac{7}{13} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2.07692u^5 - 11u^4 + \cdots + 2.46154u - 2.84615 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2.07692u^5 - 11u^4 + \cdots + 2.46154u - 2.84615 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -2.07692u^5 - 11u^4 + \cdots + 2.46154u - 2.84615 \\ \frac{10}{13}u^5 + 4u^4 + \cdots - \frac{8}{13}u + \frac{19}{13} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.538462u^5 - 3u^4 + \cdots - 0.769231u + 1.07692 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.538462u^5 - 3u^4 + \cdots - 0.769231u + 2.07692 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{7}{13}u^5 + 3u^4 + \cdots + \frac{10}{13}u - \frac{14}{13} \\ 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{9}{13}u^5 + 3u^4 + \cdots + \frac{24}{13}u + \frac{21}{13} \\ -\frac{3}{13}u^5 - u^4 + \cdots - \frac{8}{13}u - \frac{7}{13} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{9}{13}u^5 + 3u^4 + \cdots + \frac{24}{13}u + \frac{21}{13} \\ -\frac{3}{13}u^5 - u^4 + \cdots - \frac{8}{13}u - \frac{7}{13} \end{pmatrix}$$

(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
$u = -2.68739 - 0.76772I$ $a = 0.315740 - 0.200172I$ $b = -2.25915 - 1.43225I$	$-3.53554 + 0.92430I$	$-6.82874 - 7.13914I$
$u = -2.68739 + 0.76772I$ $a = 0.315740 + 0.200172I$ $b = -2.25915 + 1.43225I$	$-3.53554 - 0.92430I$	$-6.82874 + 7.13914I$
$u = -0.658836 - 0.177500I$ $a = -1.30674 + 1.20014I$ $b = 0.415113 + 0.381252I$	$-1.64493 + 5.69302I$	$-0.29418 - 2.69056I$
$u = -0.658836 + 0.177500I$ $a = -1.30674 - 1.20014I$ $b = 0.415113 - 0.381252I$	$-1.64493 - 5.69302I$	$-0.29418 + 2.69056I$
$u = 0.346225 - 0.393823I$ $a = 1.49099 - 0.22339I$ $b = -0.655968 - 0.098281I$	$0.245672 - 0.924305I$	$1.12292 + 1.33143I$
$u = 0.346225 + 0.393823I$ $a = 1.49099 + 0.22339I$ $b = -0.655968 + 0.098281I$	$0.245672 + 0.924305I$	$1.12292 - 1.33143I$

IV. $I^u_4 =$
$\langle u^{12}+11u^{11}+\cdots+26u+17,\ -3.25\times10^{14}u^{11}-3.40\times10^{15}u^{10}+\cdots+4.19\times10^{16}b-2.44\times10^{16},\ 6.09\times10^{16}u^{11}+6.63\times10^{17}u^{10}+\cdots+7.13\times10^{17}a+1.91\times10^{18}\rangle$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.0853917u^{11} - 0.930183u^{10} + \cdots + 9.79732u - 2.67973 \\ 0.00774291u^{11} + 0.0811531u^{10} + \cdots + 1.12134u + 0.580709 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.0963108u^{11} - 1.04029u^{10} + \cdots + 7.60207u - 3.77824 \\ 0.00121114u^{11} + 0.00771332u^{10} + \cdots + 2.40248u + 0.338763 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.0456746u^{11} - 0.486274u^{10} + \cdots + 4.39208u - 2.66422 \\ 0.0194727u^{11} + 0.208795u^{10} + \cdots - 1.15800u + 0.240603 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.0975219u^{11} - 1.04800u^{10} + \cdots + 5.19958u - 4.11700 \\ 0.00121114u^{11} + 0.00771332u^{10} + \cdots + 2.40248u + 0.338763 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0975219u^{11} - 1.04800u^{10} + \cdots + 5.19958u - 4.11700 \\ 0.0107548u^{11} + 0.110501u^{10} + \cdots + 1.38781u + 0.759315 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.0199272u^{11} - 0.217988u^{10} + \cdots + 0.512481u + 1.88438 \\ -0.0191292u^{11} - 0.199567u^{10} + \cdots + 1.27416u - 1.63728 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.0456746u^{11} + 0.486274u^{10} + \cdots - 4.39208u + 4.66422 \\ -0.0319988u^{11} - 0.338850u^{10} + \cdots + 1.41177u - 1.59278 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0381797u^{11} + 0.404025u^{10} + \cdots - 1.43158u + 3.01894 \\ -0.0115322u^{11} - 0.123552u^{10} + \cdots - 0.459356u - 1.08766 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.0141531u^{11} + 0.136211u^{10} + \cdots + 4.64120u + 1.52598 \\ 0.0161459u^{11} + 0.179885u^{10} + \cdots - 1.47668u + 0.776467 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.0141531u^{11} + 0.136211u^{10} + \cdots + 4.64120u + 1.52598 \\ 0.0161459u^{11} + 0.179885u^{10} + \cdots - 1.47668u + 0.776467 \end{pmatrix}$$

(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
$u = -5.15079 - 0.85342I$ $a = 0.188984 - 0.051071I$ $b = -4.57965 - 1.61583I$	$-3.52730 + 0.57280I$	$-2.7091 + 26.6989I$
$u = -5.15079 + 0.85342I$ $a = 0.188984 + 0.051071I$ $b = -4.57965 + 1.61583I$	$-3.52730 - 0.57280I$	$-2.7091 - 26.6989I$
$u = -0.336025 - 0.091002I$ $a = -2.47915 + 1.81043I$ $b = -0.286636 - 0.460834I$	$-1.70690 + 6.65526I$	$-0.69156 - 12.28500I$
$u = -0.336025 + 0.091002I$ $a = -2.47915 - 1.81043I$ $b = -0.286636 + 0.460834I$	$-1.70690 - 6.65526I$	$-0.69156 + 12.28500I$
$u = -0.21322 - 1.93092I$ $a = 0.471977 + 0.723712I$ $b = 0.01283 + 2.08864I$	$12.72394 + 5.46645I$	$-0.22295 - 2.11548I$
$u = -0.21322 + 1.93092I$ $a = 0.471977 - 0.723712I$ $b = 0.01283 - 2.08864I$	$12.72394 - 5.46645I$	$-0.22295 + 2.11548I$
$u = -0.126143 - 1.177030I$ $a = 0.263148 - 0.455055I$ $b = -0.518983 - 0.603778I$	$-1.61529 - 1.35793I$	$-3.64822 + 4.51645I$
$u = -0.126143 + 1.177030I$ $a = 0.263148 + 0.455055I$ $b = -0.518983 + 0.603778I$	$-1.61529 + 1.35793I$	$-3.64822 - 4.51645I$
$u = -0.08836 - 2.35166I$ $a = -0.479676 + 0.565939I$ $b = 0.24682 + 2.17415I$	$12.4026 - 12.7511I$	$-0.69002 + 5.94531I$
$u = -0.08836 + 2.35166I$ $a = -0.479676 - 0.565939I$ $b = 0.24682 - 2.17415I$	$12.4026 + 12.7511I$	$-0.69002 - 5.94531I$

	Solution to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.414535 - 0.062132I$		
$a =$	$0.887657 + 0.804181I$	$1.46216 + 0.16286I$	$7.96188 + 1.03516I$
$b =$	$0.625624 + 0.005267I$		
$u =$	$0.414535 + 0.062132I$		
$a =$	$0.887657 - 0.804181I$	$1.46216 - 0.16286I$	$7.96188 - 1.03516I$
$b =$	$0.625624 - 0.005267I$		

V. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_8	$(u-1)^6(u^6+u^5+\cdots+u+1)(u^{12}+3u^{11}+\cdots+3u+1)$ $(u^{12}+5u^{11}+\cdots+2u+1)$
c_2	$(u+1)^6(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $(u^{12}-7u^{11}+\cdots-41u+1)(u^{12}+7u^{11}+\cdots+10u+1)$
c_3, c_9	$u^6(u^6-u^5+\cdots-u+1)(u^{12}+u^{11}+\cdots+320u+64)$ $(u^{12}+u^{11}+\cdots+2u+1)$
c_4, c_{10}	$(u+1)^6(u^6-u^5+\cdots-u+1)(u^{12}+3u^{11}+\cdots+3u+1)$ $(u^{12}+5u^{11}+\cdots+2u+1)$
c_5	$(u^6-u^5-u^4+2u^3-u+1)(u^6-u^5+2u^4-4u^3+5u^2-3u+1)$ $(u^{12}-14u^{10}+\cdots-120u+77)(u^{12}+u^{11}+\cdots-44u+23)$
c_6	$(u^6-3u^5+\cdots-u+1)(u^6-u^5+\cdots-3u+1)$ $(u^{12}+2u^{11}+\cdots-144u+121)(u^{12}+3u^{11}+\cdots+14u+4)$
c_7	$u^6(u^6+u^5+\cdots+u+1)(u^{12}+u^{11}+\cdots+320u+64)$ $(u^{12}+u^{11}+\cdots+2u+1)$
c_{11}	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)(u^6+u^5+u^4+2u^2+u+1)^2$ $(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $(u^{12}+u^{11}+u^{10}+5u^8-4u^6-8u^5+6u^4+3u^3+3u^2+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_4, c_8 c_{10}	$(y-1)^6(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $(y^{12}-7y^{11}+\cdots-10y+1)(y^{12}+7y^{11}+\cdots+41y+1)$
c_2	$(y-1)^6(y^6+y^5+\cdots+3y+1)(y^{12}+27y^{11}+\cdots-451y+1)$ $(y^{12}+29y^{11}+\cdots+22y+1)$
c_3, c_7, c_9	$y^6(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $(y^{12}-27y^{11}+\cdots-12288y+4096)(y^{12}-15y^{11}+\cdots-2y+1)$
c_5	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)(y^6+3y^5+6y^4+5y^2+y+1)$ $(y^{12}-28y^{11}+\cdots+53360y+5929)$ $(y^{12}-23y^{11}+\cdots-4098y+529)$
c_6	$(y^6+y^5+5y^4+6y^2+3y+1)(y^6+3y^5+6y^4+5y^2+y+1)$ $(y^{12}+5y^{11}+\cdots+68y+16)(y^{12}+24y^{11}+\cdots+28148y+14641)$
c_{11}	$(y^6+y^5+5y^4+6y^2+3y+1)^2(y^6+y^5+5y^4+4y^3+6y^2+3y+1)^2$ $(y^{12}+y^{11}+\cdots+6y+1)$