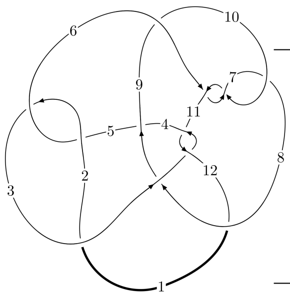
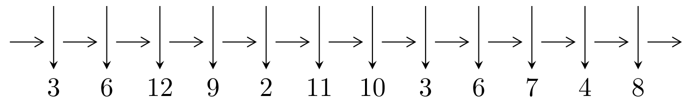
$12n_{0503}$ ($K12n_{0503}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^7 + u^6 + 3u^5 + 2u^4 + 2u^3 + 2u^2 + b,\ a - 1,\ u^8 + u^7 + 4u^6 + 3u^5 + 5u^4 + 4u^3 + u^2 + 3u - 1\rangle$$
$$I_2^u = \langle -u^2 + b + 2u,\ a + 1,\ u^3 - u^2 + 2u - 1\rangle$$
$$I_3^u = \langle u^{15} + 2u^{14} + 7u^{13} + 10u^{12} + 18u^{11} + 19u^{10} + 17u^9 + 12u^8 - 2u^7 - 3u^6 - 9u^5 - 4u^4 + 5u^3 + u^2 + 2b + 4u +$$
$$2u^{17} + 5u^{16} + \cdots + 2a + 19u,\ u^{18} + 3u^{17} + \cdots + 4u + 1\rangle$$
$$I_4^u = \langle u^2a - au + b + u,\ u^2a + a^2 - au + 3u^2 + a - u + 5,\ u^3 - u^2 + 2u - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 35 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. $I_1^u = \langle u^7 + u^6 + 3u^5 + 2u^4 + 2u^3 + 2u^2 + b,\ a - 1,\ u^8 + u^7 + 4u^6 + 3u^5 + 5u^4 + 4u^3 + u^2 + 3u - 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^7 - u^6 - 3u^5 - 2u^4 - 2u^3 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ -u^6 - u^5 - 3u^4 - 2u^3 - u^2 - 2u + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^3 - u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^3 + u^2 - u + 1 \\ -u^3 - u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^7 + u^6 + 3u^5 + 2u^4 + 3u^3 + u^2 + 2u \\ u^6 + u^5 + u^4 + 3u^3 - 2u^2 + 3u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^6 + u^5 - 2u^4 + 2u^3 - u^2 + u + 1 \\ -u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^7 - 4u^6 - 12u^5 - 10u^4 - 10u^3 - 12u^2 + 2u - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8+13u^7+52u^6+39u^5-95u^4+44u^3-5u^2+11u+1$
c_2, c_5, c_9	$u^8+u^7-6u^6-3u^5+5u^4-10u^3+5u^2-u-1$
c_3, c_6, c_7 c_{10}, c_{11}	$u^8-u^7+4u^6-3u^5+5u^4-4u^3+u^2-3u-1$
c_4	$u^8-3u^7-4u^6+19u^5-33u^4+100u^3+91u^2+35u+7$
c_8	$u^8+7u^7+17u^6+16u^5+10u^4+28u^3+44u^2+32u+8$
c_{12}	$u^8-6u^7+7u^6+18u^5-36u^4-10u^3+45u^2-14u-12$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^8-65y^7+\cdots-131y+1$
c_2,c_5,c_9	$y^8-13y^7+52y^6-39y^5-95y^4-44y^3-5y^2-11y+1$
c_3,c_6,c_7 c_{10},c_{11}	$y^8+7y^7+20y^6+25y^5+y^4-32y^3-33y^2-11y+1$
c_4	$y^8-17y^7+64y^6+685y^5-3215y^4-17392y^3+819y^2+49y+49$
c_8	$y^8-15y^7+85y^6-220y^5+268y^4-656y^3+304y^2-320y+64$
c_{12}	$y^8-22y^7+\cdots-1276y+144$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.327709 + 0.937994I$ $a = 1.00000$ $b = 0.142755 + 0.492603I$	$1.82186 - 2.79026I$	$-10.46165 + 4.33295I$
$u = 0.327709 - 0.937994I$ $a = 1.00000$ $b = 0.142755 - 0.492603I$	$1.82186 + 2.79026I$	$-10.46165 - 4.33295I$
$u = -1.04994$ $a = 1.00000$ $b = 1.57429$	-16.6633	-16.3280
$u = 0.051026 + 1.292250I$ $a = 1.00000$ $b = 2.39119 - 1.00724I$	$7.37589 - 2.10973I$	$-4.67802 + 3.20330I$
$u = 0.051026 - 1.292250I$ $a = 1.00000$ $b = 2.39119 + 1.00724I$	$7.37589 + 2.10973I$	$-4.67802 - 3.20330I$
$u = -0.48935 + 1.37392I$ $a = 1.00000$ $b = 1.78025 - 1.97737I$	$-7.96719 + 11.01890I$	$-10.38982 - 5.43515I$
$u = -0.48935 - 1.37392I$ $a = 1.00000$ $b = 1.78025 + 1.97737I$	$-7.96719 - 11.01890I$	$-10.38982 + 5.43515I$
$u = 0.271177$ $a = 1.00000$ $b = -0.202677$	-0.602204	-16.6130

II. $I^u_2 = \langle -u^2 + b + 2u,\ a + 1,\ u^3 - u^2 + 2u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u^2 + 8u - 20$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.215080 + 1.307140I$ $a = -1.00000$ $b = -2.09252 - 2.05200I$	$6.04826 - 5.65624I$	$-4.98049 + 5.95889I$
$u = \quad 0.215080 - 1.307140I$ $a = -1.00000$ $b = -2.09252 + 2.05200I$	$6.04826 + 5.65624I$	$-4.98049 - 5.95889I$
$u = \quad 0.569840$ $a = -1.00000$ $b = -0.814963$	-2.22691	-18.0390

III. $I_3^u =$
$\langle u^{15}+2u^{14}+\cdots+2b+1,\ 2u^{17}+5u^{16}+\cdots+2a+19u,\ u^{18}+3u^{17}+\cdots+4u+1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{17} - \frac{5}{2}u^{16} + \cdots - 4u^2 - \frac{19}{2}u \\ -\frac{1}{2}u^{15} - u^{14} + \cdots - 2u - \frac{1}{2} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{5}{2}u^{17} - \frac{15}{2}u^{16} + \cdots - \frac{31}{2}u - 7 \\ -\frac{1}{2}u^{17} - \frac{5}{2}u^{16} + \cdots - \frac{7}{2}u - 2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{5}{2}u^{17} + 8u^{16} + \cdots + 17u + 4 \\ -\frac{1}{2}u^{17} - u^{15} + \cdots + 6u + \frac{5}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2u^{17} + 8u^{16} + \cdots + 23u + \frac{13}{2} \\ -\frac{1}{2}u^{17} - u^{15} + \cdots + 6u + \frac{5}{2} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2u^{17} + \frac{11}{2}u^{16} + \cdots + \frac{23}{2}u + \frac{11}{2} \\ 2u^{17} + 6u^{16} + \cdots + 7u + \frac{5}{2} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{3}{2}u^{17} - \frac{7}{2}u^{16} + \cdots - \frac{23}{2}u - 1 \\ -\frac{1}{2}u^{17} - u^{16} + \cdots - 3u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1}{2}u^{17} + 4u^{16} + 13u^{15} + 37u^{14} + \frac{143}{2}u^{13} + \frac{251}{2}u^{12} + \frac{331}{2}u^{11} + \frac{375}{2}u^{10} + \frac{315}{2}u^9 + \frac{169}{2}u^8 + \frac{15}{2}u^7 - \frac{125}{2}u^6 - 62u^5 - \frac{73}{2}u^4 + \frac{13}{2}u^3 + 28u^2 + 18u - \frac{3}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18} + 31u^{17} + \cdots - 4u + 1$
c_2, c_5, c_9	$u^{18} + 3u^{17} + \cdots + 4u + 1$
c_3, c_6, c_7 c_{10}, c_{11}	$u^{18} - 3u^{17} + \cdots - 4u + 1$
c_4	$u^{18} - 21u^{16} + \cdots + 640u + 1709$
c_8	$(u^9 - 3u^8 - 4u^7 + 17u^6 - 8u^5 + u^4 - 9u^3 + 20u^2 - 12u + 8)^2$
c_{12}	$(u^9 + 2u^8 - 4u^7 - 5u^6 + u^5 - 11u^4 + u^3 - 2u^2 + u - 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{18} - 103y^{17} + \cdots + 100y + 1$
c_2, c_5, c_9	$y^{18} - 31y^{17} + \cdots + 4y + 1$
c_3, c_6, c_7 c_{10}, c_{11}	$y^{18} + 13y^{17} + \cdots + 4y + 1$
c_4	$y^{18} - 42y^{17} + \cdots - 5810040y + 2920681$
c_8	$(y^9 - 17y^8 + \cdots - 176y - 64)^2$
c_{12}	$(y^9 - 12y^8 + 38y^7 + 13y^6 - 107y^5 - 135y^4 - 71y^3 - 68y^2 - 11y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.030260+0.064097I$ $a=\ \ 0.593567-1.271510I$ $b=\ \ 1.29698-0.73855I$	$-12.47200+5.60959I$	$-13.58318-2.91483I$
$u=-1.030260-0.064097I$ $a=\ \ 0.593567+1.271510I$ $b=\ \ 1.29698+0.73855I$	$-12.47200-5.60959I$	$-13.58318+2.91483I$
$u=-0.210201+1.054780I$ $a=-1.310130+0.002220I$ $b=-1.54000+1.83413I$	$4.64765+4.49302I$	$-9.27331-2.63055I$
$u=-0.210201-1.054780I$ $a=-1.310130-0.002220I$ $b=-1.54000-1.83413I$	$4.64765-4.49302I$	$-9.27331+2.63055I$
$u=-0.132410+0.848357I$ $a=-0.345719-0.790410I$ $b=-0.749423+0.610778I$	$-0.376754+0.892025I$	$-13.26164-1.57550I$
$u=-0.132410-0.848357I$ $a=-0.345719+0.790410I$ $b=-0.749423-0.610778I$	$-0.376754-0.892025I$	$-13.26164+1.57550I$
$u=\ \ 0.716326+0.188635I$ $a=-0.464508-1.061990I$ $b=-0.749423-0.610778I$	$-0.376754-0.892025I$	$-13.26164+1.57550I$
$u=\ \ 0.716326-0.188635I$ $a=-0.464508+1.061990I$ $b=-0.749423+0.610778I$	$-0.376754+0.892025I$	$-13.26164-1.57550I$
$u=\ \ 0.227734+1.247250I$ $a=\ \ 0.186877+0.242619I$ $b=-0.116635-0.608467I$	$2.67018-2.29545I$	$-5.81910+1.31175I$
$u=\ \ 0.227734-1.247250I$ $a=\ \ 0.186877-0.242619I$ $b=-0.116635+0.608467I$	$2.67018+2.29545I$	$-5.81910-1.31175I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.273050 + 1.382370I$ $a = -0.763279 + 0.001294I$ $b = -1.54000 - 1.83413I$	$4.64765 - 4.49302I$	$-9.27331 + 2.63055I$
$u = 0.273050 - 1.382370I$ $a = -0.763279 - 0.001294I$ $b = -1.54000 + 1.83413I$	$4.64765 + 4.49302I$	$-9.27331 - 2.63055I$
$u = -0.554172 + 1.295970I$ $a = -0.690827 + 0.723020I$ $b = 0.218157$	-8.67732	$-11.12553 + 0.I$
$u = -0.554172 - 1.295970I$ $a = -0.690827 - 0.723020I$ $b = 0.218157$	-8.67732	$-11.12553 + 0.I$
$u = -0.53003 + 1.34802I$ $a = 0.301448 + 0.645745I$ $b = 1.29698 - 0.73855I$	$-12.47200 + 5.60959I$	$-13.58318 - 2.91483I$
$u = -0.53003 - 1.34802I$ $a = 0.301448 - 0.645745I$ $b = 1.29698 + 0.73855I$	$-12.47200 - 5.60959I$	$-13.58318 + 2.91483I$
$u = -0.260047 + 0.288335I$ $a = 1.99257 - 2.58691I$ $b = -0.116635 - 0.608467I$	$2.67018 - 2.29545I$	$-5.81910 + 1.31175I$
$u = -0.260047 - 0.288335I$ $a = 1.99257 + 2.58691I$ $b = -0.116635 + 0.608467I$	$2.67018 + 2.29545I$	$-5.81910 - 1.31175I$

IV. $\boldsymbol{I_4^u = \langle u^2a - au + b + u,\ u^2a + a^2 - au + 3u^2 + a - u + 5,\ u^3 - u^2 + 2u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} -au + 2u^2 + a - u + 3 \\ -au + u^2 + a + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -au + u^2 + 1 \\ -u^2a + u^2 - u + 1 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -u^2a - au + 3u^2 + a - 2u + 4 \\ -u^2a + au + u^2 - u + 2 \end{pmatrix}$$

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

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

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

$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^2 - u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^2a - 2au + 2u - 15$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6 c_7, c_{10}, c_{11}	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_5, c_9	$(y^3 - y^2 + 2y - 1)^2$
c_4	$y^6 + 7y^5 + 18y^4 + 21y^3 + 16y^2 + 1$
c_8	y^6
c_{12}	$(y^3 - 2y^2 + y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = 0.947279 + 0.320410I$ $b = 1.32472$	6.04826	$-8.87505 + 0.I$
$u = 0.215080 + 1.307140I$ $a = -0.069840 + 0.424452I$ $b = -0.662359 - 0.562280I$	$1.91067 - 2.82812I$	$-13.06248 + 4.84887I$
$u = 0.215080 - 1.307140I$ $a = 0.947279 - 0.320410I$ $b = 1.32472$	6.04826	$-8.87505 + 0.I$
$u = 0.215080 - 1.307140I$ $a = -0.069840 - 0.424452I$ $b = -0.662359 + 0.562280I$	$1.91067 + 2.82812I$	$-13.06248 - 4.84887I$
$u = 0.569840$ $a = -0.37744 + 2.29387I$ $b = -0.662359 + 0.562280I$	$1.91067 + 2.82812I$	$-13.06248 - 4.84887I$
$u = 0.569840$ $a = -0.37744 - 2.29387I$ $b = -0.662359 - 0.562280I$	$1.91067 - 2.82812I$	$-13.06248 + 4.84887I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3-u^2+2u-1)^3$ $\cdot(u^8+13u^7+52u^6+39u^5-95u^4+44u^3-5u^2+11u+1)$ $\cdot(u^{18}+31u^{17}+\cdots-4u+1)$
c_2	$(u^3+u^2-1)^3(u^8+u^7-6u^6-3u^5+5u^4-10u^3+5u^2-u-1)$ $\cdot(u^{18}+3u^{17}+\cdots+4u+1)$
c_3, c_{10}	$(u^3+u^2+2u+1)^3(u^8-u^7+4u^6-3u^5+5u^4-4u^3+u^2-3u-1)$ $\cdot(u^{18}-3u^{17}+\cdots-4u+1)$
c_4	$(u^3+3u^2+2u-1)(u^6-u^5+4u^4-u^3+2u^2+2u+1)$ $\cdot(u^8-3u^7-4u^6+19u^5-33u^4+100u^3+91u^2+35u+7)$ $\cdot(u^{18}-21u^{16}+\cdots+640u+1709)$
c_5, c_9	$(u^3-u^2+1)^3(u^8+u^7-6u^6-3u^5+5u^4-10u^3+5u^2-u-1)$ $\cdot(u^{18}+3u^{17}+\cdots+4u+1)$
c_6, c_7, c_{11}	$(u^3-u^2+2u-1)^3(u^8-u^7+4u^6-3u^5+5u^4-4u^3+u^2-3u-1)$ $\cdot(u^{18}-3u^{17}+\cdots-4u+1)$
c_8	$u^9(u^8+7u^7+17u^6+16u^5+10u^4+28u^3+44u^2+32u+8)$ $\cdot(u^9-3u^8-4u^7+17u^6-8u^5+u^4-9u^3+20u^2-12u+8)^2$
c_{12}	$(u^3-u+1)^2(u^3+u^2+2u+1)$ $\cdot(u^8-6u^7+7u^6+18u^5-36u^4-10u^3+45u^2-14u-12)$ $\cdot(u^9+2u^8-4u^7-5u^6+u^5-11u^4+u^3-2u^2+u-3)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3+3y^2+2y-1)^3)(y^8-65y^7+\cdots-131y+1)$ $\cdot(y^{18}-103y^{17}+\cdots+100y+1)$
c_2, c_5, c_9	$(y^3-y^2+2y-1)^3$ $\cdot(y^8-13y^7+52y^6-39y^5-95y^4-44y^3-5y^2-11y+1)$ $\cdot(y^{18}-31y^{17}+\cdots+4y+1)$
c_3, c_6, c_7 c_{10}, c_{11}	$(y^3+3y^2+2y-1)^3$ $\cdot(y^8+7y^7+20y^6+25y^5+y^4-32y^3-33y^2-11y+1)$ $\cdot(y^{18}+13y^{17}+\cdots+4y+1)$
c_4	$(y^3-5y^2+10y-1)(y^6+7y^5+18y^4+21y^3+16y^2+1)$ $\cdot(y^8-17y^7+64y^6+685y^5-3215y^4-17392y^3+819y^2+49y+49)$ $\cdot(y^{18}-42y^{17}+\cdots-5810040y+2920681)$
c_8	$y^9(y^8-15y^7+\cdots-320y+64)$ $\cdot(y^9-17y^8+\cdots-176y-64)^2$
c_{12}	$(y^3-2y^2+y-1)^2(y^3+3y^2+2y-1)$ $\cdot(y^8-22y^7+\cdots-1276y+144)$ $\cdot(y^9-12y^8+38y^7+13y^6-107y^5-135y^4-71y^3-68y^2-11y-9)^2$