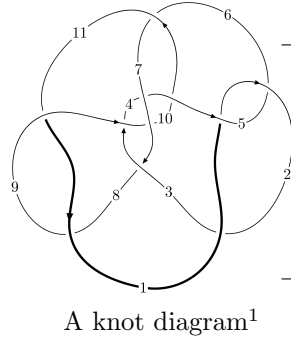
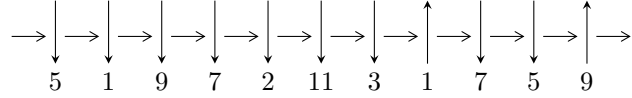


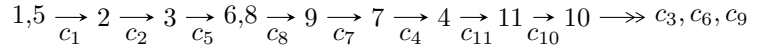
11n<sub>95</sub> (K11n<sub>95</sub>)



**Linearized knot diagram**



**Solving Sequence**



**Ideals for irreducible components<sup>2</sup> of  $X_{\text{par}}$**

$$\begin{aligned}
 I_1^u &= \langle u^{10} - 4u^9 + 5u^8 + 4u^7 - 20u^6 + 24u^5 - 8u^4 - 8u^3 + 7u^2 + b - 1, \\
 &\quad u^{11} - 7u^{10} + 18u^9 - 12u^8 - 36u^7 + 95u^6 - 84u^5 - 2u^4 + 59u^3 - 31u^2 + 2a - 9u + 9, \\
 &\quad u^{12} - 5u^{11} + 10u^{10} - 4u^9 - 22u^8 + 51u^7 - 48u^6 + 10u^5 + 23u^4 - 21u^3 + 3u^2 + 5u - 2 \rangle \\
 I_2^u &= \langle u^5 + 2u^4 - 2u^2 + b - u + 1, -3u^5 - 5u^4 + 2u^3 + 8u^2 + a + 2u - 6, u^6 + 2u^5 - 3u^3 - 2u^2 + 2u + 1 \rangle \\
 I_3^u &= \langle -4u^4a - 5u^3a - 10u^4 - 4u^2a - 7u^3 + 3au + u^2 + 11b + 5a + 13u - 4, \\
 &\quad -6u^4 + u^2a - 2u^3 + a^2 + 2au + 3u^2 + a + 9u - 11, u^5 + u^4 - u^2 + u + 1 \rangle
 \end{aligned}$$

\* 3 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 28 representations.

<sup>1</sup>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>).

<sup>2</sup>All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

$$I_1^u = \langle u^{10} - 4u^9 + \dots + b - 1, u^{11} - 7u^{10} + \dots + 2a + 9, u^{12} - 5u^{11} + \dots + 5u - 2 \rangle$$

I.

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^{11} + \frac{7}{2}u^{10} + \dots + \frac{9}{2}u - \frac{9}{2} \\ -u^{10} + 4u^9 - 5u^8 - 4u^7 + 20u^6 - 24u^5 + 8u^4 + 8u^3 - 7u^2 + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{11} + \frac{5}{2}u^{10} + \dots + \frac{9}{2}u - \frac{7}{2} \\ -u^{10} + 4u^9 - 5u^8 - 4u^7 + 20u^6 - 24u^5 + 8u^4 + 8u^3 - 7u^2 + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{3}{2}u^{11} + \frac{13}{2}u^{10} + \dots + \frac{11}{2}u - \frac{7}{2} \\ u^{11} - 4u^{10} + 6u^9 + u^8 - 18u^7 + 30u^6 - 22u^5 + 2u^4 + 9u^3 - 6u^2 + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{11} + \frac{3}{2}u^{10} + \dots + \frac{1}{2}u + \frac{1}{2} \\ u^{10} - 3u^9 + 2u^8 + 6u^7 - 14u^6 + 11u^5 + 2u^4 - 8u^3 + 4u^2 + 2u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{3}{2}u^{11} - \frac{13}{2}u^{10} + \dots - \frac{11}{2}u + \frac{7}{2} \\ -u^{11} + 4u^{10} + \dots + 3u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{3}{2}u^{11} - \frac{13}{2}u^{10} + \dots - \frac{11}{2}u + \frac{7}{2} \\ -u^{11} + 5u^{10} + \dots + 5u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{3}{2}u^{11} - \frac{13}{2}u^{10} + \dots - \frac{11}{2}u + \frac{7}{2} \\ -u^{11} + 5u^{10} + \dots + 5u - 3 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes

$$= -u^{11} + 6u^{10} - 14u^9 + 9u^8 + 27u^7 - 75u^6 + 75u^5 - 10u^4 - 49u^3 + 40u^2 - 18$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_5$	$u^{12} + 5u^{11} + \dots - 5u - 2$
$c_2$	$u^{12} + 5u^{11} + \dots + 37u + 4$
$c_3, c_4, c_{10}$	$u^{12} - u^{11} + \dots - 2u - 1$
$c_6$	$u^{12} + 12u^{11} + \dots + 240u + 32$
$c_7$	$u^{12} + 5u^{10} + \dots + 4u + 1$
$c_8, c_{11}$	$u^{12} + 2u^{11} + \dots + 3u + 1$
$c_9$	$u^{12} - 7u^{11} + \dots - 15u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^{12} - 5y^{11} + \dots - 37y + 4$
$c_2$	$y^{12} + 7y^{11} + \dots - 353y + 16$
$c_3, c_4, c_{10}$	$y^{12} - 19y^{11} + \dots + 2y + 1$
$c_6$	$y^{12} - 6y^{11} + \dots - 7936y + 1024$
$c_7$	$y^{12} + 10y^{11} + \dots - 10y + 1$
$c_8, c_{11}$	$y^{12} - 6y^{11} + \dots - 25y + 1$
$c_9$	$y^{12} - 3y^{11} + \dots - 689y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.634055 + 0.761588I$ $a = 2.40907 - 0.56101I$ $b = -1.061820 + 0.403224I$	$2.28232 - 3.09531I$	$-6.37045 + 4.07458I$
$u = 0.634055 - 0.761588I$ $a = 2.40907 + 0.56101I$ $b = -1.061820 - 0.403224I$	$2.28232 + 3.09531I$	$-6.37045 - 4.07458I$
$u = 0.706953 + 1.119620I$ $a = -2.03790 - 1.24403I$ $b = 1.33004 + 0.60517I$	$-1.55271 + 4.05634I$	$-6.99284 - 2.54487I$
$u = 0.706953 - 1.119620I$ $a = -2.03790 + 1.24403I$ $b = 1.33004 - 0.60517I$	$-1.55271 - 4.05634I$	$-6.99284 + 2.54487I$
$u = 1.184170 + 0.621257I$ $a = 1.075910 + 0.634900I$ $b = -0.732377 + 0.158790I$	$0.53240 - 2.26677I$	$-5.92780 + 2.45213I$
$u = 1.184170 - 0.621257I$ $a = 1.075910 - 0.634900I$ $b = -0.732377 - 0.158790I$	$0.53240 + 2.26677I$	$-5.92780 - 2.45213I$
$u = -0.585422 + 0.102144I$ $a = 0.251345 - 0.127948I$ $b = -0.388763 - 1.056570I$	$-0.76434 + 2.25567I$	$-2.25761 - 1.65555I$
$u = -0.585422 - 0.102144I$ $a = 0.251345 + 0.127948I$ $b = -0.388763 + 1.056570I$	$-0.76434 - 2.25567I$	$-2.25761 + 1.65555I$
$u = 1.13630 + 0.87513I$ $a = -2.57645 + 0.49107I$ $b = 1.35172 - 1.03292I$	$-2.90723 - 11.19710I$	$-8.74463 + 6.08532I$
$u = 1.13630 - 0.87513I$ $a = -2.57645 - 0.49107I$ $b = 1.35172 + 1.03292I$	$-2.90723 + 11.19710I$	$-8.74463 - 6.08532I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.531194$ $a = -1.14054$ $b = 0.227398$	-0.766539	-13.0250
$u = -1.68330$ $a = -0.603416$ $b = 0.774996$	-10.8637	-2.38840

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

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 2u^5 + 3u^4 - 2u^3 - 6u^2 - u + 5 \\ -u^5 - 2u^4 + 2u^2 + u - 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -3u^5 - 5u^4 + 2u^3 + 8u^2 + 3u - 7 \\ u^5 + 2u^4 - 2u^2 - u + 2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -2u^5 - 3u^4 + u^3 + 5u^2 + 2u - 4 \\ u^5 + u^4 - u^3 - 3u^2 - u + 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2u^5 - 3u^4 + u^3 + 5u^2 + 2u - 4 \\ u^5 + u^4 - u^3 - 3u^2 - u + 2 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes =  $4u^5 + 7u^4 + 4u^3 - 6u^2 - 9u - 7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^6 + 2u^5 - 3u^3 - 2u^2 + 2u + 1$
$c_2$	$u^6 + 4u^5 + 8u^4 + 15u^3 + 16u^2 + 8u + 1$
$c_3$	$u^6 + u^5 - 2u^4 - 3u^3 - 5u^2 - 4u - 1$
$c_4, c_{10}$	$u^6 - u^5 - 2u^4 + 3u^3 - 5u^2 + 4u - 1$
$c_5$	$u^6 - 2u^5 + 3u^3 - 2u^2 - 2u + 1$
$c_6$	$u^6 + u^5 - 2u^4 + 2u^3 - 2u + 1$
$c_7$	$u^6 - 4u^3 - 5u^2 - 2u - 1$
$c_8$	$u^6 + 2u^5 - 2u^3 - 2u^2 - u + 1$
$c_9$	$u^6 + 4u^5 + 5u^4 + 2u^3 - u^2 - u + 1$
$c_{11}$	$u^6 - 2u^5 + 2u^3 - 2u^2 + u + 1$



(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^6 - 4y^5 + 8y^4 - 15y^3 + 16y^2 - 8y + 1$
$c_2$	$y^6 - 24y^4 - 31y^3 + 32y^2 - 32y + 1$
$c_3, c_4, c_{10}$	$y^6 - 5y^5 + 17y^3 + 5y^2 - 6y + 1$
$c_6$	$y^6 - 5y^5 + 2y^3 + 4y^2 - 4y + 1$
$c_7$	$y^6 - 10y^4 - 18y^3 + 9y^2 + 6y + 1$
$c_8, c_{11}$	$y^6 - 4y^5 + 4y^4 + 2y^3 - 5y + 1$
$c_9$	$y^6 - 6y^5 + 7y^4 - 4y^3 + 15y^2 - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.907957 + 0.227043I$		
$a = -0.348496 + 0.361180I$	$-1.45069 - 2.49752I$	$-13.4121 + 4.8455I$
$b = 0.355765 - 0.898533I$		
$u = 0.907957 - 0.227043I$		
$a = -0.348496 - 0.361180I$	$-1.45069 + 2.49752I$	$-13.4121 - 4.8455I$
$b = 0.355765 + 0.898533I$		
$u = -0.934823 + 0.946305I$		
$a = -2.43499 + 0.27700I$	$5.64849 + 3.45368I$	$-2.17386 - 2.96497I$
$b = 1.42809 + 0.28813I$		
$u = -0.934823 - 0.946305I$		
$a = -2.43499 - 0.27700I$	$5.64849 - 3.45368I$	$-2.17386 + 2.96497I$
$b = 1.42809 - 0.28813I$		
$u = -1.52247$		
$a = -0.116304$	$-11.4632$	$-16.4310$
$b = -0.452275$		
$u = -0.423796$		
$a = 5.68327$	$-6.80200$	$-4.39680$
$b = -1.11543$		

**III.**

$$I_3^u = \langle -4u^4a - 10u^4 + \dots + 5a - 4, -6u^4 - 2u^3 + \dots + a - 11, u^5 + u^4 - u^2 + u + 1 \rangle$$

**(i) Arc colorings**

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} a \\ 0.363636au^4 + 0.909091u^4 + \dots - 0.454545a + 0.363636 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.363636au^4 + 0.909091u^4 + \dots + 0.545455a + 0.363636 \\ 0.363636au^4 + 0.909091u^4 + \dots - 0.454545a + 0.363636 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.272727au^4 + 0.181818u^4 + \dots + 0.909091a + 0.272727 \\ 0.181818au^4 + 1.45455u^4 + \dots - 0.727273a + 0.181818 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.454545au^4 - 3.63636u^4 + \dots - 0.181818a - 2.45455 \\ 0.0909091au^4 + 1.72727u^4 + \dots - 0.363636a + 1.09091 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.272727au^4 + 0.181818u^4 + \dots + 0.909091a + 0.272727 \\ 0.181818au^4 + 1.45455u^4 + \dots - 0.727273a + 0.181818 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.272727au^4 + 0.181818u^4 + \dots + 0.909091a + 0.272727 \\ -0.272727au^4 + 0.818182u^4 + \dots - 0.909091a + 0.727273 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.272727au^4 + 0.181818u^4 + \dots + 0.909091a + 0.272727 \\ -0.272727au^4 + 0.818182u^4 + \dots - 0.909091a + 0.727273 \end{pmatrix}$$

**(ii) Obstruction class = -1**

**(iii) Cusp Shapes =  $-4u^4 + 4u^2 + 4u - 18$**

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_5$	$(u^5 - u^4 + u^2 + u - 1)^2$
$c_2$	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^2$
$c_3, c_4, c_{10}$	$u^{10} + u^9 - 4u^8 - 4u^7 - 2u^6 + 2u^5 + 29u^4 + 7u^3 - 48u^2 + 12u - 1$
$c_6$	$(u - 1)^{10}$
$c_7$	$u^{10} + u^9 + 2u^8 + 6u^7 - 14u^6 + 28u^5 - 59u^4 + 53u^3 - 82u^2 + 34u - 13$
$c_8, c_{11}$	$u^{10} + 3u^9 + 2u^8 - 8u^7 - 24u^6 - 16u^5 + 25u^4 + 71u^3 + 78u^2 + 40u + 7$
$c_9$	$(u^5 + 3u^4 - 5u^2 - u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^2$
$c_2$	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$
$c_3, c_4, c_{10}$	$y^{10} - 9y^9 + \dots - 48y + 1$
$c_6$	$(y - 1)^{10}$
$c_7$	$y^{10} + 3y^9 + \dots + 976y + 169$
$c_8, c_{11}$	$y^{10} - 5y^9 + \dots - 508y + 49$
$c_9$	$(y^5 - 9y^4 + 28y^3 - 43y^2 + 31y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_3^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.758138 + 0.584034I$ $a = -1.87197 - 0.03044I$ $b = 0.452332 - 1.123840I$	$-4.75993 - 2.21397I$	$-11.11432 + 4.22289I$
$u = 0.758138 + 0.584034I$ $a = -0.87798 - 2.02319I$ $b = 0.81806 + 1.53771I$	$-4.75993 - 2.21397I$	$-11.11432 + 4.22289I$
$u = 0.758138 - 0.584034I$ $a = -1.87197 + 0.03044I$ $b = 0.452332 + 1.123840I$	$-4.75993 + 2.21397I$	$-11.11432 - 4.22289I$
$u = 0.758138 - 0.584034I$ $a = -0.87798 + 2.02319I$ $b = 0.81806 - 1.53771I$	$-4.75993 + 2.21397I$	$-11.11432 - 4.22289I$
$u = -0.935538 + 0.903908I$ $a = -1.88766 + 0.16400I$ $b = 0.868620 + 0.215856I$	$4.37856 + 3.33174I$	$-10.08126 - 2.36228I$
$u = -0.935538 + 0.903908I$ $a = 2.70055 - 0.28054I$ $b = -1.72566 - 0.41266I$	$4.37856 + 3.33174I$	$-10.08126 - 2.36228I$
$u = -0.935538 - 0.903908I$ $a = -1.88766 - 0.16400I$ $b = 0.868620 - 0.215856I$	$4.37856 - 3.33174I$	$-10.08126 + 2.36228I$
$u = -0.935538 - 0.903908I$ $a = 2.70055 + 0.28054I$ $b = -1.72566 + 0.41266I$	$4.37856 - 3.33174I$	$-10.08126 + 2.36228I$
$u = -0.645200$ $a = 3.94511$ $b = 0.340045$	$-7.46192$	$-19.6090$
$u = -0.645200$ $a = -4.07100$ $b = 1.83325$	$-7.46192$	$-19.6090$

#### IV. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^5 - u^4 + u^2 + u - 1)^2(u^6 + 2u^5 - 3u^3 - 2u^2 + 2u + 1)$ $\cdot (u^{12} + 5u^{11} + \dots - 5u - 2)$
$c_2$	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^2$ $\cdot (u^6 + 4u^5 + \dots + 8u + 1)(u^{12} + 5u^{11} + \dots + 37u + 4)$
$c_3$	$(u^6 + u^5 - 2u^4 - 3u^3 - 5u^2 - 4u - 1)$ $\cdot (u^{10} + u^9 - 4u^8 - 4u^7 - 2u^6 + 2u^5 + 29u^4 + 7u^3 - 48u^2 + 12u - 1)$ $\cdot (u^{12} - u^{11} + \dots - 2u - 1)$
$c_4, c_{10}$	$(u^6 - u^5 - 2u^4 + 3u^3 - 5u^2 + 4u - 1)$ $\cdot (u^{10} + u^9 - 4u^8 - 4u^7 - 2u^6 + 2u^5 + 29u^4 + 7u^3 - 48u^2 + 12u - 1)$ $\cdot (u^{12} - u^{11} + \dots - 2u - 1)$
$c_5$	$(u^5 - u^4 + u^2 + u - 1)^2(u^6 - 2u^5 + 3u^3 - 2u^2 - 2u + 1)$ $\cdot (u^{12} + 5u^{11} + \dots - 5u - 2)$
$c_6$	$((u - 1)^{10})(u^6 + u^5 + \dots - 2u + 1)(u^{12} + 12u^{11} + \dots + 240u + 32)$
$c_7$	$(u^6 - 4u^3 - 5u^2 - 2u - 1)$ $\cdot (u^{10} + u^9 + 2u^8 + 6u^7 - 14u^6 + 28u^5 - 59u^4 + 53u^3 - 82u^2 + 34u - 13)$ $\cdot (u^{12} + 5u^{10} + \dots + 4u + 1)$
$c_8$	$(u^6 + 2u^5 - 2u^3 - 2u^2 - u + 1)$ $\cdot (u^{10} + 3u^9 + 2u^8 - 8u^7 - 24u^6 - 16u^5 + 25u^4 + 71u^3 + 78u^2 + 40u + 7)$ $\cdot (u^{12} + 2u^{11} + \dots + 3u + 1)$
$c_9$	$(u^5 + 3u^4 - 5u^2 - u + 3)^2(u^6 + 4u^5 + 5u^4 + 2u^3 - u^2 - u + 1)$ $\cdot (u^{12} - 7u^{11} + \dots - 15u - 4)$
$c_{11}$	$(u^6 - 2u^5 + 2u^3 - 2u^2 + u + 1)$ $\cdot (u^{10} + 3u^9 + 2u^8 - 8u^7 - 24u^6 - 16u^5 + 25u^4 + 71u^3 + 78u^2 + 40u + 7)$ $\cdot (u^{12} + 2u^{11} + \dots + 3u + 1)$

## V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^2$ $\cdot (y^6 - 4y^5 + \dots - 8y + 1)(y^{12} - 5y^{11} + \dots - 37y + 4)$
$c_2$	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^2$ $\cdot (y^6 - 24y^4 + \dots - 32y + 1)(y^{12} + 7y^{11} + \dots - 353y + 16)$
$c_3, c_4, c_{10}$	$(y^6 - 5y^5 + 17y^3 + 5y^2 - 6y + 1)(y^{10} - 9y^9 + \dots - 48y + 1)$ $\cdot (y^{12} - 19y^{11} + \dots + 2y + 1)$
$c_6$	$(y - 1)^{10}(y^6 - 5y^5 + 2y^3 + 4y^2 - 4y + 1)$ $\cdot (y^{12} - 6y^{11} + \dots - 7936y + 1024)$
$c_7$	$(y^6 - 10y^4 - 18y^3 + 9y^2 + 6y + 1)(y^{10} + 3y^9 + \dots + 976y + 169)$ $\cdot (y^{12} + 10y^{11} + \dots - 10y + 1)$
$c_8, c_{11}$	$(y^6 - 4y^5 + 4y^4 + 2y^3 - 5y + 1)(y^{10} - 5y^9 + \dots - 508y + 49)$ $\cdot (y^{12} - 6y^{11} + \dots - 25y + 1)$
$c_9$	$(y^5 - 9y^4 + 28y^3 - 43y^2 + 31y - 9)^2$ $\cdot (y^6 - 6y^5 + \dots - 3y + 1)(y^{12} - 3y^{11} + \dots - 689y + 16)$