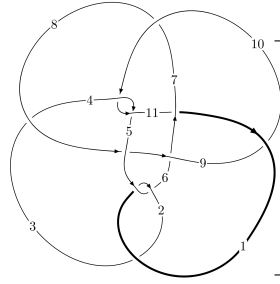
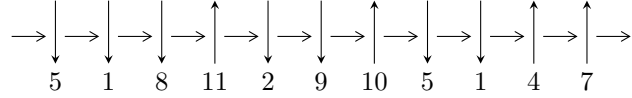


11n<sub>120</sub> (K11n<sub>120</sub>)



A knot diagram<sup>1</sup>

**Linearized knot diagram**



**Solving Sequence**

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

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

$$I_1^u = \langle 2.10700 \times 10^{42} u^{32} - 8.32114 \times 10^{42} u^{31} + \dots + 1.04181 \times 10^{43} b + 3.11913 \times 10^{43}, \\ - 3.50718 \times 10^{43} u^{32} + 1.44547 \times 10^{44} u^{31} + \dots + 1.04181 \times 10^{43} a - 2.21436 \times 10^{44}, \\ u^{33} - 4u^{32} + \dots + 20u + 1 \rangle$$

$$I_2^u = \langle -u^7 - u^6 + 4u^5 + 5u^4 - 2u^3 - 4u^2 + b + u + 1, u^9 + u^8 - 5u^7 - 6u^6 + 6u^5 + 9u^4 - 4u^3 - 6u^2 + a + u + 2, \\ u^{10} + u^9 - 5u^8 - 6u^7 + 6u^6 + 9u^5 - 4u^4 - 6u^3 + 2u^2 + 2u - 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 43 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.

$$\mathbf{I. } I_1^u = \langle 2.11 \times 10^{42} u^{32} - 8.32 \times 10^{42} u^{31} + \dots + 1.04 \times 10^{43} b + 3.12 \times 10^{43}, -3.51 \times 10^{43} u^{32} + 1.45 \times 10^{44} u^{31} + \dots + 1.04 \times 10^{43} a - 2.21 \times 10^{44}, u^{33} - 4u^{32} + \dots + 20u + 1 \rangle$$

(i) Arc colorings

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

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

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

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

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

$$a_9 = \begin{pmatrix} 3.36643u^{32} - 13.8746u^{31} + \dots + 359.454u + 21.2550 \\ -0.202245u^{32} + 0.798722u^{31} + \dots - 30.1211u - 2.99396 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3.56868u^{32} - 14.6734u^{31} + \dots + 389.575u + 24.2489 \\ -0.202245u^{32} + 0.798722u^{31} + \dots - 30.1211u - 2.99396 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.36643u^{32} - 13.8746u^{31} + \dots + 359.454u + 21.2550 \\ -0.242116u^{32} + 0.964369u^{31} + \dots - 34.9325u - 3.40285 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2.39153u^{32} + 9.65565u^{31} + \dots - 322.155u - 32.6535 \\ -0.333028u^{32} + 1.39186u^{31} + \dots - 27.7757u - 1.13662 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0378953u^{32} - 0.0228553u^{31} + \dots - 72.9307u - 16.7529 \\ -0.414218u^{32} + 1.71120u^{31} + \dots - 42.6953u - 2.83658 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.41343u^{32} + 6.01740u^{31} + \dots - 83.5671u + 7.88298 \\ 0.510036u^{32} - 2.09654u^{31} + \dots + 58.5090u + 4.26540 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.41343u^{32} + 6.01740u^{31} + \dots - 83.5671u + 7.88298 \\ 0.510036u^{32} - 2.09654u^{31} + \dots + 58.5090u + 4.26540 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $1.43631u^{32} - 5.67419u^{31} + \dots + 211.371u + 17.0575$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_5$	$u^{33} + 4u^{32} + \dots + 20u - 1$
$c_2$	$u^{33} + 48u^{32} + \dots + 88u + 1$
$c_3$	$u^{33} - u^{32} + \dots + 864u - 691$
$c_4, c_{10}$	$u^{33} - 11u^{31} + \dots - u - 1$
$c_6$	$u^{33} + 6u^{32} + \dots - 2315u + 1751$
$c_7$	$u^{33} + 10u^{32} + \dots + 108u + 11$
$c_8$	$u^{33} - 32u^{31} + \dots + 138u - 193$
$c_9$	$u^{33} - 8u^{32} + \dots + 8781u - 1799$
$c_{11}$	$u^{33} - 2u^{32} + \dots + 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^{33} - 48y^{32} + \dots + 88y - 1$
$c_2$	$y^{33} - 124y^{32} + \dots - 3924y - 1$
$c_3$	$y^{33} - 21y^{32} + \dots + 2800148y - 477481$
$c_4, c_{10}$	$y^{33} - 22y^{32} + \dots + 11y - 1$
$c_6$	$y^{33} - 58y^{32} + \dots + 8486511y - 3066001$
$c_7$	$y^{33} + 2y^{32} + \dots + 48y - 121$
$c_8$	$y^{33} - 64y^{32} + \dots - 45418y - 37249$
$c_9$	$y^{33} - 36y^{32} + \dots + 44853489y - 3236401$
$c_{11}$	$y^{33} + 2y^{32} + \dots - 17y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.403017 + 0.814677I$ $a = 0.107700 - 0.226447I$ $b = -0.856763 + 0.231979I$	$2.50185 - 1.42660I$	$-0.894808 - 0.237180I$
$u = -0.403017 - 0.814677I$ $a = 0.107700 + 0.226447I$ $b = -0.856763 - 0.231979I$	$2.50185 + 1.42660I$	$-0.894808 + 0.237180I$
$u = 1.032610 + 0.451125I$ $a = -0.534105 + 0.421030I$ $b = -0.605715 + 0.947070I$	$0.20621 + 3.24394I$	$-3.32595 - 5.32169I$
$u = 1.032610 - 0.451125I$ $a = -0.534105 - 0.421030I$ $b = -0.605715 - 0.947070I$	$0.20621 - 3.24394I$	$-3.32595 + 5.32169I$
$u = -0.617495 + 0.594331I$ $a = 0.228591 + 0.499559I$ $b = 0.686667 + 0.747422I$	$-0.659531 - 0.792248I$	$-4.14798 - 2.75904I$
$u = -0.617495 - 0.594331I$ $a = 0.228591 - 0.499559I$ $b = 0.686667 - 0.747422I$	$-0.659531 + 0.792248I$	$-4.14798 + 2.75904I$
$u = -0.709464 + 0.375757I$ $a = -0.54330 - 1.82882I$ $b = -1.28499 + 0.81921I$	$1.69477 - 3.95490I$	$-4.65099 + 5.53433I$
$u = -0.709464 - 0.375757I$ $a = -0.54330 + 1.82882I$ $b = -1.28499 - 0.81921I$	$1.69477 + 3.95490I$	$-4.65099 - 5.53433I$
$u = 0.788903 + 0.039022I$ $a = -1.048110 - 0.208486I$ $b = -0.390987 - 0.219065I$	$-1.46450 - 0.11042I$	$-7.61890 - 0.69071I$
$u = 0.788903 - 0.039022I$ $a = -1.048110 + 0.208486I$ $b = -0.390987 + 0.219065I$	$-1.46450 + 0.11042I$	$-7.61890 + 0.69071I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.025720 + 0.722645I$		
$a = 0.176298 - 0.905575I$	$-2.74722 - 2.04706I$	$-9.49316 + 3.23628I$
$b = 1.54028 + 0.15435I$		
$u = 1.025720 - 0.722645I$		
$a = 0.176298 + 0.905575I$	$-2.74722 + 2.04706I$	$-9.49316 - 3.23628I$
$b = 1.54028 - 0.15435I$		
$u = -1.065340 + 0.919963I$		
$a = -0.237358 - 0.585233I$	$0.59436 + 7.58146I$	$0. - 6.03486I$
$b = -1.334700 + 0.176044I$		
$u = -1.065340 - 0.919963I$		
$a = -0.237358 + 0.585233I$	$0.59436 - 7.58146I$	$0. + 6.03486I$
$b = -1.334700 - 0.176044I$		
$u = -0.577387 + 0.118189I$		
$a = 1.51353 - 0.89064I$	$-0.92676 + 3.03549I$	$-5.42554 - 8.81658I$
$b = 0.632385 - 0.535325I$		
$u = -0.577387 - 0.118189I$		
$a = 1.51353 + 0.89064I$	$-0.92676 - 3.03549I$	$-5.42554 + 8.81658I$
$b = 0.632385 + 0.535325I$		
$u = 1.64269 + 0.08860I$		
$a = 1.325930 - 0.361396I$	$-8.66188 + 2.58631I$	$0$
$b = 1.159390 + 0.130829I$		
$u = 1.64269 - 0.08860I$		
$a = 1.325930 + 0.361396I$	$-8.66188 - 2.58631I$	$0$
$b = 1.159390 - 0.130829I$		
$u = -0.083136 + 0.281660I$		
$a = -1.76082 + 0.45809I$	$-0.08685 - 1.51365I$	$-1.21011 + 3.17114I$
$b = 0.590245 + 0.696368I$		
$u = -0.083136 - 0.281660I$		
$a = -1.76082 - 0.45809I$	$-0.08685 + 1.51365I$	$-1.21011 - 3.17114I$
$b = 0.590245 - 0.696368I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.71660$ $a = -1.37178$ $b = -1.15039$	-10.7048	0
$u = 1.83781 + 0.30594I$ $a = 0.936033 - 0.283350I$ $b = 1.307470 + 0.126378I$	$-9.28497 - 3.68135I$	0
$u = 1.83781 - 0.30594I$ $a = 0.936033 + 0.283350I$ $b = 1.307470 - 0.126378I$	$-9.28497 + 3.68135I$	0
$u = -1.86212 + 0.06903I$ $a = -1.061290 - 0.082463I$ $b = -1.269770 + 0.034873I$	$-11.16570 + 0.07120I$	0
$u = -1.86212 - 0.06903I$ $a = -1.061290 + 0.082463I$ $b = -1.269770 - 0.034873I$	$-11.16570 - 0.07120I$	0
$u = 1.86596 + 0.26633I$ $a = -1.240120 - 0.046944I$ $b = -1.72861 - 1.20268I$	$-9.6038 - 12.7751I$	0
$u = 1.86596 - 0.26633I$ $a = -1.240120 + 0.046944I$ $b = -1.72861 + 1.20268I$	$-9.6038 + 12.7751I$	0
$u = -0.0996406 + 0.0510585I$ $a = -5.49416 + 8.68590I$ $b = -0.746822 - 0.713371I$	$3.57986 - 4.96677I$	$0.77431 + 5.63197I$
$u = -0.0996406 - 0.0510585I$ $a = -5.49416 - 8.68590I$ $b = -0.746822 + 0.713371I$	$3.57986 + 4.96677I$	$0.77431 - 5.63197I$
$u = -1.87441 + 0.23423I$ $a = 1.251320 - 0.104385I$ $b = 1.86854 - 1.38190I$	$-13.1119 + 6.5830I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.87441 - 0.23423I$	$-13.1119 - 6.5830I$	0
$a = 1.251320 + 0.104385I$		
$b = 1.86854 + 1.38190I$		
$u = 1.95662 + 0.23174I$	$-7.19656 - 0.44528I$	0
$a = -1.43425 - 0.24933I$		
$b = -2.99143 - 2.15365I$		
$u = 1.95662 - 0.23174I$	$-7.19656 + 0.44528I$	0
$a = -1.43425 + 0.24933I$		
$b = -2.99143 + 2.15365I$		



$$\text{II. } I_2^u = \langle -u^7 - u^6 + 4u^5 + 5u^4 - 2u^3 - 4u^2 + b + u + 1, u^9 + u^8 + \dots + a + 2, u^{10} + u^9 + \dots + 2u - 1 \rangle$$

(i) Arc colorings

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

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

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

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

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

$$a_9 = \begin{pmatrix} -u^9 - u^8 + 5u^7 + 6u^6 - 6u^5 - 9u^4 + 4u^3 + 6u^2 - u - 2 \\ u^7 + u^6 - 4u^5 - 5u^4 + 2u^3 + 4u^2 - u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^9 - u^8 + 4u^7 + 5u^6 - 2u^5 - 4u^4 + 2u^3 + 2u^2 - 1 \\ u^7 + u^6 - 4u^5 - 5u^4 + 2u^3 + 4u^2 - u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^9 - u^8 + 5u^7 + 6u^6 - 6u^5 - 9u^4 + 4u^3 + 6u^2 - u - 2 \\ u^7 + u^6 - 4u^5 - 5u^4 + u^3 + 4u^2 - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2u^9 - 2u^8 + 10u^7 + 12u^6 - 11u^5 - 18u^4 + 4u^3 + 11u^2 - u - 3 \\ u^7 + u^6 - 4u^5 - 5u^4 + u^3 + 4u^2 + u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^9 - 5u^7 - u^6 + 6u^5 + 2u^4 - 2u^3 + u^2 - 1 \\ u^8 + u^7 - 3u^6 - 5u^5 - 3u^4 + 3u^3 + 4u^2 - 2 \end{pmatrix}$$

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

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

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = -u^9 - 7u^8 + 29u^6 + 19u^5 - 14u^4 - 12u^3 + 4u^2 - 3u - 3$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{10} + u^9 - 5u^8 - 6u^7 + 6u^6 + 9u^5 - 4u^4 - 6u^3 + 2u^2 + 2u - 1$
$c_2$	$u^{10} + 11u^9 + \dots + 8u + 1$
$c_3$	$u^{10} - 2u^8 + 3u^7 + u^5 - 6u^4 + 9u^3 - 6u^2 + 2u - 1$
$c_4$	$u^{10} + u^9 - 4u^8 - 3u^7 + 6u^6 + 3u^5 - 3u^4 + u^3 - u^2 - u + 1$
$c_5$	$u^{10} - u^9 - 5u^8 + 6u^7 + 6u^6 - 9u^5 - 4u^4 + 6u^3 + 2u^2 - 2u - 1$
$c_6$	$u^{10} - 7u^9 + 20u^8 - 33u^7 + 37u^6 - 31u^5 + 21u^4 - 12u^3 + 7u^2 - 3u + 1$
$c_7$	$u^{10} + 3u^9 + 2u^8 - 5u^7 - 12u^6 - 12u^5 - 6u^4 - u^3 + 2u^2 + 2u + 1$
$c_8$	$u^{10} - u^9 - 5u^8 - 6u^7 + 4u^6 + 21u^5 + 31u^4 + 28u^3 + 17u^2 + 6u + 1$
$c_9$	$u^{10} + 3u^9 - u^8 - u^7 + 3u^6 - 3u^4 - u^3 - u - 1$
$c_{10}$	$u^{10} - u^9 - 4u^8 + 3u^7 + 6u^6 - 3u^5 - 3u^4 - u^3 - u^2 + u + 1$
$c_{11}$	$u^{10} + u^9 + u^7 + 3u^6 - 3u^4 + u^3 + u^2 - 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^{10} - 11y^9 + \dots - 8y + 1$
$c_2$	$y^{10} - 23y^9 + \dots + 8y + 1$
$c_3$	$y^{10} - 4y^9 + 4y^8 - 21y^7 + 6y^6 - 33y^5 + 10y^4 - 13y^3 + 12y^2 + 8y + 1$
$c_4, c_{10}$	$y^{10} - 9y^9 + 34y^8 - 69y^7 + 74y^6 - 27y^5 - 23y^4 + 23y^3 - 3y^2 - 3y + 1$
$c_6$	$y^{10} - 9y^9 + 12y^8 - y^7 + 9y^6 + 41y^5 + 57y^4 + 38y^3 + 19y^2 + 5y + 1$
$c_7$	$y^{10} - 5y^9 + 10y^8 - 13y^7 + 10y^6 - 12y^5 - 12y^4 - y^3 - 4y^2 + 1$
$c_8$	$y^{10} - 11y^9 + \dots - 2y + 1$
$c_9$	$y^{10} - 11y^9 + 13y^8 - 13y^7 + 21y^6 - 16y^5 + 9y^4 - 7y^3 + 4y^2 - y + 1$
$c_{11}$	$y^{10} - y^9 + 4y^8 - 7y^7 + 9y^6 - 16y^5 + 21y^4 - 13y^3 + 13y^2 - 11y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.866197 + 0.578531I$ $a = -0.067855 + 1.111740I$ $b = 0.877449 + 0.215591I$	$3.01759 - 3.09606I$	$-0.30900 + 2.81871I$
$u = -0.866197 - 0.578531I$ $a = -0.067855 - 1.111740I$ $b = 0.877449 - 0.215591I$	$3.01759 + 3.09606I$	$-0.30900 - 2.81871I$
$u = -1.015340 + 0.405643I$ $a = -0.166016 + 0.744959I$ $b = 0.548989 - 0.533884I$	$2.52872 + 6.76916I$	$-1.54858 - 6.21981I$
$u = -1.015340 - 0.405643I$ $a = -0.166016 - 0.744959I$ $b = 0.548989 + 0.533884I$	$2.52872 - 6.76916I$	$-1.54858 + 6.21981I$
$u = 0.798561 + 0.168530I$ $a = -0.400296 + 0.421539I$ $b = -0.584842 - 0.825867I$	$-1.07490 - 2.24450I$	$-6.05768 + 4.70336I$
$u = 0.798561 - 0.168530I$ $a = -0.400296 - 0.421539I$ $b = -0.584842 + 0.825867I$	$-1.07490 + 2.24450I$	$-6.05768 - 4.70336I$
$u = 0.496273 + 0.300649I$ $a = -0.97776 + 1.19364I$ $b = -0.388447 + 0.692276I$	$-0.68101 + 1.88435I$	$-5.02064 - 2.89096I$
$u = 0.496273 - 0.300649I$ $a = -0.97776 - 1.19364I$ $b = -0.388447 - 0.692276I$	$-0.68101 - 1.88435I$	$-5.02064 + 2.89096I$
$u = -1.76945$ $a = -1.20430$ $b = -1.03466$	$-10.1434$	$1.94620$
$u = 1.94286$ $a = 1.42816$ $b = 3.12836$	$-7.30701$	$-11.0740$

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{10} + u^9 - 5u^8 - 6u^7 + 6u^6 + 9u^5 - 4u^4 - 6u^3 + 2u^2 + 2u - 1)$ $\cdot (u^{33} + 4u^{32} + \dots + 20u - 1)$
$c_2$	$(u^{10} + 11u^9 + \dots + 8u + 1)(u^{33} + 48u^{32} + \dots + 88u + 1)$
$c_3$	$(u^{10} - 2u^8 + 3u^7 + u^5 - 6u^4 + 9u^3 - 6u^2 + 2u - 1)$ $\cdot (u^{33} - u^{32} + \dots + 864u - 691)$
$c_4$	$(u^{10} + u^9 - 4u^8 - 3u^7 + 6u^6 + 3u^5 - 3u^4 + u^3 - u^2 - u + 1)$ $\cdot (u^{33} - 11u^{31} + \dots - u - 1)$
$c_5$	$(u^{10} - u^9 - 5u^8 + 6u^7 + 6u^6 - 9u^5 - 4u^4 + 6u^3 + 2u^2 - 2u - 1)$ $\cdot (u^{33} + 4u^{32} + \dots + 20u - 1)$
$c_6$	$(u^{10} - 7u^9 + 20u^8 - 33u^7 + 37u^6 - 31u^5 + 21u^4 - 12u^3 + 7u^2 - 3u + 1)$ $\cdot (u^{33} + 6u^{32} + \dots - 2315u + 1751)$
$c_7$	$(u^{10} + 3u^9 + 2u^8 - 5u^7 - 12u^6 - 12u^5 - 6u^4 - u^3 + 2u^2 + 2u + 1)$ $\cdot (u^{33} + 10u^{32} + \dots + 108u + 11)$
$c_8$	$(u^{10} - u^9 - 5u^8 - 6u^7 + 4u^6 + 21u^5 + 31u^4 + 28u^3 + 17u^2 + 6u + 1)$ $\cdot (u^{33} - 32u^{31} + \dots + 138u - 193)$
$c_9$	$(u^{10} + 3u^9 - u^8 - u^7 + 3u^6 - 3u^4 - u^3 - u - 1)$ $\cdot (u^{33} - 8u^{32} + \dots + 8781u - 1799)$
$c_{10}$	$(u^{10} - u^9 - 4u^8 + 3u^7 + 6u^6 - 3u^5 - 3u^4 - u^3 - u^2 + u + 1)$ $\cdot (u^{33} - 11u^{31} + \dots - u - 1)$
$c_{11}$	$(u^{10} + u^9 + \dots - 3u - 1)(u^{33} - 2u^{32} + \dots + 5u + 1)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$(y^{10} - 11y^9 + \dots - 8y + 1)(y^{33} - 48y^{32} + \dots + 88y - 1)$
$c_2$	$(y^{10} - 23y^9 + \dots + 8y + 1)(y^{33} - 124y^{32} + \dots - 3924y - 1)$
$c_3$	$(y^{10} - 4y^9 + 4y^8 - 21y^7 + 6y^6 - 33y^5 + 10y^4 - 13y^3 + 12y^2 + 8y + 1)$ $\cdot (y^{33} - 21y^{32} + \dots + 2800148y - 477481)$
$c_4, c_{10}$	$(y^{10} - 9y^9 + 34y^8 - 69y^7 + 74y^6 - 27y^5 - 23y^4 + 23y^3 - 3y^2 - 3y + 1)$ $\cdot (y^{33} - 22y^{32} + \dots + 11y - 1)$
$c_6$	$(y^{10} - 9y^9 + 12y^8 - y^7 + 9y^6 + 41y^5 + 57y^4 + 38y^3 + 19y^2 + 5y + 1)$ $\cdot (y^{33} - 58y^{32} + \dots + 8486511y - 3066001)$
$c_7$	$(y^{10} - 5y^9 + 10y^8 - 13y^7 + 10y^6 - 12y^5 - 12y^4 - y^3 - 4y^2 + 1)$ $\cdot (y^{33} + 2y^{32} + \dots + 48y - 121)$
$c_8$	$(y^{10} - 11y^9 + \dots - 2y + 1)(y^{33} - 64y^{32} + \dots - 45418y - 37249)$
$c_9$	$(y^{10} - 11y^9 + 13y^8 - 13y^7 + 21y^6 - 16y^5 + 9y^4 - 7y^3 + 4y^2 - y + 1)$ $\cdot (y^{33} - 36y^{32} + \dots + 44853489y - 3236401)$
$c_{11}$	$(y^{10} - y^9 + 4y^8 - 7y^7 + 9y^6 - 16y^5 + 21y^4 - 13y^3 + 13y^2 - 11y + 1)$ $\cdot (y^{33} + 2y^{32} + \dots - 17y - 1)$