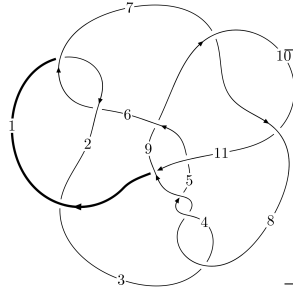
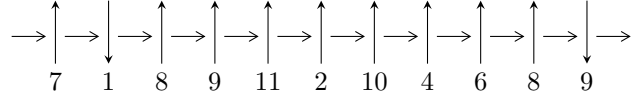


# 11n<sub>108</sub> (K11n<sub>108</sub>)



A knot diagram<sup>1</sup>

## Linearized knot diagram



## Solving Sequence

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

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

$$I_1^u = \langle -4.49684 \times 10^{62} u^{47} + 2.31669 \times 10^{62} u^{46} + \dots + 7.77951 \times 10^{62} b - 8.70495 \times 10^{63}, \\ 8.71448 \times 10^{63} u^{47} - 2.39101 \times 10^{63} u^{46} + \dots + 8.55746 \times 10^{63} a + 4.29322 \times 10^{64}, u^{48} - u^{47} + \dots + 16u - 1 \rangle$$

$$I_2^u = \langle u^{10} - 4u^8 - u^7 + 7u^6 + 3u^5 - 9u^4 - 2u^3 + 6u^2 + b, \\ 2u^{10} - 10u^8 - 2u^7 + 21u^6 + 8u^5 - 29u^4 - 9u^3 + 26u^2 + a + 2u - 7, \\ u^{12} - 5u^{10} - u^9 + 11u^8 + 4u^7 - 16u^6 - 5u^5 + 15u^4 + 2u^3 - 6u^2 + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 60 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.

$$\text{I. } I_1^u = \langle -4.50 \times 10^{62} u^{47} + 2.32 \times 10^{62} u^{46} + \dots + 7.78 \times 10^{62} b - 8.70 \times 10^{63}, 8.71 \times 10^{63} u^{47} - 2.39 \times 10^{63} u^{46} + \dots + 8.56 \times 10^{63} a + 4.29 \times 10^{64}, u^{48} - u^{47} + \dots + 16u - 11 \rangle$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.01835u^{47} + 0.279406u^{46} + \dots + 6.57363u - 5.01693 \\ 0.578037u^{47} - 0.297794u^{46} + \dots + 2.06984u + 11.1896 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.01567u^{47} + 0.683761u^{46} + \dots - 1.11353u - 14.1587 \\ -0.0891298u^{47} - 0.145158u^{46} + \dots + 6.89698u + 1.47011 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.866912u^{47} + 0.322213u^{46} + \dots + 3.88254u - 8.07815 \\ 0.221406u^{47} - 0.178838u^{46} + \dots + 3.51193u + 9.05291 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.06034u^{47} + 0.621352u^{46} + \dots + 3.40978u - 11.7196 \\ 0.128714u^{47} - 0.148448u^{46} + \dots - 0.760314u + 0.405016 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.59639u^{47} + 0.577200u^{46} + \dots + 4.50378u - 16.2065 \\ 0.578037u^{47} - 0.297794u^{46} + \dots + 2.06984u + 11.1896 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0768387u^{47} - 0.280256u^{46} + \dots - 3.25826u + 6.11664 \\ -0.0786313u^{47} + 0.170391u^{46} + \dots + 3.31403u - 5.72912 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0768387u^{47} - 0.280256u^{46} + \dots - 3.25826u + 6.11664 \\ -0.0786313u^{47} + 0.170391u^{46} + \dots + 3.31403u - 5.72912 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $-0.320053u^{47} - 0.920029u^{46} + \dots + 14.1517u + 26.9488$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_6$	$u^{48} + 12u^{46} + \dots - u + 1$
$c_2$	$u^{48} + 24u^{47} + \dots + 13u + 1$
$c_3, c_4, c_8$	$u^{48} + u^{47} + \dots - 16u - 11$
$c_5$	$u^{48} + 3u^{47} + \dots - 14u + 1$
$c_7, c_{10}$	$u^{48} - u^{47} + \dots + 268u - 119$
$c_9$	$u^{48} - u^{47} + \dots + 10u - 27$
$c_{11}$	$u^{48} - 5u^{47} + \dots - 22u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_6$	$y^{48} + 24y^{47} + \dots + 13y + 1$
$c_2$	$y^{48} + 8y^{47} + \dots - 71y + 1$
$c_3, c_4, c_8$	$y^{48} - 17y^{47} + \dots - 2302y + 121$
$c_5$	$y^{48} + 35y^{47} + \dots - 126y + 1$
$c_7, c_{10}$	$y^{48} - 25y^{47} + \dots - 291260y + 14161$
$c_9$	$y^{48} - 19y^{47} + \dots - 6904y + 729$
$c_{11}$	$y^{48} - 37y^{47} + \dots + 18y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.541870 + 0.901222I$ $a = 0.024980 + 0.703983I$ $b = 0.816951 + 0.697564I$	$-5.53120 + 0.07674I$	$3.78825 - 1.36866I$
$u = -0.541870 - 0.901222I$ $a = 0.024980 - 0.703983I$ $b = 0.816951 - 0.697564I$	$-5.53120 - 0.07674I$	$3.78825 + 1.36866I$
$u = -0.869571 + 0.293240I$ $a = 0.127295 + 0.324289I$ $b = -1.41833 - 0.31833I$	$3.26073 + 2.43030I$	$10.07781 - 2.10293I$
$u = -0.869571 - 0.293240I$ $a = 0.127295 - 0.324289I$ $b = -1.41833 + 0.31833I$	$3.26073 - 2.43030I$	$10.07781 + 2.10293I$
$u = 0.883071 + 0.696886I$ $a = 0.586523 - 1.138810I$ $b = -0.304793 - 0.919600I$	$-2.06429 + 2.66223I$	$9.42585 - 6.21325I$
$u = 0.883071 - 0.696886I$ $a = 0.586523 + 1.138810I$ $b = -0.304793 + 0.919600I$	$-2.06429 - 2.66223I$	$9.42585 + 6.21325I$
$u = 0.843476 + 0.745354I$ $a = 0.486746 - 1.003540I$ $b = 0.111927 - 0.997408I$	$-2.19332 + 2.77840I$	$8.82502 - 3.26643I$
$u = 0.843476 - 0.745354I$ $a = 0.486746 + 1.003540I$ $b = 0.111927 + 0.997408I$	$-2.19332 - 2.77840I$	$8.82502 + 3.26643I$
$u = -0.702040 + 0.493195I$ $a = 0.76028 - 2.18802I$ $b = 0.951952 + 0.007910I$	$3.52678 - 2.80965I$	$12.72101 + 4.52739I$
$u = -0.702040 - 0.493195I$ $a = 0.76028 + 2.18802I$ $b = 0.951952 - 0.007910I$	$3.52678 + 2.80965I$	$12.72101 - 4.52739I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.741649 + 0.369863I$ $a = -0.35152 - 1.72739I$ $b = -1.046450 - 0.878314I$	$2.97315 + 6.07189I$	$11.5551 - 10.8395I$
$u = 0.741649 - 0.369863I$ $a = -0.35152 + 1.72739I$ $b = -1.046450 + 0.878314I$	$2.97315 - 6.07189I$	$11.5551 + 10.8395I$
$u = -0.684846 + 0.951602I$ $a = -0.519439 - 0.379915I$ $b = -1.025990 - 0.559251I$	$-0.10143 + 2.03024I$	$9.27605 - 1.57972I$
$u = -0.684846 - 0.951602I$ $a = -0.519439 + 0.379915I$ $b = -1.025990 + 0.559251I$	$-0.10143 - 2.03024I$	$9.27605 + 1.57972I$
$u = 1.048110 + 0.559665I$ $a = 0.76825 - 1.24356I$ $b = -0.594486 - 0.287588I$	$-1.85237 + 2.17126I$	$11.26403 + 0.I$
$u = 1.048110 - 0.559665I$ $a = 0.76825 + 1.24356I$ $b = -0.594486 + 0.287588I$	$-1.85237 - 2.17126I$	$11.26403 + 0.I$
$u = -0.690139 + 0.360388I$ $a = -0.72752 + 1.24362I$ $b = -1.089830 + 0.609642I$	$3.63018 - 0.51155I$	$11.50496 + 4.41570I$
$u = -0.690139 - 0.360388I$ $a = -0.72752 - 1.24362I$ $b = -1.089830 - 0.609642I$	$3.63018 + 0.51155I$	$11.50496 - 4.41570I$
$u = 0.748525$ $a = -2.51365$ $b = 1.31936$	$5.55263$	$20.1450$
$u = -0.587154 + 0.447682I$ $a = -1.33591 - 2.09829I$ $b = 1.297980 - 0.296087I$	$2.15454 - 5.46033I$	$6.95643 + 10.69062I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.587154 - 0.447682I$ $a = -1.33591 + 2.09829I$ $b = 1.297980 + 0.296087I$	$2.15454 + 5.46033I$	$6.95643 - 10.69062I$
$u = 0.377726 + 0.619690I$ $a = 0.599599 - 1.043790I$ $b = -0.047506 - 0.807730I$	$-2.18331 + 1.63548I$	$3.97796 - 4.36559I$
$u = 0.377726 - 0.619690I$ $a = 0.599599 + 1.043790I$ $b = -0.047506 + 0.807730I$	$-2.18331 - 1.63548I$	$3.97796 + 4.36559I$
$u = -0.902068 + 0.916115I$ $a = 0.512066 + 0.717598I$ $b = 0.44776 + 1.37089I$	$-4.30258 - 7.07120I$	$7.00000 + 6.78102I$
$u = -0.902068 - 0.916115I$ $a = 0.512066 - 0.717598I$ $b = 0.44776 - 1.37089I$	$-4.30258 + 7.07120I$	$7.00000 - 6.78102I$
$u = 0.659900 + 0.253316I$ $a = 0.97673 + 2.73037I$ $b = 0.801186 - 0.190096I$	$2.78226 - 3.51974I$	$11.16150 + 1.38253I$
$u = 0.659900 - 0.253316I$ $a = 0.97673 - 2.73037I$ $b = 0.801186 + 0.190096I$	$2.78226 + 3.51974I$	$11.16150 - 1.38253I$
$u = 0.640560 + 1.139710I$ $a = -0.470605 + 0.463131I$ $b = -1.104340 + 0.854023I$	$-3.03425 - 7.47849I$	0
$u = 0.640560 - 1.139710I$ $a = -0.470605 - 0.463131I$ $b = -1.104340 - 0.854023I$	$-3.03425 + 7.47849I$	0
$u = 0.904630 + 0.964964I$ $a = 0.086405 + 1.139180I$ $b = 0.865094 + 0.549237I$	$-5.42165 + 4.76380I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.904630 - 0.964964I$ $a = 0.086405 - 1.139180I$ $b = 0.865094 - 0.549237I$	$-5.42165 - 4.76380I$	0
$u = -0.981632 + 0.915325I$ $a = 0.605329 + 1.050400I$ $b = -0.831231 + 1.115400I$	$-4.08127 + 0.33982I$	0
$u = -0.981632 - 0.915325I$ $a = 0.605329 - 1.050400I$ $b = -0.831231 - 1.115400I$	$-4.08127 - 0.33982I$	0
$u = -1.089380 + 0.813811I$ $a = -0.29168 - 1.41143I$ $b = 1.258230 - 0.611794I$	$1.11909 - 8.52957I$	0
$u = -1.089380 - 0.813811I$ $a = -0.29168 + 1.41143I$ $b = 1.258230 + 0.611794I$	$1.11909 + 8.52957I$	0
$u = 0.994777 + 0.952249I$ $a = -0.355078 + 0.290456I$ $b = -0.602542 + 0.470290I$	$-5.15741 + 2.22291I$	0
$u = 0.994777 - 0.952249I$ $a = -0.355078 - 0.290456I$ $b = -0.602542 - 0.470290I$	$-5.15741 - 2.22291I$	0
$u = 0.504319 + 0.352823I$ $a = 0.390749 - 0.726369I$ $b = -1.63711 + 0.11804I$	$3.91125 + 1.34687I$	$8.42551 - 6.39280I$
$u = 0.504319 - 0.352823I$ $a = 0.390749 + 0.726369I$ $b = -1.63711 - 0.11804I$	$3.91125 - 1.34687I$	$8.42551 + 6.39280I$
$u = -1.208410 + 0.710850I$ $a = 0.774025 + 1.048360I$ $b = -1.106840 + 0.481324I$	$-3.44366 - 6.15745I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.208410 - 0.710850I$ $a = 0.774025 - 1.048360I$ $b = -1.106840 - 0.481324I$	$-3.44366 + 6.15745I$	0
$u = 1.40818 + 0.13200I$ $a = -0.772395 + 0.203916I$ $b = 1.185140 - 0.228161I$	$7.19540 + 0.40564I$	0
$u = 1.40818 - 0.13200I$ $a = -0.772395 - 0.203916I$ $b = 1.185140 + 0.228161I$	$7.19540 - 0.40564I$	0
$u = 1.18080 + 0.85198I$ $a = -0.443194 + 1.290850I$ $b = 1.34618 + 0.78553I$	$-1.3361 + 14.6102I$	0
$u = 1.18080 - 0.85198I$ $a = -0.443194 - 1.290850I$ $b = 1.34618 - 0.78553I$	$-1.3361 - 14.6102I$	0
$u = -0.475453$ $a = 0.423852$ $b = -0.331940$	0.656820	15.2640
$u = -1.56662 + 0.07941I$ $a = -0.523086 - 0.170729I$ $b = 0.733336 + 0.437414I$	$5.39976 + 3.46453I$	0
$u = -1.56662 - 0.07941I$ $a = -0.523086 + 0.170729I$ $b = 0.733336 - 0.437414I$	$5.39976 - 3.46453I$	0

**II.**

$$I_2^u = \langle u^{10} - 4u^8 + \dots + 6u^2 + b, 2u^{10} - 10u^8 + \dots + a - 7, u^{12} - 5u^{10} + \dots - 6u^2 + 1 \rangle$$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2u^{10} + 10u^8 + 2u^7 - 21u^6 - 8u^5 + 29u^4 + 9u^3 - 26u^2 - 2u + 7 \\ -u^{10} + 4u^8 + u^7 - 7u^6 - 3u^5 + 9u^4 + 2u^3 - 6u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -5u^{11} + 23u^9 + \dots + 10u - 2 \\ u^{11} - 5u^9 - u^8 + 11u^7 + 4u^6 - 16u^5 - 5u^4 + 14u^3 + 2u^2 - 5u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{10} + 5u^8 + u^7 - 11u^6 - 4u^5 + 16u^4 + 5u^3 - 15u^2 - 2u + 5 \\ -u^{10} + 5u^8 + u^7 - 10u^6 - 4u^5 + 13u^4 + 4u^3 - 10u^2 + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -4u^{11} + 18u^9 + \dots + 4u - 2 \\ 3u^{11} - u^{10} + \dots - 9u + 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{10} + 6u^8 + u^7 - 14u^6 - 5u^5 + 20u^4 + 7u^3 - 20u^2 - 2u + 7 \\ -u^{10} + 4u^8 + u^7 - 7u^6 - 3u^5 + 9u^4 + 2u^3 - 6u^2 \end{pmatrix}$$

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

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

**(ii) Obstruction class = 1**

**(iii) Cusp Shapes**

$$= -2u^{10} + 3u^9 + 7u^8 - 8u^7 - 17u^6 + 12u^5 + 31u^4 - 14u^3 - 24u^2 + 2u + 19$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{12} + u^{11} + \dots + u + 1$
$c_2$	$u^{12} + 7u^{11} + \dots + 7u + 1$
$c_3, c_4$	$u^{12} - 5u^{10} + u^9 + 11u^8 - 4u^7 - 16u^6 + 5u^5 + 15u^4 - 2u^3 - 6u^2 + 1$
$c_5$	$u^{12} + u^{10} - 3u^9 - 2u^7 + 4u^6 - u^5 + 3u^4 + u^3 - 4u^2 + 1$
$c_6$	$u^{12} - u^{11} + \dots - u + 1$
$c_7$	$u^{12} + 2u^{11} + \dots + 2u + 1$
$c_8$	$u^{12} - 5u^{10} - u^9 + 11u^8 + 4u^7 - 16u^6 - 5u^5 + 15u^4 + 2u^3 - 6u^2 + 1$
$c_9$	$u^{12} - 4u^{10} + u^9 + 3u^8 - u^7 + 4u^6 - 2u^5 - 3u^3 + u^2 + 1$
$c_{10}$	$u^{12} - 2u^{11} + \dots - 2u + 1$
$c_{11}$	$u^{12} + 2u^{11} - u^{10} - 2u^9 + 3u^8 + u^7 + u^6 + 7u^5 + 2u^4 + 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_6$	$y^{12} + 7y^{11} + \dots + 7y + 1$
$c_2$	$y^{12} + 3y^{11} + \dots - y + 1$
$c_3, c_4, c_8$	$y^{12} - 10y^{11} + \dots - 12y + 1$
$c_5$	$y^{12} + 2y^{11} + \dots - 8y + 1$
$c_7, c_{10}$	$y^{12} - 10y^{11} + \dots + 2y + 1$
$c_9$	$y^{12} - 8y^{11} + \dots + 2y + 1$
$c_{11}$	$y^{12} - 6y^{11} + \dots + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.944121 + 0.586418I$ $a = 0.85764 - 1.21516I$ $b = -0.316252 - 0.773855I$	$-2.69108 + 2.27732I$	$-0.79309 - 1.51304I$
$u = 0.944121 - 0.586418I$ $a = 0.85764 + 1.21516I$ $b = -0.316252 + 0.773855I$	$-2.69108 - 2.27732I$	$-0.79309 + 1.51304I$
$u = -0.971824 + 0.903078I$ $a = 0.199108 + 0.774068I$ $b = -0.226863 + 0.457126I$	$-5.04286 - 3.33069I$	$6.48064 + 3.71539I$
$u = -0.971824 - 0.903078I$ $a = 0.199108 - 0.774068I$ $b = -0.226863 - 0.457126I$	$-5.04286 + 3.33069I$	$6.48064 - 3.71539I$
$u = -1.339700 + 0.047045I$ $a = -0.920911 - 0.442643I$ $b = 1.230580 + 0.195712I$	$7.43656 - 1.12784I$	$13.7843 + 5.8074I$
$u = -1.339700 - 0.047045I$ $a = -0.920911 + 0.442643I$ $b = 1.230580 - 0.195712I$	$7.43656 + 1.12784I$	$13.7843 - 5.8074I$
$u = 0.555310 + 0.250101I$ $a = 0.60842 - 3.02308I$ $b = -1.167560 - 0.430017I$	$2.81163 + 4.85898I$	$13.04273 - 4.67018I$
$u = 0.555310 - 0.250101I$ $a = 0.60842 + 3.02308I$ $b = -1.167560 + 0.430017I$	$2.81163 - 4.85898I$	$13.04273 + 4.67018I$
$u = 1.399120 + 0.104604I$ $a = -0.338465 + 0.499440I$ $b = 0.964221 - 0.298157I$	$6.28022 - 3.33267I$	$14.8487 + 3.1328I$
$u = 1.399120 - 0.104604I$ $a = -0.338465 - 0.499440I$ $b = 0.964221 + 0.298157I$	$6.28022 + 3.33267I$	$14.8487 - 3.1328I$

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.587029 + 0.077244I$	$4.36500 + 0.58143I$	$14.6367 + 0.1461I$
$a = 0.59421 + 1.34198I$		
$b = -1.48412 + 0.20351I$		
$u = -0.587029 - 0.077244I$	$4.36500 - 0.58143I$	$14.6367 - 0.1461I$
$a = 0.59421 - 1.34198I$		
$b = -1.48412 - 0.20351I$		

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{12} + u^{11} + \dots + u + 1)(u^{48} + 12u^{46} + \dots - u + 1)$
$c_2$	$(u^{12} + 7u^{11} + \dots + 7u + 1)(u^{48} + 24u^{47} + \dots + 13u + 1)$
$c_3, c_4$	$(u^{12} - 5u^{10} + u^9 + 11u^8 - 4u^7 - 16u^6 + 5u^5 + 15u^4 - 2u^3 - 6u^2 + 1)$ $\cdot (u^{48} + u^{47} + \dots - 16u - 11)$
$c_5$	$(u^{12} + u^{10} - 3u^9 - 2u^7 + 4u^6 - u^5 + 3u^4 + u^3 - 4u^2 + 1)$ $\cdot (u^{48} + 3u^{47} + \dots - 14u + 1)$
$c_6$	$(u^{12} - u^{11} + \dots - u + 1)(u^{48} + 12u^{46} + \dots - u + 1)$
$c_7$	$(u^{12} + 2u^{11} + \dots + 2u + 1)(u^{48} - u^{47} + \dots + 268u - 119)$
$c_8$	$(u^{12} - 5u^{10} - u^9 + 11u^8 + 4u^7 - 16u^6 - 5u^5 + 15u^4 + 2u^3 - 6u^2 + 1)$ $\cdot (u^{48} + u^{47} + \dots - 16u - 11)$
$c_9$	$(u^{12} - 4u^{10} + u^9 + 3u^8 - u^7 + 4u^6 - 2u^5 - 3u^3 + u^2 + 1)$ $\cdot (u^{48} - u^{47} + \dots + 10u - 27)$
$c_{10}$	$(u^{12} - 2u^{11} + \dots - 2u + 1)(u^{48} - u^{47} + \dots + 268u - 119)$
$c_{11}$	$(u^{12} + 2u^{11} - u^{10} - 2u^9 + 3u^8 + u^7 + u^6 + 7u^5 + 2u^4 + 2u^2 + 1)$ $\cdot (u^{48} - 5u^{47} + \dots - 22u + 1)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_6$	$(y^{12} + 7y^{11} + \dots + 7y + 1)(y^{48} + 24y^{47} + \dots + 13y + 1)$
$c_2$	$(y^{12} + 3y^{11} + \dots - y + 1)(y^{48} + 8y^{47} + \dots - 71y + 1)$
$c_3, c_4, c_8$	$(y^{12} - 10y^{11} + \dots - 12y + 1)(y^{48} - 17y^{47} + \dots - 2302y + 121)$
$c_5$	$(y^{12} + 2y^{11} + \dots - 8y + 1)(y^{48} + 35y^{47} + \dots - 126y + 1)$
$c_7, c_{10}$	$(y^{12} - 10y^{11} + \dots + 2y + 1)(y^{48} - 25y^{47} + \dots - 291260y + 14161)$
$c_9$	$(y^{12} - 8y^{11} + \dots + 2y + 1)(y^{48} - 19y^{47} + \dots - 6904y + 729)$
$c_{11}$	$(y^{12} - 6y^{11} + \dots + 4y + 1)(y^{48} - 37y^{47} + \dots + 18y + 1)$