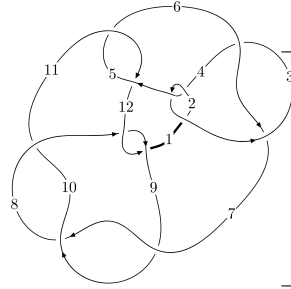
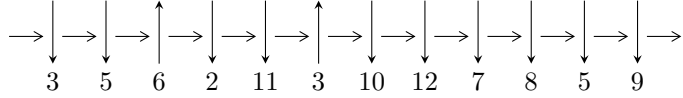


$12n_{0134}$ ($K12n_{0134}$)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -2.24021 \times 10^{18}u^{33} + 1.24343 \times 10^{19}u^{32} + \dots + 3.99716 \times 10^{18}b + 8.38466 \times 10^{18}, \\ 6.30553 \times 10^{18}u^{33} - 4.12415 \times 10^{19}u^{32} + \dots + 3.99716 \times 10^{18}a - 2.46809 \times 10^{18}, u^{34} - 7u^{33} + \dots + 2u + 1 \rangle$$

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

$$I_3^u = \langle a^4 + 6a^3 + 9a^2 + b + 8a + 3, a^5 + 6a^4 + 9a^3 + 8a^2 + 4a + 1, u + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 representations.

¹The 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>).

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

I.

$$I_1^u = \langle -2.24 \times 10^{18} u^{33} + 1.24 \times 10^{19} u^{32} + \dots + 4.00 \times 10^{18} b + 8.38 \times 10^{18}, 6.31 \times 10^{18} u^{33} - 4.12 \times 10^{19} u^{32} + \dots + 4.00 \times 10^{18} a - 2.47 \times 10^{18}, u^{34} - 7u^{33} + \dots + 2u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_8 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_{11} &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 1 \\ -u^2 \end{pmatrix} \\ a_3 &= \begin{pmatrix} -1.57750u^{33} + 10.3177u^{32} + \dots + 58.2632u + 0.617461 \\ 0.560449u^{33} - 3.11078u^{32} + \dots - 2.59876u - 2.09765 \end{pmatrix} \\ a_7 &= \begin{pmatrix} u \\ -u^3 + u \end{pmatrix} \\ a_6 &= \begin{pmatrix} -0.482803u^{33} + 3.08639u^{32} + \dots + 19.9484u + 6.63525 \\ 0.416532u^{33} - 2.68773u^{32} + \dots - 10.0892u - 0.640452 \end{pmatrix} \\ a_5 &= \begin{pmatrix} -0.0662706u^{33} + 0.398662u^{32} + \dots + 9.85920u + 5.99480 \\ 0.416532u^{33} - 2.68773u^{32} + \dots - 10.0892u - 0.640452 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0.761588u^{33} - 5.20214u^{32} + \dots - 34.4584u - 1.20581 \\ -0.232220u^{33} + 1.56116u^{32} + \dots + 5.13105u + 1.09754 \end{pmatrix} \\ a_2 &= \begin{pmatrix} -1.41061u^{33} + 9.24368u^{32} + \dots + 55.4109u - 5.35535 \\ 0.349672u^{33} - 1.74827u^{32} + \dots + 4.90386u - 1.82853 \end{pmatrix} \\ a_1 &= \begin{pmatrix} -0.904188u^{33} + 6.08322u^{32} + \dots + 37.0080u + 1.94216 \\ 0.467802u^{33} - 2.77338u^{32} + \dots - 5.68735u - 1.23990 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -1.22385u^{33} + 7.98274u^{32} + \dots + 53.9857u - 2.86208 \\ 0.480782u^{33} - 2.58022u^{32} + \dots + 0.0452351u - 1.99768 \end{pmatrix} \\ a_9 &= \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = -\frac{2457323729169383761}{1998580887488661448} u^{33} + \frac{19718500600259381097}{1998580887488661448} u^{32} + \dots + \frac{37446519631365374685}{1998580887488661448} u + \frac{3411256608626139411}{999290443744330724}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{34} + 50u^{33} + \dots + 7022u + 1$
c_2, c_4	$u^{34} - 10u^{33} + \dots - 94u + 1$
c_3, c_6	$u^{34} + 6u^{33} + \dots + 1408u + 256$
c_5, c_{11}	$u^{34} - 3u^{33} + \dots + 2u - 1$
c_7, c_9, c_{10}	$u^{34} - 7u^{33} + \dots + 2u + 1$
c_8, c_{12}	$u^{34} + 2u^{33} + \dots - 160u - 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{34} - 122y^{33} + \dots - 49242950y + 1$
c_2, c_4	$y^{34} - 50y^{33} + \dots - 7022y + 1$
c_3, c_6	$y^{34} + 54y^{33} + \dots - 5357568y + 65536$
c_5, c_{11}	$y^{34} - y^{33} + \dots - 14y + 1$
c_7, c_9, c_{10}	$y^{34} - 41y^{33} + \dots - 152y + 1$
c_8, c_{12}	$y^{34} - 36y^{33} + \dots - 3584y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.828237 + 0.495417I$	$-3.57437 + 2.68652I$	$-15.9734 - 5.7320I$
$a = -0.82004 + 1.25784I$		
$b = -0.297004 - 1.016390I$		
$u = -0.828237 - 0.495417I$	$-3.57437 - 2.68652I$	$-15.9734 + 5.7320I$
$a = -0.82004 - 1.25784I$		
$b = -0.297004 + 1.016390I$		
$u = -1.118840 + 0.182636I$	$-1.23502 + 0.89870I$	$-5.08124 + 0.75731I$
$a = -0.583692 - 0.292922I$		
$b = -0.076416 - 0.398409I$		
$u = -1.118840 - 0.182636I$	$-1.23502 - 0.89870I$	$-5.08124 - 0.75731I$
$a = -0.583692 + 0.292922I$		
$b = -0.076416 + 0.398409I$		
$u = -1.120600 + 0.202178I$	$-4.37210 - 0.56022I$	$-15.7627 + 4.5815I$
$a = -2.46416 + 1.89535I$		
$b = 0.325798 - 0.681195I$		
$u = -1.120600 - 0.202178I$	$-4.37210 + 0.56022I$	$-15.7627 - 4.5815I$
$a = -2.46416 - 1.89535I$		
$b = 0.325798 + 0.681195I$		
$u = 0.742537 + 0.037896I$	$-7.07612 + 4.33049I$	$-3.74509 - 2.01968I$
$a = 0.475409 + 1.067840I$		
$b = -0.412066 - 1.299410I$		
$u = 0.742537 - 0.037896I$	$-7.07612 - 4.33049I$	$-3.74509 + 2.01968I$
$a = 0.475409 - 1.067840I$		
$b = -0.412066 + 1.299410I$		
$u = -0.680778 + 1.106570I$	$-13.7038 + 7.6996I$	$-12.45976 - 4.30474I$
$a = 0.675818 - 0.192256I$		
$b = 0.34011 + 1.96867I$		
$u = -0.680778 - 1.106570I$	$-13.7038 - 7.6996I$	$-12.45976 + 4.30474I$
$a = 0.675818 + 0.192256I$		
$b = 0.34011 - 1.96867I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.658915 + 1.120700I$ $a = -0.791484 + 0.062467I$ $b = -0.06244 - 1.83419I$	$-13.63590 - 0.50051I$	$-12.57609 + 0.I$
$u = -0.658915 - 1.120700I$ $a = -0.791484 - 0.062467I$ $b = -0.06244 + 1.83419I$	$-13.63590 + 0.50051I$	$-12.57609 + 0.I$
$u = -0.191366 + 0.643732I$ $a = 0.392780 + 0.788789I$ $b = 0.215796 + 0.185230I$	$1.50616 + 2.15286I$	$-1.89528 - 3.55598I$
$u = -0.191366 - 0.643732I$ $a = 0.392780 - 0.788789I$ $b = 0.215796 - 0.185230I$	$1.50616 - 2.15286I$	$-1.89528 + 3.55598I$
$u = -0.605994 + 0.208022I$ $a = -0.17110 + 2.29061I$ $b = -0.87873 + 2.06096I$	$-2.48043 + 0.15884I$	$-35.3818 - 0.1674I$
$u = -0.605994 - 0.208022I$ $a = -0.17110 - 2.29061I$ $b = -0.87873 - 2.06096I$	$-2.48043 - 0.15884I$	$-35.3818 + 0.1674I$
$u = 1.44687$ $a = 0.544436$ $b = -0.999548$	-7.19178	-11.0680
$u = 1.42160 + 0.31037I$ $a = 0.011571 - 0.200035I$ $b = 0.460927 + 0.211334I$	$-3.73420 - 5.65524I$	$-8.00000 + 0.I$
$u = 1.42160 - 0.31037I$ $a = 0.011571 + 0.200035I$ $b = 0.460927 - 0.211334I$	$-3.73420 + 5.65524I$	$-8.00000 + 0.I$
$u = -0.489955$ $a = -0.772996$ $b = -0.364452$	-0.859418	-11.8170

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.67742 + 0.07121I$ $a = -0.18227 + 1.86528I$ $b = 1.07725 - 2.72182I$	$-10.90540 - 1.31562I$	0
$u = 1.67742 - 0.07121I$ $a = -0.18227 - 1.86528I$ $b = 1.07725 + 2.72182I$	$-10.90540 + 1.31562I$	0
$u = -1.71439 + 0.00920I$ $a = 0.20683 - 1.69911I$ $b = -0.11557 + 1.98219I$	$-16.1286 - 4.0950I$	0
$u = -1.71439 - 0.00920I$ $a = 0.20683 + 1.69911I$ $b = -0.11557 - 1.98219I$	$-16.1286 + 4.0950I$	0
$u = 1.67967 + 0.41006I$ $a = 0.59407 + 1.55358I$ $b = 0.76478 - 2.07350I$	$18.1726 - 13.4286I$	0
$u = 1.67967 - 0.41006I$ $a = 0.59407 - 1.55358I$ $b = 0.76478 + 2.07350I$	$18.1726 + 13.4286I$	0
$u = 1.67836 + 0.42976I$ $a = -0.707434 - 1.159530I$ $b = -0.51034 + 1.64958I$	$18.3538 - 5.3451I$	0
$u = 1.67836 - 0.42976I$ $a = -0.707434 + 1.159530I$ $b = -0.51034 - 1.64958I$	$18.3538 + 5.3451I$	0
$u = 1.73009 + 0.14735I$ $a = -0.17568 - 1.56407I$ $b = -0.48186 + 1.53845I$	$-12.71500 - 5.35446I$	0
$u = 1.73009 - 0.14735I$ $a = -0.17568 + 1.56407I$ $b = -0.48186 - 1.53845I$	$-12.71500 + 5.35446I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.77751$ $a = -0.420567$ $b = -0.892648$	-15.4063	0
$u = 0.178439 + 0.031286I$ $a = -1.55747 - 3.87733I$ $b = 0.336239 + 0.914967I$	$-0.57544 + 1.50411I$	$-4.52476 - 4.55824I$
$u = 0.178439 - 0.031286I$ $a = -1.55747 + 3.87733I$ $b = 0.336239 - 0.914967I$	$-0.57544 - 1.50411I$	$-4.52476 + 4.55824I$
$u = -0.112437$ $a = -6.15718$ $b = -1.11629$	-2.28474	0.324850

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

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -2u^7 + 2u^6 + 5u^5 - 4u^4 - 3u^3 - u + 3 \\ -u^7 + 2u^6 + 2u^5 - 4u^4 - 2u^3 + u^2 + u + 3 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^7 + 2u^6 + 5u^5 - 4u^4 - 2u^3 - 3u + 3 \\ -u^7 + 2u^6 + 2u^5 - 4u^4 - u^3 + u^2 + 3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 - 2u \\ u^3 - u \end{pmatrix}$$

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

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

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = 21u^7 - 38u^6 - 48u^5 + 85u^4 + 39u^3 - 27u^2 - 5u - 70$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y - 1)^8$
c_3, c_6	y^8
c_5, c_{11}	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_7, c_9, c_{10}	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$
c_8, c_{12}	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.180120 + 0.268597I$ $a = -1.23903 + 1.07030I$ $b = -0.281371 - 1.128550I$	$-2.68559 + 1.13123I$	$-12.74421 + 0.55338I$
$u = -1.180120 - 0.268597I$ $a = -1.23903 - 1.07030I$ $b = -0.281371 + 1.128550I$	$-2.68559 - 1.13123I$	$-12.74421 - 0.55338I$
$u = -0.108090 + 0.747508I$ $a = 0.188536 + 0.513699I$ $b = 0.208670 + 0.825203I$	$0.51448 + 2.57849I$	$-9.60894 - 4.72239I$
$u = -0.108090 - 0.747508I$ $a = 0.188536 - 0.513699I$ $b = 0.208670 - 0.825203I$	$0.51448 - 2.57849I$	$-9.60894 + 4.72239I$
$u = 1.37100$ $a = -0.942639$ $b = 0.829189$	-8.14766	-20.4520
$u = 1.334530 + 0.318930I$ $a = 0.271933 + 0.551071I$ $b = 0.284386 - 0.605794I$	$-4.02461 - 6.44354I$	$-12.4754 + 9.9976I$
$u = 1.334530 - 0.318930I$ $a = 0.271933 - 0.551071I$ $b = 0.284386 + 0.605794I$	$-4.02461 + 6.44354I$	$-12.4754 - 9.9976I$
$u = -0.463640$ $a = 3.49976$ $b = 2.74744$	-2.48997	-72.8910

$$\text{III. } I_3^u = \langle a^4 + 6a^3 + 9a^2 + b + 8a + 3, a^5 + 6a^4 + 9a^3 + 8a^2 + 4a + 1, u + 1 \rangle$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -a^4 - 6a^3 - 9a^2 - 8a - 3 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -a - 2 \\ -2a^4 - 11a^3 - 12a^2 - 7a - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2a^4 - 11a^3 - 12a^2 - 8a - 3 \\ -2a^4 - 11a^3 - 12a^2 - 7a - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ -3a^4 - 16a^3 - 15a^2 - 7a - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} a^3 + 5a^2 + 5a + 2 \\ -2a^4 - 12a^3 - 17a^2 - 11a - 3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ -3a^4 - 16a^3 - 15a^2 - 7a - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2a^4 - 12a^3 - 18a^2 - 14a - 5 \\ a^3 + 5a^2 + 3a + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = $-7a^4 - 32a^3 - 8a^2 - 12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1$
c_2	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_3	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_4	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_5	$u^5 + 3u^4 + 4u^3 + u^2 - u - 1$
c_6	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_7	$(u - 1)^5$
c_8, c_{12}	u^5
c_9, c_{10}	$(u + 1)^5$
c_{11}	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_2, c_4	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_3, c_6	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_5, c_{11}	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_7, c_9, c_{10}	$(y - 1)^5$
c_8, c_{12}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -0.313425 + 0.691081I$ $b = 0.455697 - 1.200150I$	$-7.51750 - 4.40083I$	$-22.0438 + 5.2094I$
$u = -1.00000$ $a = -0.313425 - 0.691081I$ $b = 0.455697 + 1.200150I$	$-7.51750 + 4.40083I$	$-22.0438 - 5.2094I$
$u = -1.00000$ $a = -0.542256 + 0.333011I$ $b = -0.339110 - 0.822375I$	$-1.97403 + 1.53058I$	$-13.4575 - 4.4032I$
$u = -1.00000$ $a = -0.542256 - 0.333011I$ $b = -0.339110 + 0.822375I$	$-1.97403 - 1.53058I$	$-13.4575 + 4.4032I$
$u = -1.00000$ $a = -4.28864$ $b = 0.766826$	-4.04602	-2.99730

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^8)(u^5 - 5u^4 + \dots - u - 1)(u^{34} + 50u^{33} + \dots + 7022u + 1)$
c_2	$((u-1)^8)(u^5 + u^4 + \dots + u - 1)(u^{34} - 10u^{33} + \dots - 94u + 1)$
c_3	$u^8(u^5 - u^4 + \dots + u - 1)(u^{34} + 6u^{33} + \dots + 1408u + 256)$
c_4	$((u+1)^8)(u^5 - u^4 + \dots + u + 1)(u^{34} - 10u^{33} + \dots - 94u + 1)$
c_5	$(u^5 + 3u^4 + 4u^3 + u^2 - u - 1)$ $\cdot (u^8 - 3u^7 + 7u^6 - 10u^5 + 11u^4 - 10u^3 + 6u^2 - 4u + 1)$ $\cdot (u^{34} - 3u^{33} + \dots + 2u - 1)$
c_6	$u^8(u^5 + u^4 + \dots + u + 1)(u^{34} + 6u^{33} + \dots + 1408u + 256)$
c_7	$((u-1)^5)(u^8 + u^7 + \dots + 2u - 1)(u^{34} - 7u^{33} + \dots + 2u + 1)$
c_8	$u^5(u^8 - u^7 + \dots + 2u - 1)(u^{34} + 2u^{33} + \dots - 160u - 32)$
c_9, c_{10}	$((u+1)^5)(u^8 - u^7 + \dots - 2u - 1)(u^{34} - 7u^{33} + \dots + 2u + 1)$
c_{11}	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)$ $\cdot (u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1)$ $\cdot (u^{34} - 3u^{33} + \dots + 2u - 1)$
c_{12}	$u^5(u^8 + u^7 + \dots - 2u - 1)(u^{34} + 2u^{33} + \dots - 160u - 32)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^8(y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1)$ $\cdot (y^{34} - 122y^{33} + \dots - 49242950y + 1)$
c_2, c_4	$((y-1)^8)(y^5 - 5y^4 + \dots - y - 1)(y^{34} - 50y^{33} + \dots - 7022y + 1)$
c_3, c_6	$y^8(y^5 + 3y^4 + \dots - y - 1)(y^{34} + 54y^{33} + \dots - 5357568y + 65536)$
c_5, c_{11}	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)$ $\cdot (y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)$ $\cdot (y^{34} - y^{33} + \dots - 14y + 1)$
c_7, c_9, c_{10}	$(y-1)^5(y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{34} - 41y^{33} + \dots - 152y + 1)$
c_8, c_{12}	$y^5(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)$ $\cdot (y^{34} - 36y^{33} + \dots - 3584y + 1024)$