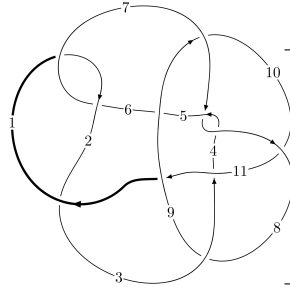
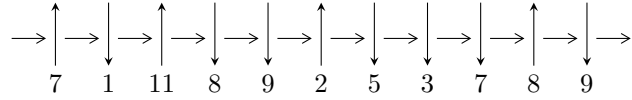


11n₁₂₄ (K11n₁₂₄)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 1.78739 \times 10^{29} u^{38} - 5.50902 \times 10^{28} u^{37} + \dots + 1.67323 \times 10^{29} b + 1.20675 \times 10^{29}, \\ - 1.82393 \times 10^{30} u^{38} + 7.78408 \times 10^{29} u^{37} + \dots + 1.17126 \times 10^{30} a + 1.39048 \times 10^{30}, \\ u^{39} + 12u^{37} + \dots + 14u + 7 \rangle$$

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

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 49 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.

$$\mathbf{I. } I_1^u = \langle 1.79 \times 10^{29} u^{38} - 5.51 \times 10^{28} u^{37} + \dots + 1.67 \times 10^{29} b + 1.21 \times 10^{29}, -1.82 \times 10^{30} u^{38} + 7.78 \times 10^{29} u^{37} + \dots + 1.17 \times 10^{30} a + 1.39 \times 10^{30}, u^{39} + 12u^{37} + \dots + 14u + 7 \rangle$$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_9 = \begin{pmatrix} 1.55724u^{38} - 0.664589u^{37} + \dots + 7.55322u - 1.18716 \\ -1.06823u^{38} + 0.329244u^{37} + \dots - 6.46213u - 0.721210 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.737177u^{38} + 0.407586u^{37} + \dots + 13.5161u + 4.88745 \\ -2.22063u^{38} - 0.382128u^{37} + \dots - 28.9097u - 7.31310 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.34253u^{38} - 0.801447u^{37} + \dots + 4.38094u - 2.85956 \\ -2.08428u^{38} + 0.937331u^{37} + \dots - 8.48023u + 2.57739 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.596770u^{38} - 0.670897u^{37} + \dots - 3.69102u - 2.60571 \\ -1.27517u^{38} + 2.12949u^{37} + \dots + 15.8112u + 14.1929 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.639576u^{38} + 0.925361u^{37} + \dots + 6.56459u + 5.74668 \\ 2.68940u^{38} - 1.07792u^{37} + \dots + 15.6841u - 1.72061 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.55724u^{38} - 0.664589u^{37} + \dots + 7.55322u - 1.18716 \\ -2.21877u^{38} + 1.13010u^{37} + \dots - 8.05855u + 3.93091 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.55724u^{38} - 0.664589u^{37} + \dots + 7.55322u - 1.18716 \\ -2.21877u^{38} + 1.13010u^{37} + \dots - 8.05855u + 3.93091 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $3.03813u^{38} - 1.76931u^{37} + \dots + 10.1449u - 9.34970$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{39} + 12u^{37} + \dots + 14u + 7$
c_2	$u^{39} + 24u^{38} + \dots - 280u - 49$
c_3	$u^{39} + 3u^{38} + \dots + 9u + 1$
c_4, c_7	$u^{39} - 3u^{38} + \dots - 9u + 1$
c_5	$u^{39} + u^{38} + \dots - 1365u + 253$
c_8	$u^{39} + u^{38} + \dots - 11u + 1$
c_9	$u^{39} - u^{38} + \dots - 265u + 47$
c_{10}	$u^{39} + 3u^{38} + \dots - 19u + 1$
c_{11}	$u^{39} - u^{38} + \dots + 90u + 209$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{39} + 24y^{38} + \dots - 280y - 49$
c_2	$y^{39} - 12y^{38} + \dots - 29400y - 2401$
c_3	$y^{39} + 35y^{38} + \dots - 63y - 1$
c_4, c_7	$y^{39} + y^{38} + \dots + 37y - 1$
c_5	$y^{39} - 43y^{38} + \dots - 1224387y - 64009$
c_8	$y^{39} + 9y^{38} + \dots + 31y - 1$
c_9	$y^{39} - 37y^{38} + \dots + 14483y - 2209$
c_{10}	$y^{39} + 39y^{38} + \dots - 61y - 1$
c_{11}	$y^{39} - 23y^{38} + \dots + 796448y - 43681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.970374 + 0.165160I$ $a = -1.38216 + 0.38547I$ $b = 1.298900 + 0.346398I$	$-5.72155 + 0.54332I$	$-4.48404 - 0.44801I$
$u = 0.970374 - 0.165160I$ $a = -1.38216 - 0.38547I$ $b = 1.298900 - 0.346398I$	$-5.72155 - 0.54332I$	$-4.48404 + 0.44801I$
$u = -0.145422 + 0.960485I$ $a = -0.312403 + 1.125530I$ $b = -0.75018 - 1.96873I$	$-2.60397 - 3.58012I$	$-5.99936 + 4.69227I$
$u = -0.145422 - 0.960485I$ $a = -0.312403 - 1.125530I$ $b = -0.75018 + 1.96873I$	$-2.60397 + 3.58012I$	$-5.99936 - 4.69227I$
$u = 0.244496 + 0.924229I$ $a = 0.771798 + 0.143039I$ $b = 0.389292 - 0.068286I$	$-0.62997 + 1.59285I$	$-3.23591 - 4.35949I$
$u = 0.244496 - 0.924229I$ $a = 0.771798 - 0.143039I$ $b = 0.389292 + 0.068286I$	$-0.62997 - 1.59285I$	$-3.23591 + 4.35949I$
$u = -0.075811 + 0.941393I$ $a = -0.57379 - 1.58798I$ $b = -0.680895 + 0.570692I$	$1.322390 - 0.422831I$	$-4.94003 - 1.41438I$
$u = -0.075811 - 0.941393I$ $a = -0.57379 + 1.58798I$ $b = -0.680895 - 0.570692I$	$1.322390 + 0.422831I$	$-4.94003 + 1.41438I$
$u = -1.067820 + 0.145596I$ $a = -1.383670 + 0.195517I$ $b = 1.253910 - 0.603680I$	$-5.61750 + 7.80414I$	$-3.64994 - 4.73695I$
$u = -1.067820 - 0.145596I$ $a = -1.383670 - 0.195517I$ $b = 1.253910 + 0.603680I$	$-5.61750 - 7.80414I$	$-3.64994 + 4.73695I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.661560 + 0.856108I$ $a = -0.105096 - 0.363168I$ $b = 1.104730 - 0.357036I$	$5.00877 - 2.57683I$	$6.58497 + 2.64677I$
$u = -0.661560 - 0.856108I$ $a = -0.105096 + 0.363168I$ $b = 1.104730 + 0.357036I$	$5.00877 + 2.57683I$	$6.58497 - 2.64677I$
$u = -0.365080 + 1.061570I$ $a = -1.16765 + 0.98033I$ $b = -0.986442 - 0.985917I$	$-2.63598 - 6.13265I$	$-3.84561 + 9.40841I$
$u = -0.365080 - 1.061570I$ $a = -1.16765 - 0.98033I$ $b = -0.986442 + 0.985917I$	$-2.63598 + 6.13265I$	$-3.84561 - 9.40841I$
$u = 0.518178 + 0.693040I$ $a = 0.925341 - 0.451847I$ $b = -0.197420 + 0.429722I$	$0.23938 + 2.14007I$	$-2.40854 - 4.03571I$
$u = 0.518178 - 0.693040I$ $a = 0.925341 + 0.451847I$ $b = -0.197420 - 0.429722I$	$0.23938 - 2.14007I$	$-2.40854 + 4.03571I$
$u = -0.358275 + 0.727858I$ $a = 1.31473 + 0.56113I$ $b = -0.235788 + 1.229960I$	$-2.12535 + 1.41634I$	$-6.42200 + 1.56979I$
$u = -0.358275 - 0.727858I$ $a = 1.31473 - 0.56113I$ $b = -0.235788 - 1.229960I$	$-2.12535 - 1.41634I$	$-6.42200 - 1.56979I$
$u = 0.142576 + 1.181590I$ $a = -0.256537 + 0.091644I$ $b = -1.63516 + 0.43597I$	$-4.72844 + 2.99253I$	$-9.56242 - 1.88756I$
$u = 0.142576 - 1.181590I$ $a = -0.256537 - 0.091644I$ $b = -1.63516 - 0.43597I$	$-4.72844 - 2.99253I$	$-9.56242 + 1.88756I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.461639 + 1.163800I$ $a = 0.093896 + 1.347320I$ $b = -1.63447 - 0.73754I$	$-4.83553 - 4.15063I$	$-11.12509 + 1.85834I$
$u = -0.461639 - 1.163800I$ $a = 0.093896 - 1.347320I$ $b = -1.63447 + 0.73754I$	$-4.83553 + 4.15063I$	$-11.12509 - 1.85834I$
$u = 0.861374 + 0.909425I$ $a = 0.420286 - 0.450008I$ $b = -0.526827 - 0.046250I$	$0.74799 + 3.17123I$	$-8.85439 - 3.48619I$
$u = 0.861374 - 0.909425I$ $a = 0.420286 + 0.450008I$ $b = -0.526827 + 0.046250I$	$0.74799 - 3.17123I$	$-8.85439 + 3.48619I$
$u = 0.715910 + 0.207951I$ $a = 0.864160 - 0.809698I$ $b = -0.363007 + 0.664118I$	$1.08867 + 1.79567I$	$3.61269 - 3.73862I$
$u = 0.715910 - 0.207951I$ $a = 0.864160 + 0.809698I$ $b = -0.363007 - 0.664118I$	$1.08867 - 1.79567I$	$3.61269 + 3.73862I$
$u = -0.660029$ $a = 1.75790$ $b = -0.957650$	-1.67672	-6.74230
$u = 0.399747 + 1.326200I$ $a = -0.135365 + 1.304920I$ $b = 1.029460 - 0.406010I$	$-10.43670 + 5.23929I$	$-7.47031 - 3.45363I$
$u = 0.399747 - 1.326200I$ $a = -0.135365 - 1.304920I$ $b = 1.029460 + 0.406010I$	$-10.43670 - 5.23929I$	$-7.47031 + 3.45363I$
$u = 0.577975 + 1.276160I$ $a = -0.280369 + 0.960950I$ $b = 1.89166 - 0.46055I$	$-9.10381 + 5.07821I$	$0. - 3.17849I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.577975 - 1.276160I$ $a = -0.280369 - 0.960950I$ $b = 1.89166 + 0.46055I$	$-9.10381 - 5.07821I$	$0. + 3.17849I$
$u = 0.421432 + 1.340550I$ $a = -0.081054 - 0.871471I$ $b = -1.15598 + 1.11228I$	$-3.60682 + 6.09591I$	$0. - 11.09242I$
$u = 0.421432 - 1.340550I$ $a = -0.081054 + 0.871471I$ $b = -1.15598 - 1.11228I$	$-3.60682 - 6.09591I$	$0. + 11.09242I$
$u = -0.58423 + 1.30883I$ $a = -0.088865 - 1.209820I$ $b = 1.76564 + 0.87989I$	$-9.2430 - 13.6991I$	$0. + 7.27460I$
$u = -0.58423 - 1.30883I$ $a = -0.088865 + 1.209820I$ $b = 1.76564 - 0.87989I$	$-9.2430 + 13.6991I$	$0. - 7.27460I$
$u = -0.39136 + 1.40665I$ $a = -0.309024 - 0.965300I$ $b = 1.080110 + 0.188976I$	$-10.72520 + 2.62440I$	0
$u = -0.39136 - 1.40665I$ $a = -0.309024 + 0.965300I$ $b = 1.080110 - 0.188976I$	$-10.72520 - 2.62440I$	0
$u = -0.410850 + 0.313768I$ $a = 1.30683 - 1.45682I$ $b = -0.668694 + 1.027300I$	$-0.53003 + 2.77733I$	$1.12295 - 3.77344I$
$u = -0.410850 - 0.313768I$ $a = 1.30683 + 1.45682I$ $b = -0.668694 - 1.027300I$	$-0.53003 - 2.77733I$	$1.12295 + 3.77344I$

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

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

$$a_5 = \begin{pmatrix} -2u^9 - 2u^8 - 5u^7 - 3u^6 - 7u^5 - 4u^4 - 8u^3 - 2u^2 - 4u - 1 \\ u^8 + 2u^6 + 3u^4 + u^3 + 4u^2 + 2 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 2u^8 + u^7 + 4u^6 + u^5 + 6u^4 + u^3 + 6u^2 - u + 4 \\ 3u^9 + 2u^8 + 7u^7 + 4u^6 + 12u^5 + 6u^4 + 13u^3 + 3u^2 + 7u + 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3u^9 - 3u^8 - 8u^7 - 6u^6 - 13u^5 - 9u^4 - 14u^3 - 5u^2 - 7u - 3 \\ -u^9 + u^8 - 2u^7 + 3u^6 - 3u^5 + 4u^4 - 4u^3 + 5u^2 - 4u + 3 \end{pmatrix}$$

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

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

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = -4u^9 - 3u^8 - 12u^7 - 8u^6 - 16u^5 - 10u^4 - 18u^3 - 10u^2 - 11u - 6$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{10} + 5y^9 + \cdots + 7y + 1$
c_2	$y^{10} + 5y^9 + 11y^8 + 28y^7 + 69y^6 + 87y^5 + 50y^4 + 32y^3 + 36y^2 - y + 1$
c_3	$y^{10} + 8y^9 + \cdots + 10y + 1$
c_4, c_7	$y^{10} + 6y^9 + 9y^8 - 6y^7 - 16y^6 + 3y^5 + 17y^4 + 5y^3 - 5y^2 - 2y + 1$
c_5	$y^{10} - 2y^9 - 5y^8 + 5y^7 + 17y^6 + 3y^5 - 16y^4 - 6y^3 + 9y^2 + 6y + 1$
c_8	$y^{10} + 10y^9 + \cdots + 8y + 1$
c_9	$y^{10} - 8y^9 + \cdots - 8y + 1$
c_{10}	$y^{10} + 4y^9 + 4y^8 + 4y^6 + 10y^5 + 8y^4 - 13y^3 + 16y^2 - 4y + 1$
c_{11}	$y^{10} - 2y^9 + \cdots + 15y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.283646 + 0.889181I$		
$a = 0.85633 - 1.49046I$	$1.77560 + 1.23703I$	$1.12210 - 5.29149I$
$b = -0.041082 + 0.470245I$		
$u = 0.283646 - 0.889181I$		
$a = 0.85633 + 1.49046I$	$1.77560 - 1.23703I$	$1.12210 + 5.29149I$
$b = -0.041082 - 0.470245I$		
$u = 0.688964 + 0.877700I$		
$a = 0.359578 - 0.617446I$	$4.33849 + 2.65528I$	$-5.99132 - 3.67032I$
$b = -1.45267 - 0.28253I$		
$u = 0.688964 - 0.877700I$		
$a = 0.359578 + 0.617446I$	$4.33849 - 2.65528I$	$-5.99132 + 3.67032I$
$b = -1.45267 + 0.28253I$		
$u = -0.879557 + 0.842212I$		
$a = 0.319829 + 0.445214I$	$1.28605 - 3.24415I$	$6.98007 + 6.78944I$
$b = -0.183599 - 0.396507I$		
$u = -0.879557 - 0.842212I$		
$a = 0.319829 - 0.445214I$	$1.28605 + 3.24415I$	$6.98007 - 6.78944I$
$b = -0.183599 + 0.396507I$		
$u = -0.372175 + 1.177670I$		
$a = -0.299227 + 1.055980I$	$-4.06424 - 5.03997I$	$-7.43062 + 5.98899I$
$b = -1.51608 - 1.15104I$		
$u = -0.372175 - 1.177670I$		
$a = -0.299227 - 1.055980I$	$-4.06424 + 5.03997I$	$-7.43062 - 5.98899I$
$b = -1.51608 + 1.15104I$		
$u = -0.220878 + 0.599013I$		
$a = 1.263490 + 0.484575I$	$-1.69097 + 2.38428I$	$-3.68022 - 2.86338I$
$b = -0.80657 + 1.52040I$		
$u = -0.220878 - 0.599013I$		
$a = 1.263490 - 0.484575I$	$-1.69097 - 2.38428I$	$-3.68022 + 2.86338I$
$b = -0.80657 - 1.52040I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{10} + u^9 + 3u^8 + 2u^7 + 5u^6 + 3u^5 + 6u^4 + 2u^3 + 4u^2 + u + 1)$ $\cdot (u^{39} + 12u^{37} + \dots + 14u + 7)$
c_2	$(u^{10} + 5u^9 + \dots + 7u + 1)(u^{39} + 24u^{38} + \dots - 280u - 49)$
c_3	$(u^{10} + 4u^8 + 2u^7 + 6u^6 + 3u^5 + 8u^4 + u^3 + 5u^2 + 1)$ $\cdot (u^{39} + 3u^{38} + \dots + 9u + 1)$
c_4	$(u^{10} - 2u^9 + 5u^8 - 6u^7 + 4u^6 - u^5 - 3u^4 + 3u^3 - u^2 + 1)$ $\cdot (u^{39} - 3u^{38} + \dots - 9u + 1)$
c_5	$(u^{10} - u^8 + 3u^7 - 3u^6 - u^5 + 4u^4 - 6u^3 + 5u^2 - 2u + 1)$ $\cdot (u^{39} + u^{38} + \dots - 1365u + 253)$
c_6	$(u^{10} - u^9 + 3u^8 - 2u^7 + 5u^6 - 3u^5 + 6u^4 - 2u^3 + 4u^2 - u + 1)$ $\cdot (u^{39} + 12u^{37} + \dots + 14u + 7)$
c_7	$(u^{10} + 2u^9 + 5u^8 + 6u^7 + 4u^6 + u^5 - 3u^4 - 3u^3 - u^2 + 1)$ $\cdot (u^{39} - 3u^{38} + \dots - 9u + 1)$
c_8	$(u^{10} + 5u^8 + u^7 + 8u^6 + 3u^5 + 6u^4 + 2u^3 + 4u^2 + 1)$ $\cdot (u^{39} + u^{38} + \dots - 11u + 1)$
c_9	$(u^{10} - 4u^8 - 3u^7 + 7u^6 + 8u^5 - 2u^4 - 7u^3 - 2u^2 + 2u + 1)$ $\cdot (u^{39} - u^{38} + \dots - 265u + 47)$
c_{10}	$(u^{10} - 2u^9 + 4u^8 - 6u^7 + 6u^6 - 6u^5 + 6u^4 - u^3 - 2u^2 + 1)$ $\cdot (u^{39} + 3u^{38} + \dots - 19u + 1)$
c_{11}	$(u^{10} + 8u^9 + \dots + 5u + 1)(u^{39} - u^{38} + \dots + 90u + 209)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^{10} + 5y^9 + \dots + 7y + 1)(y^{39} + 24y^{38} + \dots - 280y - 49)$
c_2	$(y^{10} + 5y^9 + 11y^8 + 28y^7 + 69y^6 + 87y^5 + 50y^4 + 32y^3 + 36y^2 - y + 1)$ $\cdot (y^{39} - 12y^{38} + \dots - 29400y - 2401)$
c_3	$(y^{10} + 8y^9 + \dots + 10y + 1)(y^{39} + 35y^{38} + \dots - 63y - 1)$
c_4, c_7	$(y^{10} + 6y^9 + 9y^8 - 6y^7 - 16y^6 + 3y^5 + 17y^4 + 5y^3 - 5y^2 - 2y + 1)$ $\cdot (y^{39} + y^{38} + \dots + 37y - 1)$
c_5	$(y^{10} - 2y^9 - 5y^8 + 5y^7 + 17y^6 + 3y^5 - 16y^4 - 6y^3 + 9y^2 + 6y + 1)$ $\cdot (y^{39} - 43y^{38} + \dots - 1224387y - 64009)$
c_8	$(y^{10} + 10y^9 + \dots + 8y + 1)(y^{39} + 9y^{38} + \dots + 31y - 1)$
c_9	$(y^{10} - 8y^9 + \dots - 8y + 1)(y^{39} - 37y^{38} + \dots + 14483y - 2209)$
c_{10}	$(y^{10} + 4y^9 + 4y^8 + 4y^6 + 10y^5 + 8y^4 - 13y^3 + 16y^2 - 4y + 1)$ $\cdot (y^{39} + 39y^{38} + \dots - 61y - 1)$
c_{11}	$(y^{10} - 2y^9 + \dots + 15y + 1)(y^{39} - 23y^{38} + \dots + 796448y - 43681)$