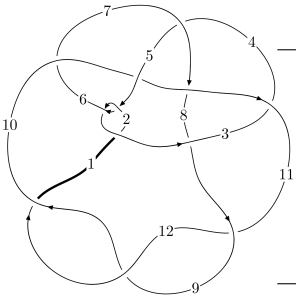
$12n_{0317}$ ($K12n_{0317}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow$$

3 6 11 7 2 10 11 3 12 5 9 10

Solving Sequence

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

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$\begin{aligned}
I^u_1 = \langle & 1.91786\times10^{186}u^{49} - 4.41920\times10^{186}u^{48} + \cdots + 3.02291\times10^{188}b - 8.34981\times10^{189},\\
& -8.33281\times10^{189}u^{49} + 2.07014\times10^{190}u^{48} + \cdots + 7.45751\times10^{191}a + 3.95262\times10^{193},\\
& u^{50} - 3u^{49} + \cdots - 20763u + 2467\rangle\\
I^u_2 = \langle & -215u^7 + 940u^6 - 132u^5 - 2470u^4 - 1050u^3 - 1010u^2 + 714b - 1325u + 456,\\
& 33u^7 - 457u^6 + 1280u^5 + 678u^4 - 3752u^3 - 2070u^2 + 714a - 1363u - 3697,\\
& u^8 - 4u^7 - u^6 + 12u^5 + 8u^4 + 6u^3 + 11u^2 + 2u + 1\rangle
\end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 58 representations.

[1] 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`).

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

I. $\boldsymbol{I_1^u = \langle 1.92 \times 10^{186} u^{49} - 4.42 \times 10^{186} u^{48} + \cdots + 3.02 \times 10^{188} b - 8.35 \times 10^{189},\ -8.33 \times 10^{189} u^{49} + 2.07 \times 10^{190} u^{48} + \cdots + 7.46 \times 10^{191} a + 3.95 \times 10^{193},\ u^{50} - 3u^{49} + \cdots - 20763u + 2467 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0111737u^{49} - 0.0277592u^{48} + \cdots + 350.989u - 53.0019 \\ -0.00634441u^{49} + 0.0146190u^{48} + \cdots - 179.609u + 27.6218 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00482931u^{49} - 0.0131401u^{48} + \cdots + 171.380u - 25.3800 \\ -0.00634441u^{49} + 0.0146190u^{48} + \cdots - 179.609u + 27.6218 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00125206u^{49} + 0.00578813u^{48} + \cdots - 123.642u + 25.1827 \\ -0.00103824u^{49} + 0.00521397u^{48} + \cdots - 175.306u + 29.1803 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.00963656u^{49} - 0.0235349u^{48} + \cdots + 264.866u - 35.0739 \\ 0.00325201u^{49} - 0.00880623u^{48} + \cdots + 84.8902u - 6.25925 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0121639u^{49} + 0.0321646u^{48} + \cdots - 424.122u + 61.3195 \\ -0.000528690u^{49} + 0.00275946u^{48} + \cdots - 54.2826u + 5.53435 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00923043u^{49} - 0.0215045u^{48} + \cdots + 267.799u - 42.0742 \\ 0.00540308u^{49} - 0.0125904u^{48} + \cdots + 102.752u - 8.26248 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00125206u^{49} + 0.00578813u^{48} + \cdots - 123.642u + 25.1827 \\ 0.00199645u^{49} - 0.000875897u^{48} + \cdots - 130.028u + 24.1675 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00315773u^{49} - 0.00845015u^{48} + \cdots + 155.251u - 29.5459 \\ 0.00922550u^{49} - 0.0248174u^{48} + \cdots + 380.914u - 56.7451 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00526362u^{49} - 0.00912528u^{48} + \cdots + 65.8379u - 6.54803 \\ 0.00917621u^{49} - 0.0232077u^{48} + \cdots + 309.861u - 48.3200 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0301306u^{49} - 0.0796043u^{48} + \cdots + 1263.65u - 235.993$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{50} + 27u^{49} + \cdots + 279u + 81$
c_2, c_5	$u^{50} + 3u^{49} + \cdots + 27u + 9$
c_3	$u^{50} - 9u^{49} + \cdots + 6491u + 1543$
c_4, c_8	$u^{50} + 3u^{49} + \cdots - 72u + 36$
c_6	$u^{50} + 3u^{49} + \cdots + 20763u + 2467$
c_7	$u^{50} - 3u^{49} + \cdots - 1360u + 64$
c_9, c_{11}, c_{12}	$u^{50} + 5u^{49} + \cdots + 11u + 1$
c_{10}	$u^{50} - u^{49} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{50} - 3y^{49} + \cdots - 40743y + 6561$
c_2, c_5	$y^{50} - 27y^{49} + \cdots - 279y + 81$
c_3	$y^{50} - 137y^{49} + \cdots + 71302107y + 2380849$
c_4, c_8	$y^{50} + 53y^{49} + \cdots + 2232y + 1296$
c_6	$y^{50} + 43y^{49} + \cdots - 163462273y + 6086089$
c_7	$y^{50} + 143y^{49} + \cdots + 1959168y + 4096$
c_9, c_{11}, c_{12}	$y^{50} - 39y^{49} + \cdots - 35y + 1$
c_{10}	$y^{50} + 9y^{49} + \cdots - 35y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.663546 + 0.807023I$ $a = -0.149925 - 1.093180I$ $b = 0.227624 + 0.962311I$	$3.78569 + 3.81617I$	$5.99930 - 6.58404I$
$u = -0.663546 - 0.807023I$ $a = -0.149925 + 1.093180I$ $b = 0.227624 - 0.962311I$	$3.78569 - 3.81617I$	$5.99930 + 6.58404I$
$u = 0.989845 + 0.334652I$ $a = -0.852002 - 0.574478I$ $b = 0.075144 + 0.777118I$	$-2.75103 + 1.66476I$	0
$u = 0.989845 - 0.334652I$ $a = -0.852002 + 0.574478I$ $b = 0.075144 - 0.777118I$	$-2.75103 - 1.66476I$	0
$u = -1.038610 + 0.115738I$ $a = 0.07663 + 1.46376I$ $b = 1.283560 - 0.355028I$	$-11.43970 + 0.61215I$	$-5.56930 - 0.95685I$
$u = -1.038610 - 0.115738I$ $a = 0.07663 - 1.46376I$ $b = 1.283560 + 0.355028I$	$-11.43970 - 0.61215I$	$-5.56930 + 0.95685I$
$u = -0.976418 + 0.409184I$ $a = -0.117550 - 1.213630I$ $b = -0.889554 - 0.262388I$	$6.22845 - 1.17042I$	$-3.22256 + 0.I$
$u = -0.976418 - 0.409184I$ $a = -0.117550 + 1.213630I$ $b = -0.889554 + 0.262388I$	$6.22845 + 1.17042I$	$-3.22256 + 0.I$
$u = 0.856388 + 0.349802I$ $a = -0.217606 - 1.026260I$ $b = -0.931404 + 0.588464I$	$-1.84212 + 2.10652I$	$-6.74335 - 2.91333I$
$u = 0.856388 - 0.349802I$ $a = -0.217606 + 1.026260I$ $b = -0.931404 - 0.588464I$	$-1.84212 - 2.10652I$	$-6.74335 + 2.91333I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.666952 + 0.913096I$ $a = -0.008649 - 0.157261I$ $b = 0.697921 + 0.367007I$	$1.14279 - 1.51204I$	0
$u = -0.666952 - 0.913096I$ $a = -0.008649 + 0.157261I$ $b = 0.697921 - 0.367007I$	$1.14279 + 1.51204I$	0
$u = 0.553985 + 0.646141I$ $a = 0.195853 + 0.760473I$ $b = 0.095352 - 0.510935I$	$0.078263 - 1.314770I$	$0.82809 + 5.18119I$
$u = 0.553985 - 0.646141I$ $a = 0.195853 - 0.760473I$ $b = 0.095352 + 0.510935I$	$0.078263 + 1.314770I$	$0.82809 - 5.18119I$
$u = 0.772929 + 0.314148I$ $a = -0.24097 - 2.31460I$ $b = 1.197270 + 0.484749I$	$-6.02259 - 6.28550I$	$-2.35130 + 4.21184I$
$u = 0.772929 - 0.314148I$ $a = -0.24097 + 2.31460I$ $b = 1.197270 - 0.484749I$	$-6.02259 + 6.28550I$	$-2.35130 - 4.21184I$
$u = 1.232170 + 0.182436I$ $a = 0.142577 + 0.722468I$ $b = 1.327810 - 0.185520I$	$-8.47541 - 5.36250I$	0
$u = 1.232170 - 0.182436I$ $a = 0.142577 - 0.722468I$ $b = 1.327810 + 0.185520I$	$-8.47541 + 5.36250I$	0
$u = -0.665058 + 0.099931I$ $a = -0.450338 - 0.389982I$ $b = -1.190510 + 0.112073I$	$-1.93432 + 0.03774I$	$-6.75026 + 1.46726I$
$u = -0.665058 - 0.099931I$ $a = -0.450338 + 0.389982I$ $b = -1.190510 - 0.112073I$	$-1.93432 - 0.03774I$	$-6.75026 - 1.46726I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.219730 + 0.587243I$ $a = -0.224495 + 0.844921I$ $b = -0.158932 - 0.906350I$	$-6.85044 + 3.69371I$	0
$u = -1.219730 - 0.587243I$ $a = -0.224495 - 0.844921I$ $b = -0.158932 + 0.906350I$	$-6.85044 - 3.69371I$	0
$u = 0.572239 + 0.270156I$ $a = 0.04237 + 1.45670I$ $b = -1.203320 - 0.645182I$	$-1.68209 - 2.49103I$	$-8.75436 + 6.26567I$
$u = 0.572239 - 0.270156I$ $a = 0.04237 - 1.45670I$ $b = -1.203320 + 0.645182I$	$-1.68209 + 2.49103I$	$-8.75436 - 6.26567I$
$u = -0.504003 + 0.379964I$ $a = 1.17363 + 1.99927I$ $b = -0.391480 - 0.395210I$	$2.40372 + 0.20646I$	$4.09834 + 1.60523I$
$u = -0.504003 - 0.379964I$ $a = 1.17363 - 1.99927I$ $b = -0.391480 + 0.395210I$	$2.40372 - 0.20646I$	$4.09834 - 1.60523I$
$u = 0.988631 + 0.981714I$ $a = 0.270126 + 0.926267I$ $b = -0.867195 - 0.191758I$	$-1.69134 - 0.97922I$	0
$u = 0.988631 - 0.981714I$ $a = 0.270126 - 0.926267I$ $b = -0.867195 + 0.191758I$	$-1.69134 + 0.97922I$	0
$u = -0.74624 + 1.31133I$ $a = 0.534856 - 1.257750I$ $b = -1.029620 + 0.449989I$	$0.61177 + 3.94770I$	0
$u = -0.74624 - 1.31133I$ $a = 0.534856 + 1.257750I$ $b = -1.029620 - 0.449989I$	$0.61177 - 3.94770I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.08135 + 1.05259I$ $a = -0.017301 + 1.142600I$ $b = 1.215370 - 0.580128I$	$0.77226 + 9.34517I$	0
$u = -1.08135 - 1.05259I$ $a = -0.017301 - 1.142600I$ $b = 1.215370 + 0.580128I$	$0.77226 - 9.34517I$	0
$u = 0.345794 + 0.327250I$ $a = -0.38006 - 1.82618I$ $b = 0.824382 - 0.600279I$	$8.49427 + 2.35863I$	$9.67846 - 4.20278I$
$u = 0.345794 - 0.327250I$ $a = -0.38006 + 1.82618I$ $b = 0.824382 + 0.600279I$	$8.49427 - 2.35863I$	$9.67846 + 4.20278I$
$u = 1.29112 + 0.85257I$ $a = 0.129364 - 0.986571I$ $b = -0.333303 + 0.969379I$	$-2.65959 - 9.10689I$	0
$u = 1.29112 - 0.85257I$ $a = 0.129364 + 0.986571I$ $b = -0.333303 - 0.969379I$	$-2.65959 + 9.10689I$	0
$u = 1.27077 + 0.89539I$ $a = 0.166830 - 0.847725I$ $b = 1.141690 + 0.428927I$	$-2.80920 - 5.12014I$	0
$u = 1.27077 - 0.89539I$ $a = 0.166830 + 0.847725I$ $b = 1.141690 - 0.428927I$	$-2.80920 + 5.12014I$	0
$u = 0.353111 + 0.190645I$ $a = 1.170400 + 0.676061I$ $b = -0.715685 - 0.985730I$	$0.02992 - 4.02059I$	$-0.43876 + 11.60977I$
$u = 0.353111 - 0.190645I$ $a = 1.170400 - 0.676061I$ $b = -0.715685 + 0.985730I$	$0.02992 + 4.02059I$	$-0.43876 - 11.60977I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.68410 + 0.25011I$ $a = -0.209855 + 0.322284I$ $b = -1.203160 - 0.421900I$	$-6.47293 - 2.51617I$	0
$u = 1.68410 - 0.25011I$ $a = -0.209855 - 0.322284I$ $b = -1.203160 + 0.421900I$	$-6.47293 + 2.51617I$	0
$u = -1.75503 + 0.68133I$ $a = -0.093305 - 0.780362I$ $b = -1.229330 + 0.542511I$	$-10.09350 + 8.94227I$	0
$u = -1.75503 - 0.68133I$ $a = -0.093305 + 0.780362I$ $b = -1.229330 - 0.542511I$	$-10.09350 - 8.94227I$	0
$u = 1.64933 + 1.01561I$ $a = -0.043620 + 1.103240I$ $b = -1.205270 - 0.631705I$	$-5.3380 - 14.9199I$	0
$u = 1.64933 - 1.01561I$ $a = -0.043620 - 1.103240I$ $b = -1.205270 + 0.631705I$	$-5.3380 + 14.9199I$	0
$u = -2.11053 + 0.20467I$ $a = 0.206325 + 0.667266I$ $b = 0.947425 - 0.426776I$	$0.37870 + 1.85992I$	0
$u = -2.11053 - 0.20467I$ $a = 0.206325 - 0.667266I$ $b = 0.947425 + 0.426776I$	$0.37870 - 1.85992I$	0
$u = 0.36706 + 6.35882I$ $a = 0.047914 + 1.066360I$ $b = 0.815200 - 0.491841I$	$0.07826 + 2.04862I$	0
$u = 0.36706 - 6.35882I$ $a = 0.047914 - 1.066360I$ $b = 0.815200 + 0.491841I$	$0.07826 - 2.04862I$	0

II. $I^u_2 = \langle -215u^7 + 940u^6 + \cdots + 714b + 456,\ 33u^7 - 457u^6 + \cdots + 714a - 3697,\ u^8 - 4u^7 + \cdots + 2u + 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-0.0462185u^7 + 0.640056u^6 + \cdots + 1.90896u + 5.17787\\0.301120u^7 - 1.31653u^6 + \cdots + 1.85574u - 0.638655\end{pmatrix}$$

$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_2 = \begin{pmatrix}0.254902u^7 - 0.676471u^6 + \cdots + 3.76471u + 4.53922\\0.301120u^7 - 1.31653u^6 + \cdots + 1.85574u - 0.638655\end{pmatrix}$$

$$a_1 = \begin{pmatrix}1.79552u^7 - 7.23389u^6 + \cdots + 17.5770u + 3.05462\\-0.151261u^7 + 0.564426u^6 + \cdots - 1.69188u - 0.948179\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-0.610644u^7 + 3.00700u^6 + \cdots - 3.87955u + 4.56723\\0.343137u^7 - 1.35294u^6 + \cdots + 3.02941u - 0.254902\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-2.79552u^7 + 11.2339u^6 + \cdots - 28.5770u - 5.05462\\0.203081u^7 - 0.620448u^6 + \cdots + 4.22829u + 1.74370\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-1.06303u^7 + 4.88796u^6 + \cdots - 7.42717u + 4.25770\\0.366947u^7 - 1.32913u^6 + \cdots + 3.33894u - 0.326331\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}1.79552u^7 - 7.23389u^6 + \cdots + 17.5770u + 3.05462\\-0.302521u^7 + 1.12885u^6 + \cdots - 3.38375u - 0.896359\end{pmatrix}$$

$$a_9 = \begin{pmatrix}2.79552u^7 - 11.2339u^6 + \cdots + 28.5770u + 5.05462\\-0.354342u^7 + 1.18487u^6 + \cdots - 4.92017u - 1.69188\end{pmatrix}$$

$$a_8 = \begin{pmatrix}4.53922u^7 - 18.4118u^6 + \cdots + 45.6176u + 6.31373\\-0.697479u^7 + 2.53782u^6 + \cdots - 7.94958u - 2.43697\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{70}{51}u^7 + \frac{92}{17}u^6 + \frac{112}{51}u^5 - \frac{956}{51}u^4 - \frac{568}{51}u^3 - \frac{196}{51}u^2 - \frac{206}{17}u + \frac{52}{51}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^4$
c_2, c_5	$(u^4-u^2+1)^2$
c_3	$u^8+2u^7+11u^6+6u^5+8u^4+12u^3-u^2-4u+1$
c_4, c_8	$(u^2+1)^4$
c_6	$u^8-4u^7-u^6+12u^5+8u^4+6u^3+11u^2+2u+1$
c_7	$u^8-8u^7+25u^6-38u^5+33u^4-28u^3+28u^2-16u+4$
c_9	$(u^2-u-1)^4$
c_{10}	$(u^4+3u^2+1)^2$
c_{11}, c_{12}	$(u^2+u-1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)^4$
c_2, c_5	$(y^2-y+1)^4$
c_3	$y^8+18y^7+113y^6+90y^5-84y^4-90y^3+113y^2-18y+1$
c_4, c_8	$(y+1)^8$
c_6	$y^8-18y^7+113y^6-90y^5-84y^4+90y^3+113y^2+18y+1$
c_7	$y^8-14y^7+83y^6-186y^5+113y^4+48y^3+152y^2-32y+16$
c_9, c_{11}, c_{12}	$(y^2-3y+1)^4$
c_{10}	$(y^2+3y+1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.216775 + 0.809017I$ $a = 0.712758 + 0.809017I$ $b = -0.866025 - 0.500000I$	$-0.65797 - 2.02988I$	$2.00000 + 3.46410I$
$u = 0.216775 - 0.809017I$ $a = 0.712758 - 0.809017I$ $b = -0.866025 + 0.500000I$	$-0.65797 + 2.02988I$	$2.00000 - 3.46410I$
$u = -1.153270 + 0.309017I$ $a = 0.350750 + 0.309017I$ $b = 0.866025 + 0.500000I$	$7.23771 - 2.02988I$	$2.00000 + 3.46410I$
$u = -1.153270 - 0.309017I$ $a = 0.350750 - 0.309017I$ $b = 0.866025 - 0.500000I$	$7.23771 + 2.02988I$	$2.00000 - 3.46410I$
$u = -0.082801 + 0.309017I$ $a = 4.88532 + 0.30902I$ $b = -0.866025 + 0.500000I$	$7.23771 + 2.02988I$	$2.00000 - 3.46410I$
$u = -0.082801 - 0.309017I$ $a = 4.88532 - 0.30902I$ $b = -0.866025 - 0.500000I$	$7.23771 - 2.02988I$	$2.00000 + 3.46410I$
$u = 3.01929 + 0.80902I$ $a = 0.051174 + 0.809017I$ $b = 0.866025 - 0.500000I$	$-0.65797 + 2.02988I$	$2.00000 - 3.46410I$
$u = 3.01929 - 0.80902I$ $a = 0.051174 - 0.809017I$ $b = 0.866025 + 0.500000I$	$-0.65797 - 2.02988I$	$2.00000 + 3.46410I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^4)(u^{50}+27u^{49}+\cdots+279u+81)$
c_2, c_5	$((u^4-u^2+1)^2)(u^{50}+3u^{49}+\cdots+27u+9)$
c_3	$(u^8+2u^7+11u^6+6u^5+8u^4+12u^3-u^2-4u+1)$ $\cdot(u^{50}-9u^{49}+\cdots+6491u+1543)$
c_4, c_8	$((u^2+1)^4)(u^{50}+3u^{49}+\cdots-72u+36)$
c_6	$(u^8-4u^7-u^6+12u^5+8u^4+6u^3+11u^2+2u+1)$ $\cdot(u^{50}+3u^{49}+\cdots+20763u+2467)$
c_7	$(u^8-8u^7+25u^6-38u^5+33u^4-28u^3+28u^2-16u+4)$ $\cdot(u^{50}-3u^{49}+\cdots-1360u+64)$
c_9	$((u^2-u-1)^4)(u^{50}+5u^{49}+\cdots+11u+1)$
c_{10}	$((u^4+3u^2+1)^2)(u^{50}-u^{49}+\cdots+3u+1)$
c_{11}, c_{12}	$((u^2+u-1)^4)(u^{50}+5u^{49}+\cdots+11u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^4)(y^{50}-3y^{49}+\cdots-40743y+6561)$
c_2, c_5	$((y^2-y+1)^4)(y^{50}-27y^{49}+\cdots-279y+81)$
c_3	$(y^8+18y^7+113y^6+90y^5-84y^4-90y^3+113y^2-18y+1)$ $\cdot(y^{50}-137y^{49}+\cdots+71302107y+2380849)$
c_4, c_8	$((y+1)^8)(y^{50}+53y^{49}+\cdots+2232y+1296)$
c_6	$(y^8-18y^7+113y^6-90y^5-84y^4+90y^3+113y^2+18y+1)$ $\cdot(y^{50}+43y^{49}+\cdots-163462273y+6086089)$
c_7	$(y^8-14y^7+83y^6-186y^5+113y^4+48y^3+152y^2-32y+16)$ $\cdot(y^{50}+143y^{49}+\cdots+1959168y+4096)$
c_9, c_{11}, c_{12}	$((y^2-3y+1)^4)(y^{50}-39y^{49}+\cdots-35y+1)$
c_{10}	$((y^2+3y+1)^4)(y^{50}+9y^{49}+\cdots-35y+1)$