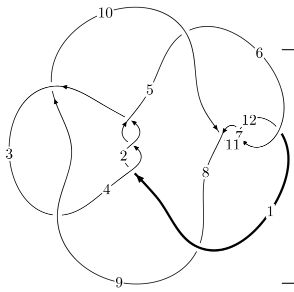
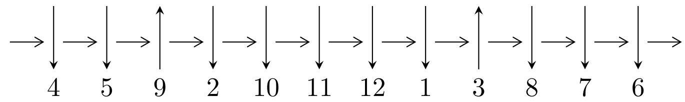
$12a_{0840}$ ($K12a_{0840}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{70} + u^{69} + \cdots + b + 2u,\ u^{70} + u^{69} + \cdots + a + 8u,\ u^{71} + 2u^{70} + \cdots + 10u^2 - 1\rangle$$
$$I_2^u = \langle b + 1,\ u^6 - 3u^4 + u^3 + 2u^2 + a - 2u + 1,\ u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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.

$$\boldsymbol{I_1^u = \langle u^{70}+u^{69}+\cdots+b+2u,\ u^{70}+u^{69}+\cdots+a+8u,\ u^{71}+2u^{70}+\cdots+10u^2-1\rangle}$$

(i) Arc colorings

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

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

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

$$a_{12} = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^2+1 \\ -u^4+2u^2 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{70}-u^{69}+\cdots-20u^2-8u \\ -u^{70}-u^{69}+\cdots-9u^2-2u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^{70}-2u^{69}+\cdots-22u^2-9u \\ -u^{70}-u^{69}+\cdots-9u^2-2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{10}-5u^8+8u^6-3u^4-3u^2+1 \\ -u^{10}+4u^8-5u^6+3u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3u^{70}-3u^{69}+\cdots-8u+1 \\ -u^{70}-u^{69}+\cdots-10u^2-3u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5-2u^3+u \\ u^7-3u^5+2u^3+u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{12}+5u^{10}-9u^8+6u^6-u^2+1 \\ -u^{14}+6u^{12}-13u^{10}+10u^8+2u^6-4u^4-u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^{70}+4u^{69}+\cdots+10u-5$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{71} - 9u^{70} + \cdots - 8u + 1$
c_3, c_9	$u^{71} - u^{70} + \cdots + 896u + 256$
c_5, c_8	$u^{71} - 2u^{70} + \cdots + 1648u - 505$
c_6, c_7, c_{11}	$u^{71} + 2u^{70} + \cdots + 10u^2 - 1$
c_{10}, c_{12}	$u^{71} - 6u^{70} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{71} - 73y^{70} + \cdots + 40y - 1$
c_3, c_9	$y^{71} + 51y^{70} + \cdots + 376832y - 65536$
c_5, c_8	$y^{71} - 60y^{70} + \cdots + 2629044y - 255025$
c_6, c_7, c_{11}	$y^{71} - 60y^{70} + \cdots + 20y - 1$
c_{10}, c_{12}	$y^{71} + 36y^{70} + \cdots + 20y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.986659 + 0.246337I$ $a = 0.840333 + 0.355711I$ $b = -0.851935 + 0.777616I$	$-4.39759 + 2.62166I$	$-12.54325 + 0.I$
$u = 0.986659 - 0.246337I$ $a = 0.840333 - 0.355711I$ $b = -0.851935 - 0.777616I$	$-4.39759 - 2.62166I$	$-12.54325 + 0.I$
$u = 0.996077 + 0.329643I$ $a = -2.15290 - 1.03284I$ $b = 2.27588 - 0.46222I$	$-11.10650 + 6.59599I$	0
$u = 0.996077 - 0.329643I$ $a = -2.15290 + 1.03284I$ $b = 2.27588 + 0.46222I$	$-11.10650 - 6.59599I$	0
$u = -0.908611 + 0.214665I$ $a = -2.60723 + 0.20772I$ $b = 1.91874 + 0.49065I$	$-6.64883 - 0.06384I$	$-13.96488 - 0.64877I$
$u = -0.908611 - 0.214665I$ $a = -2.60723 - 0.20772I$ $b = 1.91874 - 0.49065I$	$-6.64883 + 0.06384I$	$-13.96488 + 0.64877I$
$u = 0.809385 + 0.207067I$ $a = 0.362023 - 0.291325I$ $b = -0.557314 - 0.483316I$	$-4.57830 - 2.54230I$	$-13.6596 + 4.1821I$
$u = 0.809385 - 0.207067I$ $a = 0.362023 + 0.291325I$ $b = -0.557314 + 0.483316I$	$-4.57830 + 2.54230I$	$-13.6596 - 4.1821I$
$u = 0.766372 + 0.323559I$ $a = -1.75720 + 0.29981I$ $b = 1.83541 - 0.37016I$	$-11.57750 - 6.28991I$	$-15.1916 + 4.8659I$
$u = 0.766372 - 0.323559I$ $a = -1.75720 - 0.29981I$ $b = 1.83541 + 0.37016I$	$-11.57750 + 6.28991I$	$-15.1916 - 4.8659I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.154890 + 0.240784I$ $a = 0.924878 + 0.182653I$ $b = -0.298204 - 0.725011I$	$-1.31391 + 0.68641I$	0
$u = -1.154890 - 0.240784I$ $a = 0.924878 - 0.182653I$ $b = -0.298204 + 0.725011I$	$-1.31391 - 0.68641I$	0
$u = 0.181853 + 0.789212I$ $a = -3.78833 - 2.50123I$ $b = 2.82607 + 0.74359I$	$-8.59298 - 10.74520I$	$-11.21931 + 6.66626I$
$u = 0.181853 - 0.789212I$ $a = -3.78833 + 2.50123I$ $b = 2.82607 - 0.74359I$	$-8.59298 + 10.74520I$	$-11.21931 - 6.66626I$
$u = -0.066855 + 0.801312I$ $a = 1.80010 - 0.25938I$ $b = -1.259410 - 0.508282I$	$-1.15216 + 4.20230I$	$-9.31977 - 4.21160I$
$u = -0.066855 - 0.801312I$ $a = 1.80010 + 0.25938I$ $b = -1.259410 + 0.508282I$	$-1.15216 - 4.20230I$	$-9.31977 + 4.21160I$
$u = 0.176589 + 0.764676I$ $a = 1.26518 + 1.55971I$ $b = -1.31967 - 0.80362I$	$-1.90510 - 6.52099I$	$-9.14939 + 6.60717I$
$u = 0.176589 - 0.764676I$ $a = 1.26518 - 1.55971I$ $b = -1.31967 + 0.80362I$	$-1.90510 + 6.52099I$	$-9.14939 - 6.60717I$
$u = -0.185138 + 0.751263I$ $a = -3.20382 + 3.96451I$ $b = 2.40680 - 1.58953I$	$-4.30951 + 3.86319I$	$-10.53421 - 3.73969I$
$u = -0.185138 - 0.751263I$ $a = -3.20382 - 3.96451I$ $b = 2.40680 + 1.58953I$	$-4.30951 - 3.86319I$	$-10.53421 + 3.73969I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.23414$ $a=-2.32831$ $b=-0.376389$	-6.28970	0
$u=-1.190850+0.346873I$ $a=\ \ 0.457682-0.424063I$ $b=-1.37788+0.35953I$	$-4.59392-0.04944I$	0
$u=-1.190850-0.346873I$ $a=\ \ 0.457682+0.424063I$ $b=-1.37788-0.35953I$	$-4.59392+0.04944I$	0
$u=\ \ 1.239300+0.109593I$ $a=\ \ 0.445590-0.103058I$ $b=-0.159999-0.708388I$	$-4.58430-2.00294I$	0
$u=\ \ 1.239300-0.109593I$ $a=\ \ 0.445590+0.103058I$ $b=-0.159999+0.708388I$	$-4.58430+2.00294I$	0
$u=\ \ 0.186710+0.731693I$ $a=\ \ 0.677426+0.479857I$ $b=-0.176307+0.203264I$	$-2.39470-1.09775I$	$-10.39559+0.93933I$
$u=\ \ 0.186710-0.731693I$ $a=\ \ 0.677426-0.479857I$ $b=-0.176307-0.203264I$	$-2.39470+1.09775I$	$-10.39559-0.93933I$
$u=-0.129455+0.743382I$ $a=\ \ 0.91484-1.53124I$ $b=-0.739107+0.752454I$	$1.69012+2.95686I$	$-2.27360-4.11680I$
$u=-0.129455-0.743382I$ $a=\ \ 0.91484+1.53124I$ $b=-0.739107-0.752454I$	$1.69012-2.95686I$	$-2.27360+4.11680I$
$u=\ \ 0.232613+0.714723I$ $a=-1.49386-3.33234I$ $b=\ \ 1.33349+1.10636I$	$-9.77913+2.47980I$	$-12.49777+0.44362I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.232613 - 0.714723I$ $a = -1.49386 + 3.33234I$ $b = 1.33349 - 1.10636I$	$-9.77913 - 2.47980I$	$-12.49777 - 0.44362I$
$u = -0.038065 + 0.746925I$ $a = -1.26831 - 0.69126I$ $b = 1.057950 + 0.468795I$	$3.58845 + 2.01767I$	$-2.00784 - 4.42424I$
$u = -0.038065 - 0.746925I$ $a = -1.26831 + 0.69126I$ $b = 1.057950 - 0.468795I$	$3.58845 - 2.01767I$	$-2.00784 + 4.42424I$
$u = -1.234340 + 0.297863I$ $a = 0.077706 + 0.925364I$ $b = 1.063820 - 0.074072I$	$-0.08058 + 1.76105I$	0
$u = -1.234340 - 0.297863I$ $a = 0.077706 - 0.925364I$ $b = 1.063820 + 0.074072I$	$-0.08058 - 1.76105I$	0
$u = 1.263550 + 0.265912I$ $a = 1.184650 + 0.148415I$ $b = -1.40923 + 0.68906I$	$-3.14372 - 2.42246I$	0
$u = 1.263550 - 0.265912I$ $a = 1.184650 - 0.148415I$ $b = -1.40923 - 0.68906I$	$-3.14372 + 2.42246I$	0
$u = 0.029470 + 0.697447I$ $a = 2.38285 + 1.53386I$ $b = -1.62005 - 0.27761I$	$0.662530 - 1.041100I$	$-7.27548 - 0.38248I$
$u = 0.029470 - 0.697447I$ $a = 2.38285 - 1.53386I$ $b = -1.62005 + 0.27761I$	$0.662530 + 1.041100I$	$-7.27548 + 0.38248I$
$u = -1.291470 + 0.286170I$ $a = 0.10379 - 2.25863I$ $b = -1.84247 - 0.07524I$	$-3.46345 + 4.60561I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.291470 - 0.286170I$ $a = 0.10379 + 2.25863I$ $b = -1.84247 + 0.07524I$	$-3.46345 - 4.60561I$	0
$u = 1.289160 + 0.314090I$ $a = -0.647097 - 0.468432I$ $b = 1.042920 - 0.815117I$	$-0.54813 - 5.85187I$	0
$u = 1.289160 - 0.314090I$ $a = -0.647097 + 0.468432I$ $b = 1.042920 + 0.815117I$	$-0.54813 + 5.85187I$	0
$u = 1.306420 + 0.349875I$ $a = 0.68982 + 1.42591I$ $b = -1.128250 + 0.646449I$	$-5.44295 - 8.34894I$	0
$u = 1.306420 - 0.349875I$ $a = 0.68982 - 1.42591I$ $b = -1.128250 - 0.646449I$	$-5.44295 + 8.34894I$	0
$u = 1.358380 + 0.152222I$ $a = -1.17648 + 1.28390I$ $b = -1.337860 - 0.349570I$	$-11.76690 - 3.60144I$	0
$u = 1.358380 - 0.152222I$ $a = -1.17648 - 1.28390I$ $b = -1.337860 + 0.349570I$	$-11.76690 + 3.60144I$	0
$u = 1.344140 + 0.315904I$ $a = -0.347097 + 1.182250I$ $b = -0.972415 - 0.773651I$	$-2.95246 - 6.79976I$	0
$u = 1.344140 - 0.315904I$ $a = -0.347097 - 1.182250I$ $b = -0.972415 + 0.773651I$	$-2.95246 + 6.79976I$	0
$u = 1.38516$ $a = -0.406375$ $b = -1.07210$	-7.07702	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.367690+0.306384I$ $a=0.230808-0.686573I$ $b=-0.0933768+0.0315903I$	$-7.30405+4.87123I$	0
$u=-1.367690-0.306384I$ $a=0.230808+0.686573I$ $b=-0.0933768-0.0315903I$	$-7.30405-4.87123I$	0
$u=-1.367790+0.321539I$ $a=-0.393117-1.350420I$ $b=-1.56646+0.71385I$	$-6.78407+10.45570I$	0
$u=-1.367790-0.321539I$ $a=-0.393117+1.350420I$ $b=-1.56646-0.71385I$	$-6.78407-10.45570I$	0
$u=1.369780+0.314519I$ $a=0.49273-3.43980I$ $b=2.88614+1.93089I$	$-9.22312-7.72882I$	0
$u=1.369780-0.314519I$ $a=0.49273+3.43980I$ $b=2.88614-1.93089I$	$-9.22312+7.72882I$	0
$u=-0.396518+0.441005I$ $a=0.47669-1.49811I$ $b=-1.328800+0.023293I$	$-6.36129+1.57513I$	$-13.7151-4.1754I$
$u=-0.396518-0.441005I$ $a=0.47669+1.49811I$ $b=-1.328800-0.023293I$	$-6.36129-1.57513I$	$-13.7151+4.1754I$
$u=-1.381840+0.290987I$ $a=0.90571+2.40675I$ $b=1.44667-1.68893I$	$-14.8854+1.1709I$	0
$u=-1.381840-0.290987I$ $a=0.90571-2.40675I$ $b=1.44667+1.68893I$	$-14.8854-1.1709I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.373550 + 0.332446I$ $a = -0.39571 + 3.13248I$ $b = 3.20219 - 0.78644I$	$-13.5094 + 14.8002I$	0
$u = -1.373550 - 0.332446I$ $a = -0.39571 - 3.13248I$ $b = 3.20219 + 0.78644I$	$-13.5094 - 14.8002I$	0
$u = -1.41996 + 0.01011I$ $a = -0.416396 + 0.543396I$ $b = -0.966187 + 0.001876I$	$-11.25150 + 2.82348I$	0
$u = -1.41996 - 0.01011I$ $a = -0.416396 - 0.543396I$ $b = -0.966187 - 0.001876I$	$-11.25150 - 2.82348I$	0
$u = 1.42247$ $a = 0.946420$ $b = 3.55445$	-13.4469	0
$u = -1.43211 + 0.02678I$ $a = 0.860128 + 0.073018I$ $b = 2.85973 + 0.70323I$	$-18.4145 + 6.9595I$	0
$u = -1.43211 - 0.02678I$ $a = 0.860128 - 0.073018I$ $b = 2.85973 - 0.70323I$	$-18.4145 - 6.9595I$	0
$u = -0.555980$ $a = 0.604259$ $b = -0.508930$	-1.13868	-8.43750
$u = -0.221093 + 0.243392I$ $a = 1.055700 - 0.337954I$ $b = 0.070341 + 0.235370I$	$-0.399020 + 0.809354I$	$-8.89240 - 8.42436I$
$u = -0.221093 - 0.243392I$ $a = 1.055700 + 0.337954I$ $b = 0.070341 - 0.235370I$	$-0.399020 - 0.809354I$	$-8.89240 + 8.42436I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.229977$ $a = -2.81817$ $b = -1.03945$	-2.00887	-0.983990

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

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^2+1 \\ -u^4+2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3-2u \\ -u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^6+3u^4-u^3-2u^2+2u-1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^6+3u^4-2u^2-1 \\ -u^3+u-1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^5-2u^3+u \\ u^7-3u^5+2u^3+u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^6+3u^4-u^3-2u^2+2u-1 \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^5-2u^3+u \\ u^7-3u^5+2u^3+u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^3+2u \\ u^3-u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^7-6u^6+2u^5+16u^4-5u^3-9u^2+8u-21$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.180120 + 0.268597I$ $a = 0.646194 + 0.127698I$ $b = -1.00000$	$-2.68559 - 1.13123I$	$-10.92586 + 0.21647I$
$u = 1.180120 - 0.268597I$ $a = 0.646194 - 0.127698I$ $b = -1.00000$	$-2.68559 + 1.13123I$	$-10.92586 - 0.21647I$
$u = 0.108090 + 0.747508I$ $a = 1.43073 + 0.89199I$ $b = -1.00000$	$0.51448 - 2.57849I$	$-8.77377 + 3.25417I$
$u = 0.108090 - 0.747508I$ $a = 1.43073 - 0.89199I$ $b = -1.00000$	$0.51448 + 2.57849I$	$-8.77377 - 3.25417I$
$u = -1.37100$ $a = -0.966009$ $b = -1.00000$	-8.14766	-19.8990
$u = -1.334530 + 0.318930I$ $a = 0.142888 - 1.323540I$ $b = -1.00000$	$-4.02461 + 6.44354I$	$-14.3478 - 4.5473I$
$u = -1.334530 - 0.318930I$ $a = 0.142888 + 1.323540I$ $b = -1.00000$	$-4.02461 - 6.44354I$	$-14.3478 + 4.5473I$
$u = 0.463640$ $a = -0.473616$ $b = -1.00000$	-2.48997	-19.0060

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^8)(u^{71} - 9u^{70} + \cdots - 8u + 1)$
c_3, c_9	$u^8(u^{71} - u^{70} + \cdots + 896u + 256)$
c_4	$((u+1)^8)(u^{71} - 9u^{70} + \cdots - 8u + 1)$
c_5, c_8	$(u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1)$ $\cdot (u^{71} - 2u^{70} + \cdots + 1648u - 505)$
c_6, c_7	$(u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1)(u^{71} + 2u^{70} + \cdots + 10u^2 - 1)$
c_{10}, c_{12}	$(u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1)$ $\cdot (u^{71} - 6u^{70} + \cdots - 4u + 1)$
c_{11}	$(u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - 2u - 1)(u^{71} + 2u^{70} + \cdots + 10u^2 - 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^8)(y^{71} - 73y^{70} + \cdots + 40y - 1)$
c_3, c_9	$y^8(y^{71} + 51y^{70} + \cdots + 376832y - 65536)$
c_5, c_8	$(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)$ $\cdot (y^{71} - 60y^{70} + \cdots + 2629044y - 255025)$
c_6, c_7, c_{11}	$(y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{71} - 60y^{70} + \cdots + 20y - 1)$
c_{10}, c_{12}	$(y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)$ $\cdot (y^{71} + 36y^{70} + \cdots + 20y - 1)$