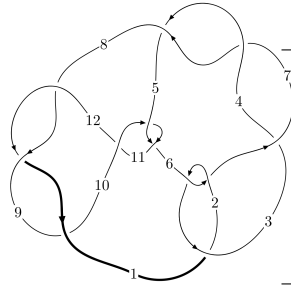
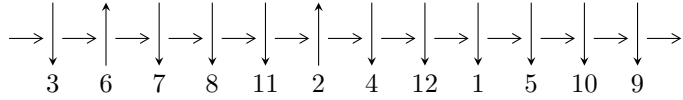


12a<sub>0205</sub> (K12a<sub>0205</sub>)



A knot diagram<sup>1</sup>

**Linearized knot diagram**



**Solving Sequence**

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

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

$$I_1^u = \langle 251u^{73} + 1168u^{72} + \dots + 4b - 189, -50u^{73} - 201u^{72} + \dots + 4a + 23, u^{74} + 6u^{73} + \dots - 4u - 1 \rangle$$

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

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

$$\text{I. } I_1^u = \langle 251u^{73} + 1168u^{72} + \dots + 4b - 189, -50u^{73} - 201u^{72} + \dots + 4a + 23, u^{74} + 6u^{73} + \dots - 4u - 1 \rangle$$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} \frac{25}{2}u^{73} + \frac{201}{4}u^{72} + \dots - \frac{25}{2}u - \frac{23}{4} \\ -\frac{251}{4}u^{73} - 292u^{72} + \dots + \frac{307}{2}u + \frac{189}{4} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{201}{4}u^{73} - \frac{967}{4}u^{72} + \dots + 141u + \frac{83}{2} \\ -\frac{251}{4}u^{73} - 292u^{72} + \dots + \frac{307}{2}u + \frac{189}{4} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0625000u^{73} + 0.312500u^{72} + \dots - 4.18750u + 1.93750 \\ 0.0625000u^{73} + 0.312500u^{72} + \dots - 1.18750u - 0.0625000 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -30.5625u^{73} - 147.813u^{72} + \dots + 90.4375u + 26.3125 \\ 30.9375u^{73} + 143.938u^{72} + \dots - 72.8125u - 22.1875 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{25}{2}u^{73} + \frac{269}{4}u^{72} + \dots - \frac{71}{2}u - \frac{59}{4} \\ -\frac{249}{4}u^{73} - \frac{1131}{4}u^{72} + \dots + 141u + \frac{85}{2} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -15.1875u^{73} - 73.6875u^{72} + \dots + 49.3125u + 12.1875 \\ -19.2500u^{73} - 93.6250u^{72} + \dots + 54.7500u + 16.8750 \end{pmatrix}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = -\frac{177}{4}u^{73} - \frac{1667}{8}u^{72} + \dots + \frac{477}{4}u + \frac{241}{8}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{74} + 42u^{73} + \dots - 2u + 1$
$c_2, c_6$	$u^{74} - 2u^{73} + \dots - 2u - 1$
$c_3, c_4, c_7$	$u^{74} + 2u^{73} + \dots + 84u - 17$
$c_5, c_{10}$	$u^{74} + u^{73} + \dots + 96u + 32$
$c_8, c_9, c_{12}$	$u^{74} - 6u^{73} + \dots + 4u - 1$
$c_{11}$	$u^{74} + 33u^{73} + \dots + 7680u + 1024$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{74} - 18y^{73} + \dots - 70y + 1$
$c_2, c_6$	$y^{74} + 42y^{73} + \dots - 2y + 1$
$c_3, c_4, c_7$	$y^{74} - 78y^{73} + \dots - 14298y + 289$
$c_5, c_{10}$	$y^{74} - 33y^{73} + \dots - 7680y + 1024$
$c_8, c_9, c_{12}$	$y^{74} - 66y^{73} + \dots - 4y + 1$
$c_{11}$	$y^{74} + 7y^{73} + \dots - 12189696y + 1048576$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.881128 + 0.574262I$ $a = -0.392145 - 0.461104I$ $b = 1.51995 + 0.06899I$	$-10.03960 - 3.52098I$	0
$u = 0.881128 - 0.574262I$ $a = -0.392145 + 0.461104I$ $b = 1.51995 - 0.06899I$	$-10.03960 + 3.52098I$	0
$u = 0.988283 + 0.362341I$ $a = 0.732096 - 0.013015I$ $b = -0.662384 + 0.595002I$	$-2.23570 + 2.76072I$	0
$u = 0.988283 - 0.362341I$ $a = 0.732096 + 0.013015I$ $b = -0.662384 - 0.595002I$	$-2.23570 - 2.76072I$	0
$u = 0.900199 + 0.549025I$ $a = 0.478227 + 0.417353I$ $b = -1.45382 + 0.10364I$	$-6.21271 + 1.04580I$	0
$u = 0.900199 - 0.549025I$ $a = 0.478227 - 0.417353I$ $b = -1.45382 - 0.10364I$	$-6.21271 - 1.04580I$	0
$u = 0.925360 + 0.561900I$ $a = -0.535816 - 0.483396I$ $b = 1.59118 - 0.20476I$	$-9.79897 + 5.80428I$	0
$u = 0.925360 - 0.561900I$ $a = -0.535816 + 0.483396I$ $b = 1.59118 + 0.20476I$	$-9.79897 - 5.80428I$	0
$u = 0.287137 + 0.859379I$ $a = -1.13110 - 1.36816I$ $b = 1.62687 + 0.25833I$	$-7.84795 - 10.78640I$	0
$u = 0.287137 - 0.859379I$ $a = -1.13110 + 1.36816I$ $b = 1.62687 - 0.25833I$	$-7.84795 + 10.78640I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.314792 + 0.842150I$ $a = -1.08527 - 1.22153I$ $b = 1.48731 + 0.00206I$	$-8.30896 - 1.43299I$	0
$u = 0.314792 - 0.842150I$ $a = -1.08527 + 1.22153I$ $b = 1.48731 - 0.00206I$	$-8.30896 + 1.43299I$	0
$u = 0.292088 + 0.841513I$ $a = 1.05644 + 1.32316I$ $b = -1.47219 - 0.19833I$	$-4.34649 - 5.92708I$	0
$u = 0.292088 - 0.841513I$ $a = 1.05644 - 1.32316I$ $b = -1.47219 + 0.19833I$	$-4.34649 + 5.92708I$	0
$u = 1.085780 + 0.243540I$ $a = -0.729453 + 0.365525I$ $b = 0.124325 - 0.592140I$	$-0.968890 - 0.789801I$	0
$u = 1.085780 - 0.243540I$ $a = -0.729453 - 0.365525I$ $b = 0.124325 + 0.592140I$	$-0.968890 + 0.789801I$	0
$u = 0.201797 + 0.773580I$ $a = 0.65000 + 1.60035I$ $b = -0.793170 - 0.734810I$	$0.15931 - 6.92492I$	$-8.00000 + 9.41570I$
$u = 0.201797 - 0.773580I$ $a = 0.65000 - 1.60035I$ $b = -0.793170 + 0.734810I$	$0.15931 + 6.92492I$	$-8.00000 - 9.41570I$
$u = 1.203160 + 0.212321I$ $a = -0.835102 + 0.755842I$ $b = -0.352089 - 0.569580I$	$-1.26241 - 1.26238I$	0
$u = 1.203160 - 0.212321I$ $a = -0.835102 - 0.755842I$ $b = -0.352089 + 0.569580I$	$-1.26241 + 1.26238I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.636386 + 0.433353I$ $a = 0.248415 - 0.156107I$ $b = -0.539496 - 0.235219I$	$-3.20093 - 2.38936I$	$-17.3308 + 5.2603I$
$u = 0.636386 - 0.433353I$ $a = 0.248415 + 0.156107I$ $b = -0.539496 + 0.235219I$	$-3.20093 + 2.38936I$	$-17.3308 - 5.2603I$
$u = 0.174212 + 0.714774I$ $a = -0.39734 - 1.61036I$ $b = 0.393692 + 0.706879I$	$1.68253 - 2.79181I$	$-4.40821 + 4.21273I$
$u = 0.174212 - 0.714774I$ $a = -0.39734 + 1.61036I$ $b = 0.393692 - 0.706879I$	$1.68253 + 2.79181I$	$-4.40821 - 4.21273I$
$u = 0.319686 + 0.646062I$ $a = 0.316719 + 1.035180I$ $b = -0.300560 + 0.024775I$	$-2.20621 - 1.45129I$	$-14.5147 + 3.3145I$
$u = 0.319686 - 0.646062I$ $a = 0.316719 - 1.035180I$ $b = -0.300560 - 0.024775I$	$-2.20621 + 1.45129I$	$-14.5147 - 3.3145I$
$u = 1.285420 + 0.094016I$ $a = 0.456290 - 1.265580I$ $b = 0.430143 - 0.102358I$	$-4.61992 + 0.36511I$	0
$u = 1.285420 - 0.094016I$ $a = 0.456290 + 1.265580I$ $b = 0.430143 + 0.102358I$	$-4.61992 - 0.36511I$	0
$u = -1.287860 + 0.072895I$ $a = 0.147765 + 0.194840I$ $b = -1.36565 - 0.38952I$	$-8.72493 - 4.01377I$	0
$u = -1.287860 - 0.072895I$ $a = 0.147765 - 0.194840I$ $b = -1.36565 + 0.38952I$	$-8.72493 + 4.01377I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.273630 + 0.234512I$ $a = 1.06836 - 0.97934I$ $b = 0.772121 + 0.649670I$	$-2.86722 - 5.13648I$	0
$u = 1.273630 - 0.234512I$ $a = 1.06836 + 0.97934I$ $b = 0.772121 - 0.649670I$	$-2.86722 + 5.13648I$	0
$u = -1.310770 + 0.210855I$ $a = -0.365749 - 0.628451I$ $b = 0.464829 + 0.924450I$	$-3.02836 + 0.78893I$	0
$u = -1.310770 - 0.210855I$ $a = -0.365749 + 0.628451I$ $b = 0.464829 - 0.924450I$	$-3.02836 - 0.78893I$	0
$u = -1.327870 + 0.109441I$ $a = -0.078373 - 0.356478I$ $b = 1.041460 + 0.386661I$	$-5.77899 + 0.48003I$	0
$u = -1.327870 - 0.109441I$ $a = -0.078373 + 0.356478I$ $b = 1.041460 - 0.386661I$	$-5.77899 - 0.48003I$	0
$u = 0.090587 + 0.645600I$ $a = -0.05614 - 1.76780I$ $b = -0.143845 + 0.767387I$	$2.07073 - 1.86749I$	$-2.85319 + 4.16997I$
$u = 0.090587 - 0.645600I$ $a = -0.05614 + 1.76780I$ $b = -0.143845 - 0.767387I$	$2.07073 + 1.86749I$	$-2.85319 - 4.16997I$
$u = -1.331220 + 0.247307I$ $a = 0.423310 + 0.804300I$ $b = -0.061462 - 0.941261I$	$-2.41235 + 5.09301I$	0
$u = -1.331220 - 0.247307I$ $a = 0.423310 - 0.804300I$ $b = -0.061462 + 0.941261I$	$-2.41235 - 5.09301I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.372500 + 0.208067I$ $a = 1.18530 - 1.51605I$ $b = 1.47714 + 0.15260I$	$-7.28647 - 3.73730I$	0
$u = 1.372500 - 0.208067I$ $a = 1.18530 + 1.51605I$ $b = 1.47714 - 0.15260I$	$-7.28647 + 3.73730I$	0
$u = 1.384380 + 0.195037I$ $a = -1.14266 + 1.61351I$ $b = -1.51278 + 0.02690I$	$-11.19560 + 0.80901I$	0
$u = 1.384380 - 0.195037I$ $a = -1.14266 - 1.61351I$ $b = -1.51278 - 0.02690I$	$-11.19560 - 0.80901I$	0
$u = -1.368220 + 0.287711I$ $a = 0.456831 + 1.079290I$ $b = 0.530276 - 0.801232I$	$-3.20875 + 6.42514I$	0
$u = -1.368220 - 0.287711I$ $a = 0.456831 - 1.079290I$ $b = 0.530276 + 0.801232I$	$-3.20875 - 6.42514I$	0
$u = 0.001762 + 0.601615I$ $a = -0.18960 + 1.93159I$ $b = 0.582995 - 0.743414I$	$1.09588 + 2.08440I$	$-5.27577 - 3.44831I$
$u = 0.001762 - 0.601615I$ $a = -0.18960 - 1.93159I$ $b = 0.582995 + 0.743414I$	$1.09588 - 2.08440I$	$-5.27577 + 3.44831I$
$u = 1.381070 + 0.220674I$ $a = -1.27621 + 1.52980I$ $b = -1.61885 - 0.22827I$	$-10.84100 - 8.56310I$	0
$u = 1.381070 - 0.220674I$ $a = -1.27621 - 1.52980I$ $b = -1.61885 + 0.22827I$	$-10.84100 + 8.56310I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.406650 + 0.108118I$ $a = -0.224298 + 0.479931I$ $b = -0.889838 + 0.012840I$	$-9.56584 + 3.88184I$	0
$u = -1.406650 - 0.108118I$ $a = -0.224298 - 0.479931I$ $b = -0.889838 - 0.012840I$	$-9.56584 - 3.88184I$	0
$u = -1.38177 + 0.31309I$ $a = -0.519776 - 1.227890I$ $b = -0.894583 + 0.801624I$	$-4.86125 + 10.84660I$	0
$u = -1.38177 - 0.31309I$ $a = -0.519776 + 1.227890I$ $b = -0.894583 - 0.801624I$	$-4.86125 - 10.84660I$	0
$u = -0.217146 + 0.536055I$ $a = 0.60175 - 2.16828I$ $b = -1.52812 + 0.24824I$	$-5.74382 + 5.73352I$	$-9.31960 - 3.96496I$
$u = -0.217146 - 0.536055I$ $a = 0.60175 + 2.16828I$ $b = -1.52812 - 0.24824I$	$-5.74382 - 5.73352I$	$-9.31960 + 3.96496I$
$u = -1.40915 + 0.25179I$ $a = -0.157565 - 1.105170I$ $b = -0.323961 + 0.190846I$	$-7.68685 + 4.72210I$	0
$u = -1.40915 - 0.25179I$ $a = -0.157565 + 1.105170I$ $b = -0.323961 - 0.190846I$	$-7.68685 - 4.72210I$	0
$u = -0.195506 + 0.494386I$ $a = -0.60346 + 2.10373I$ $b = 1.332360 - 0.127865I$	$-2.28691 + 1.08117I$	$-6.04411 - 0.68667I$
$u = -0.195506 - 0.494386I$ $a = -0.60346 - 2.10373I$ $b = 1.332360 + 0.127865I$	$-2.28691 - 1.08117I$	$-6.04411 + 0.68667I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.43492 + 0.33574I$ $a = -0.42182 - 1.57242I$ $b = -1.52280 + 0.24815I$	$-9.8574 + 10.1740I$	0
$u = -1.43492 - 0.33574I$ $a = -0.42182 + 1.57242I$ $b = -1.52280 - 0.24815I$	$-9.8574 - 10.1740I$	0
$u = -0.244545 + 0.465151I$ $a = 0.66363 - 2.09922I$ $b = -1.43543 - 0.11457I$	$-6.00989 - 3.31774I$	$-9.52284 + 2.54149I$
$u = -0.244545 - 0.465151I$ $a = 0.66363 + 2.09922I$ $b = -1.43543 + 0.11457I$	$-6.00989 + 3.31774I$	$-9.52284 - 2.54149I$
$u = -1.43676 + 0.34496I$ $a = 0.46165 + 1.62078I$ $b = 1.67048 - 0.27980I$	$-13.3475 + 15.1287I$	0
$u = -1.43676 - 0.34496I$ $a = 0.46165 - 1.62078I$ $b = 1.67048 + 0.27980I$	$-13.3475 - 15.1287I$	0
$u = -1.44511 + 0.33011I$ $a = 0.34935 + 1.59979I$ $b = 1.49951 - 0.06456I$	$-13.9374 + 5.6612I$	0
$u = -1.44511 - 0.33011I$ $a = 0.34935 - 1.59979I$ $b = 1.49951 + 0.06456I$	$-13.9374 - 5.6612I$	0
$u = -1.52087$ $a = -0.926353$ $b = -1.58708$	$-14.6359$	0
$u = -1.52946 + 0.01186I$ $a = 0.979765 - 0.076295I$ $b = 1.64505 - 0.09028I$	$-18.4592 + 4.8158I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.52946 - 0.01186I$ $a = 0.979765 + 0.076295I$ $b = 1.64505 + 0.09028I$	$-18.4592 - 4.8158I$	0
$u = 0.438993$ $a = -0.875494$ $b = 0.359702$	$-0.831134$	$-11.9340$
$u = -0.131466 + 0.110386I$ $a = -0.73310 + 2.64270I$ $b = 0.295035 + 0.455623I$	$-0.50060 - 1.35724I$	$-5.01014 + 4.53923I$
$u = -0.131466 - 0.110386I$ $a = -0.73310 - 2.64270I$ $b = 0.295035 - 0.455623I$	$-0.50060 + 1.35724I$	$-5.01014 - 4.53923I$

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

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} b \\ b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -b^2 + 1 \\ -b^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -b^3 + 2b \\ -b^3 + b \end{pmatrix}$$

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

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

$$a_2 = \begin{pmatrix} -b^3 + 2b \\ -b^4 - b^3 + b^2 + 2b + 1 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes =  $b^4 + 2b^3 - 5b - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0$ $b = -1.21774$	$-4.04602$	$-9.32390$
$u = 1.00000$ $a = 0$ $b = -0.309916 + 0.549911I$	$-1.97403 + 1.53058I$	$-12.02124 - 2.62456I$
$u = 1.00000$ $a = 0$ $b = -0.309916 - 0.549911I$	$-1.97403 - 1.53058I$	$-12.02124 + 2.62456I$
$u = 1.00000$ $a = 0$ $b = 1.41878 + 0.21917I$	$-7.51750 - 4.40083I$	$-12.31681 + 3.97407I$
$u = 1.00000$ $a = 0$ $b = 1.41878 - 0.21917I$	$-7.51750 + 4.40083I$	$-12.31681 - 3.97407I$



### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)(u^{74} + 42u^{73} + \dots - 2u + 1)$
$c_2$	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)(u^{74} - 2u^{73} + \dots - 2u - 1)$
$c_3, c_4$	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)(u^{74} + 2u^{73} + \dots + 84u - 17)$
$c_5, c_{10}$	$u^5(u^{74} + u^{73} + \dots + 96u + 32)$
$c_6$	$(u^5 + u^4 + 2u^3 + u^2 + u + 1)(u^{74} - 2u^{73} + \dots - 2u - 1)$
$c_7$	$(u^5 - u^4 - 2u^3 + u^2 + u + 1)(u^{74} + 2u^{73} + \dots + 84u - 17)$
$c_8, c_9$	$((u - 1)^5)(u^{74} - 6u^{73} + \dots + 4u - 1)$
$c_{11}$	$u^5(u^{74} + 33u^{73} + \dots + 7680u + 1024)$
$c_{12}$	$((u + 1)^5)(u^{74} - 6u^{73} + \dots + 4u - 1)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1$	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)(y^{74} - 18y^{73} + \dots - 70y + 1)$
$c_2, c_6$	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)(y^{74} + 42y^{73} + \dots - 2y + 1)$
$c_3, c_4, c_7$	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)(y^{74} - 78y^{73} + \dots - 14298y + 289)$
$c_5, c_{10}$	$y^5(y^{74} - 33y^{73} + \dots - 7680y + 1024)$
$c_8, c_9, c_{12}$	$((y - 1)^5)(y^{74} - 66y^{73} + \dots - 4y + 1)$
$c_{11}$	$y^5(y^{74} + 7y^{73} + \dots - 1.21897 \times 10^7 y + 1048576)$