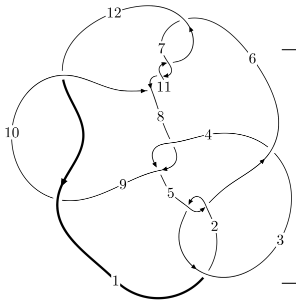
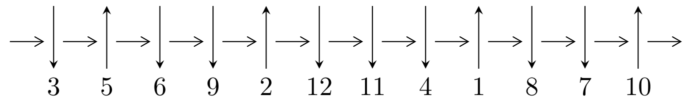
$12a_{0031}$ ($K12a_{0031}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -2u^{76} - 8u^{75} + \cdots + 2b - 2,\ u^{76} + 3u^{75} + \cdots + 2a + 4,\ u^{77} + 3u^{76} + \cdots - 5u - 1 \rangle$$
$$I_2^u = \langle -u^2 a + b,\ -u^3 a + u^3 + a^2 - 2au - u^2 + 3u - 2,\ u^4 - u^3 + 3u^2 - 2u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 85 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.

$$I^u_1 = \langle -2u^{76} - 8u^{75} + \cdots + 2b - 2,\ u^{76} + 3u^{75} + \cdots + 2a + 4,\ u^{77} + 3u^{76} + \cdots - 5u - 1\rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{76} - \frac{3}{2}u^{75} + \cdots + \frac{1}{2}u - 2 \\ u^{76} + 4u^{75} + \cdots + \frac{5}{2}u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^9 + 4u^7 + 3u^5 - 2u^3 + u \\ u^{11} + 5u^9 + 8u^7 + 5u^5 + 3u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{76} - \frac{3}{2}u^{75} + \cdots + \frac{23}{2}u + 1 \\ -2u^{76} - 4u^{75} + \cdots + \frac{9}{2}u + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{76} - 3u^{75} + \cdots + \frac{19}{2}u + \frac{1}{2} \\ \frac{3}{2}u^{75} + 3u^{74} + \cdots + \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{2}u^{73} + u^{72} + \cdots + \frac{5}{2}u - \frac{3}{2} \\ \frac{1}{2}u^{75} + u^{74} + \cdots + \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^5 + 2u^3 - u \\ u^7 + 3u^5 + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{5}{2}u^{76} - 5u^{75} + \cdots + \frac{37}{2}u + \frac{1}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{77} + 39u^{76} + \cdots - 5u - 1$
c_2, c_5	$u^{77} + 5u^{76} + \cdots + 5u + 1$
c_3	$u^{77} - 5u^{76} + \cdots + 1267u + 593$
c_4, c_8	$u^{77} - u^{76} + \cdots + 128u + 256$
c_6, c_7, c_{10} c_{11}	$u^{77} - 3u^{76} + \cdots - 5u + 1$
c_9, c_{12}	$u^{77} + 13u^{76} + \cdots + 6101u + 563$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{77} + 3y^{76} + \cdots + 31y - 1$
c_2, c_5	$y^{77} + 39y^{76} + \cdots - 5y - 1$
c_3	$y^{77} - 33y^{76} + \cdots - 96621y - 351649$
c_4, c_8	$y^{77} - 45y^{76} + \cdots + 770048y - 65536$
c_6, c_7, c_{10} c_{11}	$y^{77} + 85y^{76} + \cdots - y - 1$
c_9, c_{12}	$y^{77} + 53y^{76} + \cdots - 29451637y - 316969$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.612026 + 0.595452I$ $a = -0.89352 - 1.98650I$ $b = -0.1277660 - 0.0256461I$	$-7.2236 + 12.2987I$	$0. - 9.53747I$
$u = -0.612026 - 0.595452I$ $a = -0.89352 + 1.98650I$ $b = -0.1277660 + 0.0256461I$	$-7.2236 - 12.2987I$	$0. + 9.53747I$
$u = 0.260354 + 0.812312I$ $a = 1.02817 + 1.51523I$ $b = -0.114745 - 0.093276I$	$-1.53971 - 6.73327I$	$0. + 7.96395I$
$u = 0.260354 - 0.812312I$ $a = 1.02817 - 1.51523I$ $b = -0.114745 + 0.093276I$	$-1.53971 + 6.73327I$	$0. - 7.96395I$
$u = -0.624875 + 0.555027I$ $a = -0.83280 - 1.63607I$ $b = 0.212245 + 0.051955I$	$-9.25981 + 3.52917I$	$-10.42870 - 3.53484I$
$u = -0.624875 - 0.555027I$ $a = -0.83280 + 1.63607I$ $b = 0.212245 - 0.051955I$	$-9.25981 - 3.52917I$	$-10.42870 + 3.53484I$
$u = -0.601147 + 0.578458I$ $a = 1.00763 + 1.86576I$ $b = 0.0492372 - 0.1177350I$	$-4.47407 + 7.07756I$	$-4.00000 - 6.24950I$
$u = -0.601147 - 0.578458I$ $a = 1.00763 - 1.86576I$ $b = 0.0492372 + 0.1177350I$	$-4.47407 - 7.07756I$	$-4.00000 + 6.24950I$
$u = 0.368902 + 0.726526I$ $a = 1.08568 + 1.00548I$ $b = 0.098041 + 0.137813I$	$-2.26420 + 0.74681I$	$-6.71284 + 0.I$
$u = 0.368902 - 0.726526I$ $a = 1.08568 - 1.00548I$ $b = 0.098041 - 0.137813I$	$-2.26420 - 0.74681I$	$-6.71284 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.581932 + 0.528527I$ $a = 1.076950 - 0.383806I$ $b = 0.549148 - 0.521361I$	$-3.73609 - 5.85675I$	$-7.46944 + 7.02890I$
$u = 0.581932 - 0.528527I$ $a = 1.076950 + 0.383806I$ $b = 0.549148 + 0.521361I$	$-3.73609 + 5.85675I$	$-7.46944 - 7.02890I$
$u = -0.647536 + 0.435417I$ $a = 0.595895 + 0.580977I$ $b = -0.967049 - 0.517583I$	$-9.61367 + 0.77228I$	$-11.33626 - 2.74096I$
$u = -0.647536 - 0.435417I$ $a = 0.595895 - 0.580977I$ $b = -0.967049 + 0.517583I$	$-9.61367 - 0.77228I$	$-11.33626 + 2.74096I$
$u = 0.216325 + 0.728357I$ $a = -0.73792 - 1.46005I$ $b = -0.085170 + 0.124094I$	$0.94993 - 2.34524I$	$0.16398 + 5.01561I$
$u = 0.216325 - 0.728357I$ $a = -0.73792 + 1.46005I$ $b = -0.085170 - 0.124094I$	$0.94993 + 2.34524I$	$0.16398 - 5.01561I$
$u = -0.651890 + 0.384365I$ $a = 0.484760 + 0.187734I$ $b = -1.126890 - 0.771784I$	$-7.84727 - 8.02560I$	$-9.37662 + 3.63845I$
$u = -0.651890 - 0.384365I$ $a = 0.484760 - 0.187734I$ $b = -1.126890 + 0.771784I$	$-7.84727 + 8.02560I$	$-9.37662 - 3.63845I$
$u = -0.549898 + 0.515511I$ $a = 1.63904 + 1.32471I$ $b = -0.176291 - 0.694995I$	$-1.46167 + 4.56452I$	$-6.90154 - 7.67596I$
$u = -0.549898 - 0.515511I$ $a = 1.63904 - 1.32471I$ $b = -0.176291 + 0.694995I$	$-1.46167 - 4.56452I$	$-6.90154 + 7.67596I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.630013 + 0.399648I$ $a = -0.678355 - 0.262081I$ $b = 0.988730 + 0.743780I$	$-5.00108 - 2.89884I$	$-6.71451 + 0.09803I$
$u = -0.630013 - 0.399648I$ $a = -0.678355 + 0.262081I$ $b = 0.988730 - 0.743780I$	$-5.00108 + 2.89884I$	$-6.71451 - 0.09803I$
$u = 0.587897 + 0.453548I$ $a = 0.867008 - 0.545729I$ $b = 0.265415 - 0.763966I$	$-3.95708 + 1.85496I$	$-8.41123 - 0.20091I$
$u = 0.587897 - 0.453548I$ $a = 0.867008 + 0.545729I$ $b = 0.265415 + 0.763966I$	$-3.95708 - 1.85496I$	$-8.41123 + 0.20091I$
$u = 0.442510 + 0.584913I$ $a = -0.802226 - 0.268287I$ $b = -0.272720 + 0.049507I$	$-0.32404 - 2.14218I$	$-4.74496 + 2.48807I$
$u = 0.442510 - 0.584913I$ $a = -0.802226 + 0.268287I$ $b = -0.272720 - 0.049507I$	$-0.32404 + 2.14218I$	$-4.74496 - 2.48807I$
$u = 0.528497 + 0.498843I$ $a = -0.855254 + 0.305815I$ $b = -0.290235 + 0.435521I$	$-0.95957 - 1.82879I$	$-3.28595 + 3.84265I$
$u = 0.528497 - 0.498843I$ $a = -0.855254 - 0.305815I$ $b = -0.290235 - 0.435521I$	$-0.95957 + 1.82879I$	$-3.28595 - 3.84265I$
$u = -0.546595 + 0.470302I$ $a = -1.66270 - 0.74796I$ $b = 0.446393 + 0.836617I$	$-1.59803 - 0.77982I$	$-8.08630 - 0.44983I$
$u = -0.546595 - 0.470302I$ $a = -1.66270 + 0.74796I$ $b = 0.446393 - 0.836617I$	$-1.59803 + 0.77982I$	$-8.08630 + 0.44983I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.012863 + 0.625748I$ $a = -0.24266 - 1.97148I$ $b = -0.448324 + 0.216980I$	$1.96808 - 1.39534I$	$3.79892 + 3.93642I$
$u = 0.012863 - 0.625748I$ $a = -0.24266 + 1.97148I$ $b = -0.448324 - 0.216980I$	$1.96808 + 1.39534I$	$3.79892 - 3.93642I$
$u = 0.565989 + 0.059555I$ $a = 0.457201 - 0.152438I$ $b = -1.024150 - 0.209368I$	$-4.32714 - 3.90789I$	$-11.06800 + 4.23782I$
$u = 0.565989 - 0.059555I$ $a = 0.457201 + 0.152438I$ $b = -1.024150 + 0.209368I$	$-4.32714 + 3.90789I$	$-11.06800 - 4.23782I$
$u = -0.16646 + 1.42571I$ $a = 0.735679 + 0.265341I$ $b = 0.034524 - 0.389916I$	$-2.08471 - 5.12370I$	0
$u = -0.16646 - 1.42571I$ $a = 0.735679 - 0.265341I$ $b = 0.034524 + 0.389916I$	$-2.08471 + 5.12370I$	0
$u = -0.114032 + 0.552592I$ $a = -0.06709 + 2.41386I$ $b = 0.722830 - 0.128559I$	$0.83609 + 2.95728I$	$2.05488 - 2.48382I$
$u = -0.114032 - 0.552592I$ $a = -0.06709 - 2.41386I$ $b = 0.722830 + 0.128559I$	$0.83609 - 2.95728I$	$2.05488 + 2.48382I$
$u = -0.15820 + 1.45065I$ $a = -0.450304 - 0.080083I$ $b = -0.404070 + 0.012297I$	$0.930752 - 0.132997I$	0
$u = -0.15820 - 1.45065I$ $a = -0.450304 + 0.080083I$ $b = -0.404070 - 0.012297I$	$0.930752 + 0.132997I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428156 + 0.327496I$ $a = -0.612085 + 0.560726I$ $b = 0.295741 + 0.382777I$	$-1.06079 - 0.97162I$	$-8.61633 + 4.50314I$
$u = 0.428156 - 0.327496I$ $a = -0.612085 - 0.560726I$ $b = 0.295741 - 0.382777I$	$-1.06079 + 0.97162I$	$-8.61633 - 4.50314I$
$u = -0.18507 + 1.46627I$ $a = 0.655388 - 0.345780I$ $b = -0.118447 + 0.592915I$	$-3.46897 + 3.73526I$	0
$u = -0.18507 - 1.46627I$ $a = 0.655388 + 0.345780I$ $b = -0.118447 - 0.592915I$	$-3.46897 - 3.73526I$	0
$u = 0.05370 + 1.49908I$ $a = -0.14350 - 1.41174I$ $b = -0.00296 + 2.42243I$	$4.96940 - 2.28253I$	0
$u = 0.05370 - 1.49908I$ $a = -0.14350 + 1.41174I$ $b = -0.00296 - 2.42243I$	$4.96940 + 2.28253I$	0
$u = 0.15725 + 1.49987I$ $a = -0.65467 + 1.57198I$ $b = 0.74161 - 2.63774I$	$2.44139 - 0.75267I$	0
$u = 0.15725 - 1.49987I$ $a = -0.65467 - 1.57198I$ $b = 0.74161 + 2.63774I$	$2.44139 + 0.75267I$	0
$u = -0.14789 + 1.51967I$ $a = 0.656348 + 0.939409I$ $b = -2.08556 - 2.34113I$	$4.99954 + 1.64526I$	0
$u = -0.14789 - 1.51967I$ $a = 0.656348 - 0.939409I$ $b = -2.08556 + 2.34113I$	$4.99954 - 1.64526I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.469622$ $a = -0.697268$ $b = 0.775181$	-1.35612	-8.05750
$u = 0.14962 + 1.53175I$ $a = 0.87869 - 1.19452I$ $b = -1.26558 + 2.21528I$	$5.81104 - 4.23431I$	0
$u = 0.14962 - 1.53175I$ $a = 0.87869 + 1.19452I$ $b = -1.26558 - 2.21528I$	$5.81104 + 4.23431I$	0
$u = -0.15800 + 1.53365I$ $a = -0.51423 - 1.48179I$ $b = 1.52086 + 3.41056I$	$5.35249 + 7.09171I$	0
$u = -0.15800 - 1.53365I$ $a = -0.51423 + 1.48179I$ $b = 1.52086 - 3.41056I$	$5.35249 - 7.09171I$	0
$u = 0.17126 + 1.53380I$ $a = -1.11733 + 1.42706I$ $b = 1.50885 - 2.72068I$	$3.09805 - 8.56408I$	0
$u = 0.17126 - 1.53380I$ $a = -1.11733 - 1.42706I$ $b = 1.50885 + 2.72068I$	$3.09805 + 8.56408I$	0
$u = -0.01975 + 1.55002I$ $a = -0.20694 - 2.05311I$ $b = -0.26388 + 4.26464I$	$7.98485 + 3.36438I$	0
$u = -0.01975 - 1.55002I$ $a = -0.20694 + 2.05311I$ $b = -0.26388 - 4.26464I$	$7.98485 - 3.36438I$	0
$u = -0.19294 + 1.54033I$ $a = -0.36571 + 1.79258I$ $b = 0.52093 - 3.50683I$	$-2.33258 + 6.50393I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.19294 - 1.54033I$ $a = -0.36571 - 1.79258I$ $b = 0.52093 + 3.50683I$	$-2.33258 - 6.50393I$	0
$u = 0.00388 + 1.56191I$ $a = 0.52275 + 1.90663I$ $b = -0.60338 - 3.96485I$	$9.37638 - 1.46035I$	0
$u = 0.00388 - 1.56191I$ $a = 0.52275 - 1.90663I$ $b = -0.60338 + 3.96485I$	$9.37638 + 1.46035I$	0
$u = -0.18383 + 1.55341I$ $a = 0.13863 - 2.08558I$ $b = -0.25324 + 4.29249I$	$2.61159 + 9.94268I$	0
$u = -0.18383 - 1.55341I$ $a = 0.13863 + 2.08558I$ $b = -0.25324 - 4.29249I$	$2.61159 - 9.94268I$	0
$u = 0.12365 + 1.56577I$ $a = 1.021460 - 0.318953I$ $b = -1.83865 + 0.74033I$	$6.94313 - 4.18276I$	0
$u = 0.12365 - 1.56577I$ $a = 1.021460 + 0.318953I$ $b = -1.83865 - 0.74033I$	$6.94313 + 4.18276I$	0
$u = -0.18940 + 1.56024I$ $a = -0.27066 + 2.24261I$ $b = 0.65587 - 4.53549I$	$-0.0544 + 15.2383I$	0
$u = -0.18940 - 1.56024I$ $a = -0.27066 - 2.24261I$ $b = 0.65587 + 4.53549I$	$-0.0544 - 15.2383I$	0
$u = 0.04522 + 1.58797I$ $a = 1.07752 + 1.49008I$ $b = -2.06927 - 3.07631I$	$8.80796 - 3.21781I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.04522 - 1.58797I$ $a = 1.07752 - 1.49008I$ $b = -2.06927 + 3.07631I$	$8.80796 + 3.21781I$	0
$u = 0.09898 + 1.59218I$ $a = -1.39381 - 0.49922I$ $b = 2.77842 + 0.83797I$	$5.57971 - 0.94650I$	0
$u = 0.09898 - 1.59218I$ $a = -1.39381 + 0.49922I$ $b = 2.77842 - 0.83797I$	$5.57971 + 0.94650I$	0
$u = 0.05588 + 1.60746I$ $a = -1.45261 - 1.41156I$ $b = 2.97258 + 2.91807I$	$6.68062 - 7.81052I$	0
$u = 0.05588 - 1.60746I$ $a = -1.45261 + 1.41156I$ $b = 2.97258 - 2.91807I$	$6.68062 + 7.81052I$	0
$u = -0.208116 + 0.135285I$ $a = -0.62579 + 2.30791I$ $b = 0.289369 + 0.569805I$	$-0.31712 - 1.73087I$	$-2.80212 + 4.71364I$
$u = -0.208116 - 0.135285I$ $a = -0.62579 - 2.30791I$ $b = 0.289369 - 0.569805I$	$-0.31712 + 1.73087I$	$-2.80212 - 4.71364I$

II.

$\boldsymbol{I_2^u = \langle -u^2a + b,\ -u^3a + u^3 + a^2 - 2au - u^2 + 3u - 2,\ u^4 - u^3 + 3u^2 - 2u + 1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^3a + 5u^2a + 3u^3 - 7au - 3u^2 + 5a + 9u - 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.395123 + 0.506844I$ $a = -0.696993 + 1.034520I$ $b = -0.344123 - 0.383415I$	$-0.21101 - 3.44499I$	$-4.65255 + 7.52635I$
$u = 0.395123 + 0.506844I$ $a = 1.244420 + 0.086354I$ $b = -0.159985 + 0.489727I$	$-0.211005 + 0.614778I$	$-1.64912 + 1.57080I$
$u = 0.395123 - 0.506844I$ $a = -0.696993 - 1.034520I$ $b = -0.344123 + 0.383415I$	$-0.21101 + 3.44499I$	$-4.65255 - 7.52635I$
$u = 0.395123 - 0.506844I$ $a = 1.244420 - 0.086354I$ $b = -0.159985 - 0.489727I$	$-0.211005 - 0.614778I$	$-1.64912 - 1.57080I$
$u = 0.10488 + 1.55249I$ $a = -0.780901 + 0.181257I$ $b = 1.81454 - 0.68917I$	$6.79074 - 1.13408I$	$1.80063 - 0.49697I$
$u = 0.10488 + 1.55249I$ $a = 0.233478 - 0.766909I$ $b = -0.31043 + 1.91602I$	$6.79074 - 5.19385I$	$-1.99896 + 6.53786I$
$u = 0.10488 - 1.55249I$ $a = -0.780901 - 0.181257I$ $b = 1.81454 + 0.68917I$	$6.79074 + 1.13408I$	$1.80063 + 0.49697I$
$u = 0.10488 - 1.55249I$ $a = 0.233478 + 0.766909I$ $b = -0.31043 - 1.91602I$	$6.79074 + 5.19385I$	$-1.99896 - 6.53786I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^4)(u^{77}+39u^{76}+\cdots-5u-1)$
c_2	$((u^2+u+1)^4)(u^{77}+5u^{76}+\cdots+5u+1)$
c_3	$((u^2-u+1)^4)(u^{77}-5u^{76}+\cdots+1267u+593)$
c_4, c_8	$u^8(u^{77}-u^{76}+\cdots+128u+256)$
c_5	$((u^2-u+1)^4)(u^{77}+5u^{76}+\cdots+5u+1)$
c_6, c_7	$((u^4-u^3+3u^2-2u+1)^2)(u^{77}-3u^{76}+\cdots-5u+1)$
c_9	$((u^4-u^3+u^2+1)^2)(u^{77}+13u^{76}+\cdots+6101u+563)$
c_{10}, c_{11}	$((u^4+u^3+3u^2+2u+1)^2)(u^{77}-3u^{76}+\cdots-5u+1)$
c_{12}	$((u^4+u^3+u^2+1)^2)(u^{77}+13u^{76}+\cdots+6101u+563)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^4)(y^{77}+3y^{76}+\cdots+31y-1)$
c_2, c_5	$((y^2+y+1)^4)(y^{77}+39y^{76}+\cdots-5y-1)$
c_3	$((y^2+y+1)^4)(y^{77}-33y^{76}+\cdots-96621y-351649)$
c_4, c_8	$y^8(y^{77}-45y^{76}+\cdots+770048y-65536)$
c_6, c_7, c_{10} c_{11}	$((y^4+5y^3+7y^2+2y+1)^2)(y^{77}+85y^{76}+\cdots-y-1)$
c_9, c_{12}	$((y^4+y^3+3y^2+2y+1)^2)(y^{77}+53y^{76}+\cdots-2.94516\times 10^7y-316969)$