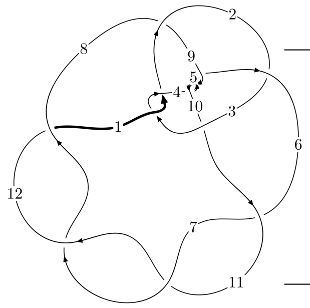
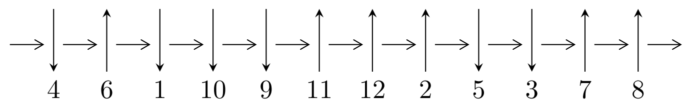
$12a_{1015}$ ($K12a_{1015}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 6.55158 \times 10^{71} u^{69} - 2.48630 \times 10^{71} u^{68} + \cdots + 4.14466 \times 10^{73} b + 4.49840 \times 10^{73},$$
$$- 5.30555 \times 10^{74} u^{69} - 8.22334 \times 10^{74} u^{68} + \cdots + 4.55913 \times 10^{74} a + 1.52184 \times 10^{74},\ u^{70} + 2u^{69} + \cdots - 2u -$$
$$I_2^u = \langle b + 1,\ 6u^4 - u^3 + 4u^2 + 11a - 6u + 2,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 75 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.

$$I_1^u = \langle 6.55\times10^{71}u^{69} - 2.49\times10^{71}u^{68} + \cdots + 4.14\times10^{73}b + 4.50\times10^{73},\ -5.31\times10^{74}u^{69} - 8.22\times10^{74}u^{68} + \cdots + 4.56\times10^{74}a + 1.52\times10^{74},\ u^{70} + 2u^{69} + \cdots - 2u - 1\rangle$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1.16372u^{69} + 1.80371u^{68} + \cdots - 12.1418u - 0.333801 \\ -0.0158073u^{69} + 0.00599879u^{68} + \cdots + 0.128028u - 1.08535 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.14791u^{69} + 1.80971u^{68} + \cdots - 12.0137u - 1.41915 \\ -0.0158073u^{69} + 0.00599879u^{68} + \cdots + 0.128028u - 1.08535 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.16769u^{69} + 1.80098u^{68} + \cdots - 12.0610u - 0.269803 \\ 0.0108796u^{69} + 0.0526221u^{68} + \cdots + 0.0867825u - 1.10387 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.23789u^{69} + 2.97447u^{68} + \cdots - 8.93000u - 7.95394 \\ -0.537189u^{69} - 1.02248u^{68} + \cdots + 3.28194u + 1.05622 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.232208u^{69} - 0.851321u^{68} + \cdots - 2.00060u + 4.73175 \\ 0.525839u^{69} + 0.960044u^{68} + \cdots - 1.03476u - 0.695269 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.12189u^{69} + 2.81589u^{68} + \cdots - 3.33901u - 8.52558 \\ -0.674930u^{69} - 1.33241u^{68} + \cdots + 3.69661u + 1.16196 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.19605u^{69} + 2.08859u^{68} + \cdots - 8.12152u - 5.32037 \\ -0.265234u^{69} - 0.371359u^{68} + \cdots + 1.22176u - 0.304010 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.38477u^{69} + 8.26850u^{68} + \cdots - 26.9142u - 8.59413$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{70} - 6u^{69} + \cdots + 1478u - 121$
c_2	$u^{70} - 5u^{69} + \cdots - 29568u + 3872$
c_4, c_5, c_9	$u^{70} + 2u^{69} + \cdots - 2u - 1$
c_6, c_7, c_{11} c_{12}	$u^{70} + 2u^{69} + \cdots - 2u + 1$
c_8	$11(11u^{70} - 25u^{69} + \cdots - 132109u - 43949)$
c_{10}	$11(11u^{70} - 8u^{69} + \cdots + 29588u + 17257)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{70} - 34y^{69} + \cdots - 90458y + 14641$
c_2	$y^{70} - 33y^{69} + \cdots - 229160448y + 14992384$
c_4, c_5, c_9	$y^{70} + 66y^{69} + \cdots - 4y + 1$
c_6, c_7, c_{11} c_{12}	$y^{70} - 82y^{69} + \cdots - 4y + 1$
c_8	$121(121y^{70} - 3045y^{69} + \cdots - 4.12871 \times 10^{10}y + 1.93151 \times 10^{9})$
c_{10}	$121(121y^{70} + 4358y^{69} + \cdots + 3.69634 \times 10^{9}y + 2.97804 \times 10^{8})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.686400 + 0.713366I$ $a = -0.053948 - 0.210944I$ $b = 0.951229 - 0.454660I$	$0.87667 + 3.35580I$	0
$u = 0.686400 - 0.713366I$ $a = -0.053948 + 0.210944I$ $b = 0.951229 + 0.454660I$	$0.87667 - 3.35580I$	0
$u = -0.713932 + 0.648184I$ $a = -0.188351 + 0.239557I$ $b = 1.094430 + 0.592356I$	$8.96389 - 6.20258I$	0
$u = -0.713932 - 0.648184I$ $a = -0.188351 - 0.239557I$ $b = 1.094430 - 0.592356I$	$8.96389 + 6.20258I$	0
$u = -0.597225 + 0.868784I$ $a = 0.131337 + 0.213010I$ $b = 0.779698 + 0.239595I$	$-0.594033 + 1.028690I$	0
$u = -0.597225 - 0.868784I$ $a = 0.131337 - 0.213010I$ $b = 0.779698 - 0.239595I$	$-0.594033 - 1.028690I$	0
$u = -0.844565 + 0.393225I$ $a = 0.756345 + 0.697914I$ $b = 1.027460 - 0.439585I$	$-1.98877 + 4.08537I$	$0. - 6.03382I$
$u = -0.844565 - 0.393225I$ $a = 0.756345 - 0.697914I$ $b = 1.027460 + 0.439585I$	$-1.98877 - 4.08537I$	$0. + 6.03382I$
$u = 0.816696 + 0.440810I$ $a = 0.730245 - 0.900336I$ $b = 1.155090 + 0.559766I$	$0.05014 - 8.48498I$	$0. + 9.02977I$
$u = 0.816696 - 0.440810I$ $a = 0.730245 + 0.900336I$ $b = 1.155090 - 0.559766I$	$0.05014 + 8.48498I$	$0. - 9.02977I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.797710 + 0.463395I$ $a = 0.733935 + 1.050130I$ $b = 1.238960 - 0.666041I$	$8.39434 + 11.28920I$	$0. - 7.45273I$
$u = -0.797710 - 0.463395I$ $a = 0.733935 - 1.050130I$ $b = 1.238960 + 0.666041I$	$8.39434 - 11.28920I$	$0. + 7.45273I$
$u = 0.794883 + 0.243299I$ $a = 0.990789 - 0.382417I$ $b = 0.722317 + 0.329197I$	$1.74452 - 0.22556I$	$6.21604 + 2.91678I$
$u = 0.794883 - 0.243299I$ $a = 0.990789 + 0.382417I$ $b = 0.722317 - 0.329197I$	$1.74452 + 0.22556I$	$6.21604 - 2.91678I$
$u = -0.578794 + 0.475444I$ $a = -0.214985 - 0.392745I$ $b = 0.298756 + 1.109540I$	$11.29930 + 5.03905I$	$6.42974 - 5.21383I$
$u = -0.578794 - 0.475444I$ $a = -0.214985 + 0.392745I$ $b = 0.298756 - 1.109540I$	$11.29930 - 5.03905I$	$6.42974 + 5.21383I$
$u = -0.077426 + 1.268050I$ $a = 1.26161 - 1.02736I$ $b = -1.67281 + 0.43951I$	$7.81603 + 2.12622I$	0
$u = -0.077426 - 1.268050I$ $a = 1.26161 + 1.02736I$ $b = -1.67281 - 0.43951I$	$7.81603 - 2.12622I$	0
$u = -0.631247 + 0.350474I$ $a = 1.50034 + 0.57008I$ $b = 0.428001 - 0.725712I$	$10.93100 - 1.15018I$	$6.37418 - 2.37950I$
$u = -0.631247 - 0.350474I$ $a = 1.50034 - 0.57008I$ $b = 0.428001 + 0.725712I$	$10.93100 + 1.15018I$	$6.37418 + 2.37950I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.514246 + 1.178650I$ $a = 0.234389 - 0.422329I$ $b = 0.777133 + 0.038992I$	$4.70260 - 4.51481I$	0
$u = 0.514246 - 1.178650I$ $a = 0.234389 + 0.422329I$ $b = 0.777133 - 0.038992I$	$4.70260 + 4.51481I$	0
$u = 0.514025 + 0.489099I$ $a = -0.032586 + 0.387308I$ $b = 0.207073 - 0.842044I$	$2.79286 - 3.41411I$	$6.06553 + 7.18074I$
$u = 0.514025 - 0.489099I$ $a = -0.032586 - 0.387308I$ $b = 0.207073 + 0.842044I$	$2.79286 + 3.41411I$	$6.06553 - 7.18074I$
$u = 0.027572 + 1.293330I$ $a = 0.713439 + 0.469428I$ $b = -1.50053 - 0.15574I$	$1.11976 - 1.25245I$	0
$u = 0.027572 - 1.293330I$ $a = 0.713439 - 0.469428I$ $b = -1.50053 + 0.15574I$	$1.11976 + 1.25245I$	0
$u = 0.094528 + 1.350430I$ $a = 0.61333 + 1.65329I$ $b = -1.103700 - 0.576201I$	$2.07680 - 1.88125I$	0
$u = 0.094528 - 1.350430I$ $a = 0.61333 - 1.65329I$ $b = -1.103700 + 0.576201I$	$2.07680 + 1.88125I$	0
$u = -0.133575 + 1.362630I$ $a = 0.64422 - 1.85435I$ $b = -0.974789 + 0.908157I$	$3.26167 + 4.51191I$	0
$u = -0.133575 - 1.362630I$ $a = 0.64422 + 1.85435I$ $b = -0.974789 - 0.908157I$	$3.26167 - 4.51191I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.161960 + 1.367850I$ $a = 0.56308 + 2.05596I$ $b = -0.91957 - 1.18906I$	$10.78790 - 5.95071I$	0
$u = 0.161960 - 1.367850I$ $a = 0.56308 - 2.05596I$ $b = -0.91957 + 1.18906I$	$10.78790 + 5.95071I$	0
$u = -0.057325 + 1.397340I$ $a = 0.79387 - 2.50536I$ $b = -0.854433 + 0.178775I$	$4.63360 + 0.45945I$	0
$u = -0.057325 - 1.397340I$ $a = 0.79387 + 2.50536I$ $b = -0.854433 - 0.178775I$	$4.63360 - 0.45945I$	0
$u = 0.05431 + 1.42323I$ $a = 2.44209 + 2.39720I$ $b = -0.772974 + 0.037973I$	$12.68320 + 0.08405I$	0
$u = 0.05431 - 1.42323I$ $a = 2.44209 - 2.39720I$ $b = -0.772974 - 0.037973I$	$12.68320 - 0.08405I$	0
$u = 0.575705$ $a = 1.22607$ $b = 0.312657$	1.70984	5.97300
$u = 0.522828 + 0.213932I$ $a = -0.301618 + 0.925186I$ $b = -1.078510 - 0.834623I$	$5.80188 - 3.48693I$	$0.21256 + 6.26702I$
$u = 0.522828 - 0.213932I$ $a = -0.301618 - 0.925186I$ $b = -1.078510 + 0.834623I$	$5.80188 + 3.48693I$	$0.21256 - 6.26702I$
$u = -0.27390 + 1.43660I$ $a = 0.53012 + 1.40501I$ $b = 0.798447 - 0.686186I$	$16.5894 + 2.2326I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.27390 - 1.43660I$ $a = 0.53012 - 1.40501I$ $b = 0.798447 + 0.686186I$	$16.5894 - 2.2326I$	0
$u = -0.296415 + 0.442080I$ $a = 0.505486 - 0.384301I$ $b = 0.011825 + 0.286358I$	$0.074574 + 0.954323I$	$1.69242 - 6.62051I$
$u = -0.296415 - 0.442080I$ $a = 0.505486 + 0.384301I$ $b = 0.011825 - 0.286358I$	$0.074574 - 0.954323I$	$1.69242 + 6.62051I$
$u = -0.516350$ $a = -0.747230$ $b = -1.59427$	4.13003	-2.66790
$u = 0.31116 + 1.45838I$ $a = 0.165497 - 1.346330I$ $b = 0.987560 + 0.582127I$	$7.32955 - 4.26678I$	0
$u = 0.31116 - 1.45838I$ $a = 0.165497 + 1.346330I$ $b = 0.987560 - 0.582127I$	$7.32955 + 4.26678I$	0
$u = 0.18529 + 1.48231I$ $a = -0.56128 + 1.40862I$ $b = 0.350564 - 1.174690I$	$9.18672 - 6.01404I$	0
$u = 0.18529 - 1.48231I$ $a = -0.56128 - 1.40862I$ $b = 0.350564 + 1.174690I$	$9.18672 + 6.01404I$	0
$u = -0.20329 + 1.48122I$ $a = -0.76720 - 1.54412I$ $b = 0.44380 + 1.35657I$	$17.6404 + 7.9075I$	0
$u = -0.20329 - 1.48122I$ $a = -0.76720 + 1.54412I$ $b = 0.44380 - 1.35657I$	$17.6404 - 7.9075I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.465530+0.181096I$ $a=-0.482595-1.101610I$ $b=-1.074710+0.528711I$	$-1.59167+2.36731I$	$-3.11903-9.00869I$
$u=-0.465530-0.181096I$ $a=-0.482595+1.101610I$ $b=-1.074710-0.528711I$	$-1.59167-2.36731I$	$-3.11903+9.00869I$
$u=-0.15387+1.49344I$ $a=-0.313268-1.110630I$ $b=\ \ 0.304389+0.861897I$	$6.62342+2.84491I$	0
$u=-0.15387-1.49344I$ $a=-0.313268+1.110630I$ $b=\ \ 0.304389-0.861897I$	$6.62342-2.84491I$	0
$u=-0.31045+1.49001I$ $a=-0.09717+1.48789I$ $b=\ \ 1.160460-0.608170I$	$4.10310+8.26194I$	0
$u=-0.31045-1.49001I$ $a=-0.09717-1.48789I$ $b=\ \ 1.160460+0.608170I$	$4.10310-8.26194I$	0
$u=\ \ 0.212174+0.423840I$ $a=\ \ 3.71972+1.14676I$ $b=-1.020370+0.337236I$	$6.92279+1.01855I$	$7.26660+6.17697I$
$u=\ \ 0.212174-0.423840I$ $a=\ \ 3.71972-1.14676I$ $b=-1.020370-0.337236I$	$6.92279-1.01855I$	$7.26660-6.17697I$
$u=\ \ 0.29881+1.50168I$ $a=-0.19283-1.67138I$ $b=\ \ 1.25053+0.69071I$	$6.33511-12.54100I$	0
$u=\ \ 0.29881-1.50168I$ $a=-0.19283+1.67138I$ $b=\ \ 1.25053-0.69071I$	$6.33511+12.54100I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.29039 + 1.50769I$ $a = -0.24071 + 1.82752I$ $b = 1.30886 - 0.76850I$	$14.7792 + 15.2576I$	0
$u = -0.29039 - 1.50769I$ $a = -0.24071 - 1.82752I$ $b = 1.30886 + 0.76850I$	$14.7792 - 15.2576I$	0
$u = 0.15367 + 1.54248I$ $a = -0.510964 + 0.695006I$ $b = 0.606981 - 0.660450I$	$8.47071 + 0.57802I$	0
$u = 0.15367 - 1.54248I$ $a = -0.510964 - 0.695006I$ $b = 0.606981 + 0.660450I$	$8.47071 - 0.57802I$	0
$u = -0.18664 + 1.56544I$ $a = -0.799854 - 0.540948I$ $b = 0.866770 + 0.671583I$	$16.3833 - 2.9707I$	0
$u = -0.18664 - 1.56544I$ $a = -0.799854 + 0.540948I$ $b = 0.866770 - 0.671583I$	$16.3833 + 2.9707I$	0
$u = 0.410685 + 0.072099I$ $a = -1.48188 + 0.86518I$ $b = -1.199220 - 0.163900I$	$-2.39243 - 0.16622I$	$-6.14498 - 3.46672I$
$u = 0.410685 - 0.072099I$ $a = -1.48188 - 0.86518I$ $b = -1.199220 + 0.163900I$	$-2.39243 + 0.16622I$	$-6.14498 + 3.46672I$
$u = -0.176628 + 0.303504I$ $a = 4.01544 - 3.09185I$ $b = -0.957887 - 0.108785I$	$-0.643301 - 0.452052I$	$0.8141 - 14.9412I$
$u = -0.176628 - 0.303504I$ $a = 4.01544 + 3.09185I$ $b = -0.957887 + 0.108785I$	$-0.643301 + 0.452052I$	$0.8141 + 14.9412I$

II. $\boldsymbol{I_2^u = \langle b+1,\ 6u^4 - u^3 + 4u^2 + 11a - 6u + 2,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.545455u^4 + 0.0909091u^3 + \cdots + 0.545455u - 0.181818 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.545455u^4 + 0.0909091u^3 + \cdots + 0.545455u - 1.18182 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.545455u^4 + 0.0909091u^3 + \cdots + 0.545455u - 0.181818 \\ -1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.280992u^4 - 0.0165289u^3 + \cdots + 0.0826446u + 0.487603 \\ 0.636364u^4 + 0.727273u^3 + \cdots + 1.36364u + 0.545455 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.157025u^4 + 0.0495868u^3 + \cdots - 0.247934u + 1.53719 \\ 0.0909091u^4 - 0.181818u^3 + \cdots - 0.0909091u + 0.363636 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.0991736u^4 - 0.347107u^3 + \cdots + 0.735537u + 0.239669 \\ 0.363636u^4 + 1.27273u^3 + \cdots + 1.63636u + 0.454545 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1.24793u^4 + 0.132231u^3 + \cdots + 0.338843u - 0.900826 \\ -1.09091u^4 - 0.818182u^3 + \cdots + 0.0909091u - 1.36364 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{4}{121}u^4 + \frac{349}{121}u^3 + \frac{441}{121}u^2 + \frac{554}{121}u - \frac{71}{121}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^5$
c_2	u^5
c_3	$(u+1)^5$
c_4, c_5	$u^5+u^4+2u^3+u^2+u+1$
c_6, c_7	$u^5-u^4-2u^3+u^2+u+1$
c_8	$11(11u^5-2u^4+6u^3+u^2+1)$
c_9	$u^5-u^4+2u^3-u^2+u-1$
c_{10}	$11(11u^5+13u^4-3u^2+u+1)$
c_{11}, c_{12}	$u^5+u^4-2u^3-u^2+u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y-1)^5$
c_2	y^5
c_4, c_5, c_9	$y^5+3y^4+4y^3+y^2-y-1$
c_6, c_7, c_{11} c_{12}	$y^5-5y^4+8y^3-3y^2-y-1$
c_8	$121(121y^5+128y^4+40y^3+3y^2-2y-1)$
c_{10}	$121(121y^5-169y^4+100y^3-35y^2+7y-1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.339110 + 0.822375I$ $a = \ \ 0.146090 + 0.562510I$ $b = -1.00000$	$-1.31583 - 1.53058I$	$-2.95202 + 5.03288I$
$u = \ \ 0.339110 - 0.822375I$ $a = \ \ 0.146090 - 0.562510I$ $b = -1.00000$	$-1.31583 + 1.53058I$	$-2.95202 - 5.03288I$
$u = -0.766826$ $a = -1.04351$ $b = -1.00000$	0.756147	-3.26660
$u = -0.455697 + 1.200150I$ $a = \ \ 0.012026 - 0.507727I$ $b = -1.00000$	$4.22763 + 4.40083I$	$-1.77007 - 1.41023I$
$u = -0.455697 - 1.200150I$ $a = \ \ 0.012026 + 0.507727I$ $b = -1.00000$	$4.22763 - 4.40083I$	$-1.77007 + 1.41023I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^5)(u^{70}-6u^{69}+\cdots+1478u-121)$
c_2	$u^5(u^{70}-5u^{69}+\cdots-29568u+3872)$
c_3	$((u+1)^5)(u^{70}-6u^{69}+\cdots+1478u-121)$
c_4, c_5	$(u^5+u^4+2u^3+u^2+u+1)(u^{70}+2u^{69}+\cdots-2u-1)$
c_6, c_7	$(u^5-u^4-2u^3+u^2+u+1)(u^{70}+2u^{69}+\cdots-2u+1)$
c_8	$121(11u^5-2u^4+6u^3+u^2+1)$ $\cdot(11u^{70}-25u^{69}+\cdots-132109u-43949)$
c_9	$(u^5-u^4+2u^3-u^2+u-1)(u^{70}+2u^{69}+\cdots-2u-1)$
c_{10}	$121(11u^5+13u^4-3u^2+u+1)$ $\cdot(11u^{70}-8u^{69}+\cdots+29588u+17257)$
c_{11}, c_{12}	$(u^5+u^4-2u^3-u^2+u-1)(u^{70}+2u^{69}+\cdots-2u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3	$((y-1)^5)(y^{70} - 34y^{69} + \cdots - 90458y + 14641)$
c_2	$y^5(y^{70} - 33y^{69} + \cdots - 2.29160 \times 10^8 y + 1.49924 \times 10^7)$
c_4, c_5, c_9	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)(y^{70} + 66y^{69} + \cdots - 4y + 1)$
c_6, c_7, c_{11} c_{12}	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)(y^{70} - 82y^{69} + \cdots - 4y + 1)$
c_8	$14641(121y^5 + 128y^4 + 40y^3 + 3y^2 - 2y - 1)$ $\cdot (121y^{70} - 3045y^{69} + \cdots - 41287121663y + 1931514601)$
c_{10}	$14641(121y^5 - 169y^4 + 100y^3 - 35y^2 + 7y - 1)$ $\cdot (121y^{70} + 4358y^{69} + \cdots + 3696343724y + 297804049)$