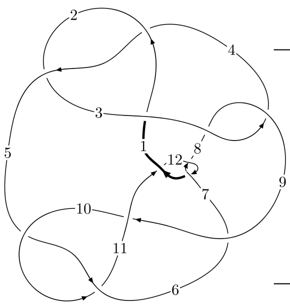
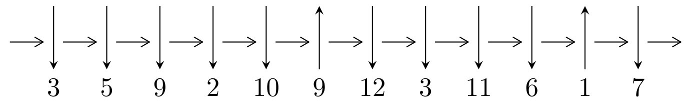
$12n_{0183}$ $(K12n_{0183})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.20523 \times 10^{32} u^{62} - 1.33633 \times 10^{32} u^{61} + \cdots + 4.02644 \times 10^{32} b + 1.46507 \times 10^{32},$$
$$1.44947 \times 10^{32} u^{62} - 4.60820 \times 10^{30} u^{61} + \cdots + 1.34215 \times 10^{32} a - 2.19191 \times 10^{32},\ u^{63} + 2u^{62} + \cdots + 4u + 1$$
$$I_2^u = \langle b + 1,\ 2u^8 + u^7 - 5u^6 - 3u^5 + 4u^4 + 3u^3 + 2u^2 + a - 2,\ u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 72 representations.

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[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.

$\boldsymbol{I_1^u = \langle -1.21\times 10^{32}u^{62} - 1.34\times 10^{32}u^{61} + \cdots + 4.03\times 10^{32}b + 1.47\times 10^{32},\ 1.45\times 10^{32}u^{62} - 4.61\times 10^{30}u^{61} + \cdots + 1.34\times 10^{32}a - 2.19\times 10^{32},\ u^{63} + 2u^{62} + \cdots + 4u + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -1.07996u^{62} + 0.0343346u^{61} + \cdots - 1.91121u + 1.63313 \\ 0.299329u^{62} + 0.331888u^{61} + \cdots + 1.56778u - 0.363863 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.780635u^{62} + 0.366222u^{61} + \cdots - 0.343427u + 1.26927 \\ 0.299329u^{62} + 0.331888u^{61} + \cdots + 1.56778u - 0.363863 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.498188u^{62} + 0.716504u^{61} + \cdots + 2.18592u - 0.0731899 \\ 0.197906u^{62} + 0.176045u^{61} + \cdots + 1.05588u + 0.392848 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -1.09042u^{62} - 0.00217631u^{61} + \cdots - 1.99896u + 1.59173 \\ 0.208603u^{62} + 0.265857u^{61} + \cdots + 1.12023u - 0.513655 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^8 - 2u^6 + 2u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.153458u^{62} + 0.0698033u^{61} + \cdots + 2.02811u - 0.0419731 \\ 0.369503u^{62} + 0.349046u^{61} + \cdots + 2.10549u + 0.618121 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.445304u^{62} - 0.752007u^{61} + \cdots - 4.41211u - 0.301292 \\ 0.301712u^{62} + 0.446342u^{61} + \cdots + 1.60552u + 0.343270 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 20.7017u^{62} + 25.9299u^{61} + \cdots + 68.1832u + 9.80994$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{63} + 20u^{62} + \cdots - 54u + 1$
c_2, c_4	$u^{63} - 10u^{62} + \cdots - 6u + 1$
c_3, c_8	$u^{63} + u^{62} + \cdots + 5632u + 512$
c_5, c_{10}	$u^{63} + 2u^{62} + \cdots + 4u + 1$
c_6	$u^{63} + 6u^{62} + \cdots + 1272u + 117$
c_7, c_{12}	$u^{63} + 2u^{62} + \cdots + 4u + 1$
c_9	$u^{63} + 28u^{62} + \cdots + 6u + 1$
c_{11}	$u^{63} - 36u^{62} + \cdots + 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{63} + 56y^{62} + \cdots + 398y - 1$
c_2, c_4	$y^{63} - 20y^{62} + \cdots - 54y - 1$
c_3, c_8	$y^{63} + 57y^{62} + \cdots + 10485760y - 262144$
c_5, c_{10}	$y^{63} - 28y^{62} + \cdots + 6y - 1$
c_6	$y^{63} - 4y^{62} + \cdots + 236682y - 13689$
c_7, c_{12}	$y^{63} + 36y^{62} + \cdots + 6y - 1$
c_9	$y^{63} + 16y^{62} + \cdots - 14y - 1$
c_{11}	$y^{63} - 16y^{62} + \cdots + 90y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.926110 + 0.366074I$ $a = -0.476922 + 0.252194I$ $b = -1.244610 + 0.271873I$	$-3.07412 - 1.36938I$	$-14.1533 + 4.8337I$
$u = 0.926110 - 0.366074I$ $a = -0.476922 - 0.252194I$ $b = -1.244610 - 0.271873I$	$-3.07412 + 1.36938I$	$-14.1533 - 4.8337I$
$u = -0.560970 + 0.838273I$ $a = -0.54543 + 1.39738I$ $b = 0.991983 - 0.885226I$	$8.30126 + 6.53190I$	$-3.98974 - 5.60044I$
$u = -0.560970 - 0.838273I$ $a = -0.54543 - 1.39738I$ $b = 0.991983 + 0.885226I$	$8.30126 - 6.53190I$	$-3.98974 + 5.60044I$
$u = 0.568620 + 0.802904I$ $a = -0.24496 - 1.43112I$ $b = 0.765553 + 0.905015I$	$4.93754 - 1.39094I$	$-6.19355 + 2.18855I$
$u = 0.568620 - 0.802904I$ $a = -0.24496 + 1.43112I$ $b = 0.765553 - 0.905015I$	$4.93754 + 1.39094I$	$-6.19355 - 2.18855I$
$u = -0.839102 + 0.489407I$ $a = 3.31553 + 9.53794I$ $b = -0.982885 + 0.004271I$	$0.04887 + 2.03557I$	$-112.9138 + 23.7044I$
$u = -0.839102 - 0.489407I$ $a = 3.31553 - 9.53794I$ $b = -0.982885 - 0.004271I$	$0.04887 - 2.03557I$	$-112.9138 - 23.7044I$
$u = -0.447997 + 0.861723I$ $a = -0.71326 - 1.29092I$ $b = 1.18245 + 0.86510I$	$7.62161 - 10.39330I$	$-4.76838 + 5.34490I$
$u = -0.447997 - 0.861723I$ $a = -0.71326 + 1.29092I$ $b = 1.18245 - 0.86510I$	$7.62161 + 10.39330I$	$-4.76838 - 5.34490I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.772884 + 0.566946I$ $a = 0.741522 - 0.337818I$ $b = 0.0483031 + 0.1203760I$	$1.79771 - 2.20109I$	$-2.95390 + 4.60864I$
$u = 0.772884 - 0.566946I$ $a = 0.741522 + 0.337818I$ $b = 0.0483031 - 0.1203760I$	$1.79771 + 2.20109I$	$-2.95390 - 4.60864I$
$u = -0.529043 + 0.791579I$ $a = -0.17601 + 1.78351I$ $b = 0.710973 - 1.169850I$	$9.18780 - 3.10441I$	$-2.77684 + 1.28013I$
$u = -0.529043 - 0.791579I$ $a = -0.17601 - 1.78351I$ $b = 0.710973 + 1.169850I$	$9.18780 + 3.10441I$	$-2.77684 - 1.28013I$
$u = 0.427955 + 0.848872I$ $a = -0.482691 + 1.203200I$ $b = 1.039060 - 0.804035I$	$4.08395 + 4.95084I$	$-7.20670 - 2.70270I$
$u = 0.427955 - 0.848872I$ $a = -0.482691 - 1.203200I$ $b = 1.039060 + 0.804035I$	$4.08395 - 4.95084I$	$-7.20670 + 2.70270I$
$u = -0.916546 + 0.249573I$ $a = 0.527016 - 0.043315I$ $b = -1.008620 - 0.698143I$	$-1.65763 - 1.62708I$	$-12.47188 + 3.53384I$
$u = -0.916546 - 0.249573I$ $a = 0.527016 + 0.043315I$ $b = -1.008620 + 0.698143I$	$-1.65763 + 1.62708I$	$-12.47188 - 3.53384I$
$u = 0.972660 + 0.400781I$ $a = -0.570758 + 1.097760I$ $b = -1.45853 + 0.06110I$	$-3.33869 - 1.43594I$	$-8.00000 + 0.I$
$u = 0.972660 - 0.400781I$ $a = -0.570758 - 1.097760I$ $b = -1.45853 - 0.06110I$	$-3.33869 + 1.43594I$	$-8.00000 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.439813 + 0.813829I$ $a = -0.22505 - 1.43226I$ $b = 0.872307 + 0.941914I$	$8.68256 - 0.17840I$	$-3.11591 - 0.13366I$
$u = -0.439813 - 0.813829I$ $a = -0.22505 + 1.43226I$ $b = 0.872307 - 0.941914I$	$8.68256 + 0.17840I$	$-3.11591 + 0.13366I$
$u = 0.946126 + 0.549853I$ $a = 1.30038 + 1.55435I$ $b = -0.476073 - 0.045942I$	$1.19543 - 2.08630I$	0
$u = 0.946126 - 0.549853I$ $a = 1.30038 - 1.55435I$ $b = -0.476073 + 0.045942I$	$1.19543 + 2.08630I$	0
$u = -1.003650 + 0.458888I$ $a = -0.56877 - 1.84841I$ $b = -1.42816 + 0.42370I$	$-2.91315 + 4.52729I$	0
$u = -1.003650 - 0.458888I$ $a = -0.56877 + 1.84841I$ $b = -1.42816 - 0.42370I$	$-2.91315 - 4.52729I$	0
$u = 1.111750 + 0.078744I$ $a = 0.931682 - 0.009722I$ $b = 0.606356 - 0.865246I$	$3.30246 - 1.91069I$	0
$u = 1.111750 - 0.078744I$ $a = 0.931682 + 0.009722I$ $b = 0.606356 + 0.865246I$	$3.30246 + 1.91069I$	0
$u = -0.992246 + 0.519940I$ $a = -0.33704 - 1.95730I$ $b = -0.879799 + 0.608584I$	$-1.95839 + 4.15867I$	0
$u = -0.992246 - 0.519940I$ $a = -0.33704 + 1.95730I$ $b = -0.879799 - 0.608584I$	$-1.95839 - 4.15867I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.027300 + 0.547178I$ $a = -0.62187 + 1.64598I$ $b = -0.674886 - 1.080260I$	$0.27233 - 7.55007I$	0
$u = 1.027300 - 0.547178I$ $a = -0.62187 - 1.64598I$ $b = -0.674886 + 1.080260I$	$0.27233 + 7.55007I$	0
$u = 0.105288 + 0.803613I$ $a = 0.163733 + 0.190487I$ $b = 0.635693 - 0.133199I$	$-1.46958 + 2.74391I$	$-2.52412 - 4.27240I$
$u = 0.105288 - 0.803613I$ $a = 0.163733 - 0.190487I$ $b = 0.635693 + 0.133199I$	$-1.46958 - 2.74391I$	$-2.52412 + 4.27240I$
$u = -1.190260 + 0.105981I$ $a = 0.841204 + 0.034521I$ $b = 0.922740 + 0.637535I$	$-1.51798 - 2.46440I$	0
$u = -1.190260 - 0.105981I$ $a = 0.841204 - 0.034521I$ $b = 0.922740 - 0.637535I$	$-1.51798 + 2.46440I$	0
$u = 1.205040 + 0.067480I$ $a = 0.816284 + 0.015394I$ $b = 1.112880 - 0.749697I$	$1.77097 + 7.99701I$	0
$u = 1.205040 - 0.067480I$ $a = 0.816284 - 0.015394I$ $b = 1.112880 + 0.749697I$	$1.77097 - 7.99701I$	0
$u = 1.039570 + 0.658560I$ $a = -0.914741 + 0.261872I$ $b = 0.622398 - 0.949236I$	$3.52241 - 4.08840I$	0
$u = 1.039570 - 0.658560I$ $a = -0.914741 - 0.261872I$ $b = 0.622398 + 0.949236I$	$3.52241 + 4.08840I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.059960 + 0.641966I$ $a = -1.231410 - 0.420346I$ $b = 0.637529 + 1.260300I$	$7.59858 + 8.49760I$	0
$u = -1.059960 - 0.641966I$ $a = -1.231410 + 0.420346I$ $b = 0.637529 - 1.260300I$	$7.59858 - 8.49760I$	0
$u = -1.057440 + 0.680554I$ $a = -1.002810 + 0.058966I$ $b = 0.898990 + 0.875767I$	$6.80806 - 0.88135I$	0
$u = -1.057440 - 0.680554I$ $a = -1.002810 - 0.058966I$ $b = 0.898990 - 0.875767I$	$6.80806 + 0.88135I$	0
$u = 0.568628 + 0.459189I$ $a = 1.57734 + 0.31772I$ $b = -0.253084 - 0.388928I$	$2.13125 - 2.17129I$	$-3.22626 + 3.56149I$
$u = 0.568628 - 0.459189I$ $a = 1.57734 - 0.31772I$ $b = -0.253084 + 0.388928I$	$2.13125 + 2.17129I$	$-3.22626 - 3.56149I$
$u = -1.206380 + 0.395280I$ $a = 0.870666 + 0.422612I$ $b = 0.706799 - 0.004491I$	$-5.38670 + 1.34424I$	0
$u = -1.206380 - 0.395280I$ $a = 0.870666 - 0.422612I$ $b = 0.706799 + 0.004491I$	$-5.38670 - 1.34424I$	0
$u = -1.109200 + 0.619508I$ $a = 1.24867 + 1.72679I$ $b = 0.939930 - 0.857494I$	$6.67687 + 5.54473I$	0
$u = -1.109200 - 0.619508I$ $a = 1.24867 - 1.72679I$ $b = 0.939930 + 0.857494I$	$6.67687 - 5.54473I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.452256 + 0.561618I$ $a = 1.40155 - 1.36845I$ $b = -0.506448 + 0.882679I$	$1.87503 + 3.06479I$	$-4.36652 - 4.78234I$
$u = 0.452256 - 0.561618I$ $a = 1.40155 + 1.36845I$ $b = -0.506448 - 0.882679I$	$1.87503 - 3.06479I$	$-4.36652 + 4.78234I$
$u = 1.124570 + 0.631526I$ $a = 0.93240 - 1.80350I$ $b = 1.123120 + 0.773338I$	$1.99016 - 10.45010I$	0
$u = 1.124570 - 0.631526I$ $a = 0.93240 + 1.80350I$ $b = 1.123120 - 0.773338I$	$1.99016 + 10.45010I$	0
$u = -1.120990 + 0.642900I$ $a = 0.86354 + 2.02077I$ $b = 1.24190 - 0.85165I$	$5.5911 + 15.9697I$	0
$u = -1.120990 - 0.642900I$ $a = 0.86354 - 2.02077I$ $b = 1.24190 + 0.85165I$	$5.5911 - 15.9697I$	0
$u = 1.198640 + 0.490741I$ $a = 0.872834 - 0.659332I$ $b = 0.755641 + 0.177473I$	$-4.71317 - 7.47420I$	0
$u = 1.198640 - 0.490741I$ $a = 0.872834 + 0.659332I$ $b = 0.755641 - 0.177473I$	$-4.71317 + 7.47420I$	0
$u = -0.575685 + 0.399556I$ $a = 1.31366 + 0.78416I$ $b = -0.548676 - 0.386355I$	$-0.700698 - 0.064745I$	$-10.52169 + 0.11838I$
$u = -0.575685 - 0.399556I$ $a = 1.31366 - 0.78416I$ $b = -0.548676 + 0.386355I$	$-0.700698 + 0.064745I$	$-10.52169 - 0.11838I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.505150$ $a = 1.23248$ $b = -0.339414$	-0.801265	-12.3320
$u = -0.145540 + 0.342331I$ $a = 2.27747 + 0.36324I$ $b = -1.183120 - 0.244413I$	$-1.04760 - 1.10754I$	$-6.89009 + 0.60196I$
$u = -0.145540 - 0.342331I$ $a = 2.27747 - 0.36324I$ $b = -1.183120 + 0.244413I$	$-1.04760 + 1.10754I$	$-6.89009 - 0.60196I$

II.

$$\boldsymbol{I^u_2 = \langle b+1,\ 2u^8+u^7+\cdots+a-2,\ u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1\rangle}$$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -2u^8 - u^7 + 5u^6 + 3u^5 - 4u^4 - 3u^3 - 2u^2 + 2 \\ -1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -2u^8 - u^7 + 5u^6 + 3u^5 - 4u^4 - 3u^3 - 2u^2 + 1 \\ -1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^8 - u^7 + 5u^6 + 3u^5 - 4u^4 - 3u^3 - 2u^2 + 2 \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^8 - 2u^6 + 2u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^8 - 5u^7 - 10u^6 + 8u^5 + 10u^4 - 8u^3 + 4u^2 - 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_8	u^9
c_4	$(u+1)^9$
c_5	$u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1$
c_6, c_{11}	$u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1$
c_7	$u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1$
c_9	$u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1$
c_{10}	$u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1$
c_{12}	$u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_8	y^9
c_5, c_{10}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_6, c_{11}	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_7, c_{12}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_9	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.772920+0.510351I$ $a=\ \ 1.67861+2.31573I$ $b=-1.00000$	$0.13850+2.09337I$	$0.6725-14.2088I$
$u=-0.772920-0.510351I$ $a=\ \ 1.67861-2.31573I$ $b=-1.00000$	$0.13850-2.09337I$	$0.6725+14.2088I$
$u=\ \ 0.825933$ $a=-0.871015$ $b=-1.00000$	-2.84338	-13.8440
$u=\ \ 1.173910+0.391555I$ $a=-0.893484+0.630694I$ $b=-1.00000$	$-6.01628-1.33617I$	$-18.6190+0.6500I$
$u=\ \ 1.173910-0.391555I$ $a=-0.893484-0.630694I$ $b=-1.00000$	$-6.01628+1.33617I$	$-18.6190-0.6500I$
$u=-0.141484+0.739668I$ $a=\ \ 0.309843+0.043204I$ $b=-1.00000$	$-2.26187-2.45442I$	$-11.89962+1.90984I$
$u=-0.141484-0.739668I$ $a=\ \ 0.309843-0.043204I$ $b=-1.00000$	$-2.26187+2.45442I$	$-11.89962-1.90984I$
$u=-1.172470+0.500383I$ $a=-0.659464-0.874093I$ $b=-1.00000$	$-5.24306+7.08493I$	$-15.2318-2.9321I$
$u=-1.172470-0.500383I$ $a=-0.659464+0.874093I$ $b=-1.00000$	$-5.24306-7.08493I$	$-15.2318+2.9321I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^9)(u^{63}+20u^{62}+\cdots-54u+1)$
c_2	$((u-1)^9)(u^{63}-10u^{62}+\cdots-6u+1)$
c_3, c_8	$u^9(u^{63}+u^{62}+\cdots+5632u+512)$
c_4	$((u+1)^9)(u^{63}-10u^{62}+\cdots-6u+1)$
c_5	$(u^9+u^8+\cdots-u-1)(u^{63}+2u^{62}+\cdots+4u+1)$
c_6	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{63}+6u^{62}+\cdots+1272u+117)$
c_7	$(u^9+u^8+\cdots+u-1)(u^{63}+2u^{62}+\cdots+4u+1)$
c_9	$(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{63}+28u^{62}+\cdots+6u+1)$
c_{10}	$(u^9-u^8+\cdots-u+1)(u^{63}+2u^{62}+\cdots+4u+1)$
c_{11}	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{63}-36u^{62}+\cdots+6u+1)$
c_{12}	$(u^9-u^8+\cdots+u+1)(u^{63}+2u^{62}+\cdots+4u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^9)(y^{63}+56y^{62}+\cdots+398y-1)$
c_2, c_4	$((y-1)^9)(y^{63}-20y^{62}+\cdots-54y-1)$
c_3, c_8	$y^9(y^{63}+57y^{62}+\cdots+1.04858\times10^7y-262144)$
c_5, c_{10}	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{63}-28y^{62}+\cdots+6y-1)$
c_6	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{63}-4y^{62}+\cdots+236682y-13689)$
c_7, c_{12}	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{63}+36y^{62}+\cdots+6y-1)$
c_9	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{63}+16y^{62}+\cdots-14y-1)$
c_{11}	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{63}-16y^{62}+\cdots+90y-1)$