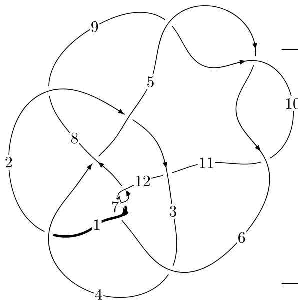
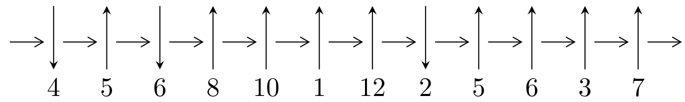
$12n_{0685}$ ($K12n_{0685}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -2.68320 \times 10^{40}u^{53} + 4.36845 \times 10^{39}u^{52} + \cdots + 1.09407 \times 10^{40}b - 1.26785 \times 10^{41},$$
$$1.64738 \times 10^{41}u^{53} - 5.57914 \times 10^{40}u^{52} + \cdots + 1.09407 \times 10^{40}a + 4.47020 \times 10^{41},\ u^{54} + 27u^{52} + \cdots + 12u +$$
$$I_2^u = \langle u^{12} + u^{11} + 6u^{10} + 5u^9 + 13u^8 + 9u^7 + 10u^6 + 5u^5 - 3u^4 - 2u^3 - 6u^2 + b - 2u,$$
$$-u^{12} - 6u^{10} - 13u^8 - 9u^6 + 6u^4 - u^3 + 9u^2 + a - 2u,$$
$$u^{15} + u^{14} + 8u^{13} + 7u^{12} + 25u^{11} + 19u^{10} + 36u^9 + 23u^8 + 17u^7 + 8u^6 - 12u^5 - 6u^4 - 12u^3 - 3u^2 + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $I_1^u = \langle -2.68 \times 10^{40}u^{53} + 4.37 \times 10^{39}u^{52} + \cdots + 1.09 \times 10^{40}b - 1.27 \times 10^{41},\ 1.65 \times 10^{41}u^{53} - 5.58 \times 10^{40}u^{52} + \cdots + 1.09 \times 10^{40}a + 4.47 \times 10^{41},\ u^{54} + 27u^{52} + \cdots + 12u + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -15.0573u^{53} + 5.09943u^{52} + \cdots - 402.388u - 40.8584 \\ 2.45249u^{53} - 0.399285u^{52} + \cdots + 88.5992u + 11.5884 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -12.6048u^{53} + 4.70015u^{52} + \cdots - 313.789u - 29.2701 \\ 2.45249u^{53} - 0.399285u^{52} + \cdots + 88.5992u + 11.5884 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.314507u^{53} - 1.02928u^{52} + \cdots + 9.85086u + 7.65563 \\ 3.56268u^{53} - 1.46466u^{52} + \cdots + 94.5090u + 11.9366 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3.24818u^{53} + 0.435380u^{52} + \cdots - 84.6581u - 4.28102 \\ 3.56268u^{53} - 1.46466u^{52} + \cdots + 94.5090u + 11.9366 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -15.6451u^{53} + 5.62013u^{52} + \cdots - 401.641u - 38.9539 \\ 2.72593u^{53} - 0.398787u^{52} + \cdots + 92.7573u + 11.9546 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -13.4990u^{53} + 5.55580u^{52} + \cdots - 340.986u - 35.3036 \\ 5.19761u^{53} - 1.33305u^{52} + \cdots + 151.350u + 17.6227 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.950637u^{53} + 0.741154u^{52} + \cdots + 8.38831u + 2.44017 \\ -3.60099u^{53} + 1.54873u^{52} + \cdots - 107.000u - 11.4663 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -8.59125u^{53} + 0.873911u^{52} + \cdots - 257.258u - 36.1424$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{54} - u^{53} + \cdots - 23705u - 2291$
c_2	$u^{54} + 4u^{53} + \cdots + 28u - 1$
c_3	$u^{54} - u^{53} + \cdots - 2159u + 239$
c_4	$u^{54} - 6u^{52} + \cdots + 22u + 1$
c_5, c_9, c_{10}	$u^{54} + u^{53} + \cdots + 11u - 1$
c_6, c_7, c_{12}	$u^{54} + 27u^{52} + \cdots + 12u + 1$
c_8	$u^{54} + u^{53} + \cdots + u + 1$
c_{11}	$u^{54} - 2u^{53} + \cdots + 36164u - 1709$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{54} - 35y^{53} + \cdots - 169277117y + 5248681$
c_2	$y^{54} + 54y^{53} + \cdots + 60y + 1$
c_3	$y^{54} - 53y^{53} + \cdots + 93385y + 57121$
c_4	$y^{54} - 12y^{53} + \cdots - 440y + 1$
c_5, c_9, c_{10}	$y^{54} - y^{53} + \cdots - 45y + 1$
c_6, c_7, c_{12}	$y^{54} + 54y^{53} + \cdots - 74y + 1$
c_8	$y^{54} - 49y^{53} + \cdots - 151y + 1$
c_{11}	$y^{54} + 62y^{53} + \cdots - 555348524y + 2920681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.727247 + 0.655546I$ $a = -1.120070 - 0.569467I$ $b = 1.45756 - 0.28228I$	$-7.16637 + 5.36550I$	$3.29115 - 2.38015I$
$u = -0.727247 - 0.655546I$ $a = -1.120070 + 0.569467I$ $b = 1.45756 + 0.28228I$	$-7.16637 - 5.36550I$	$3.29115 + 2.38015I$
$u = -0.817874 + 0.466543I$ $a = -1.01459 - 1.44161I$ $b = 1.54231 + 0.48478I$	$-6.57271 - 10.55460I$	$4.62377 + 7.07679I$
$u = -0.817874 - 0.466543I$ $a = -1.01459 + 1.44161I$ $b = 1.54231 - 0.48478I$	$-6.57271 + 10.55460I$	$4.62377 - 7.07679I$
$u = 0.658331 + 0.610282I$ $a = 0.991278 - 0.834575I$ $b = -1.55170 + 0.23948I$	$-7.17018 + 2.76260I$	$2.77811 - 3.18993I$
$u = 0.658331 - 0.610282I$ $a = 0.991278 + 0.834575I$ $b = -1.55170 - 0.23948I$	$-7.17018 - 2.76260I$	$2.77811 + 3.18993I$
$u = 0.782295 + 0.434217I$ $a = 1.34381 - 1.23021I$ $b = -1.407260 + 0.014903I$	$-6.54490 + 2.06360I$	$3.73772 - 2.56730I$
$u = 0.782295 - 0.434217I$ $a = 1.34381 + 1.23021I$ $b = -1.407260 - 0.014903I$	$-6.54490 - 2.06360I$	$3.73772 + 2.56730I$
$u = 0.873178$ $a = -0.654136$ $b = 0.754805$	1.61182	1.21940
$u = 0.600533 + 0.615475I$ $a = 0.088416 + 1.268790I$ $b = 0.943653 - 0.397797I$	$-0.31286 + 3.64145I$	$11.2572 - 9.4738I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.600533 - 0.615475I$ $a = 0.088416 - 1.268790I$ $b = 0.943653 + 0.397797I$	$-0.31286 - 3.64145I$	$11.2572 + 9.4738I$
$u = 0.110651 + 1.211630I$ $a = 0.649484 + 0.213764I$ $b = 0.742245 + 0.814719I$	$-2.38520 + 2.82306I$	0
$u = 0.110651 - 1.211630I$ $a = 0.649484 - 0.213764I$ $b = 0.742245 - 0.814719I$	$-2.38520 - 2.82306I$	0
$u = -0.142943 + 1.223340I$ $a = 0.983994 - 0.047102I$ $b = -0.904696 + 0.730444I$	$-4.86587 + 0.83794I$	0
$u = -0.142943 - 1.223340I$ $a = 0.983994 + 0.047102I$ $b = -0.904696 - 0.730444I$	$-4.86587 - 0.83794I$	0
$u = -0.722991$ $a = -1.44649$ $b = 0.416019$	5.96932	18.1570
$u = -0.591356 + 0.394727I$ $a = 1.15354 + 1.47575I$ $b = -1.372070 - 0.284950I$	$-2.42244 - 1.86344I$	$0.32896 + 2.97816I$
$u = -0.591356 - 0.394727I$ $a = 1.15354 - 1.47575I$ $b = -1.372070 + 0.284950I$	$-2.42244 + 1.86344I$	$0.32896 - 2.97816I$
$u = -0.284927 + 1.273200I$ $a = -0.610811 - 0.705027I$ $b = 0.378777 + 0.245213I$	$2.02546 - 3.64647I$	0
$u = -0.284927 - 1.273200I$ $a = -0.610811 + 0.705027I$ $b = 0.378777 - 0.245213I$	$2.02546 + 3.64647I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.425694 + 1.274300I$ $a = -0.137225 + 0.299114I$ $b = 0.804888 + 0.001080I$	$-2.34924 + 4.63206I$	0
$u = 0.425694 - 1.274300I$ $a = -0.137225 - 0.299114I$ $b = 0.804888 - 0.001080I$	$-2.34924 - 4.63206I$	0
$u = 0.079610 + 1.366620I$ $a = 0.059053 - 0.444591I$ $b = -0.069313 + 0.938702I$	$-3.77402 + 1.92762I$	0
$u = 0.079610 - 1.366620I$ $a = 0.059053 + 0.444591I$ $b = -0.069313 - 0.938702I$	$-3.77402 - 1.92762I$	0
$u = 0.630083$ $a = -0.310787$ $b = 0.798544$	1.05920	8.70240
$u = -0.027362 + 1.385500I$ $a = 0.562065 + 0.539030I$ $b = 1.62034 - 0.54932I$	$-1.87045 - 0.53073I$	0
$u = -0.027362 - 1.385500I$ $a = 0.562065 - 0.539030I$ $b = 1.62034 + 0.54932I$	$-1.87045 + 0.53073I$	0
$u = -0.057418 + 1.395130I$ $a = -1.54371 + 0.64324I$ $b = -1.136840 - 0.424786I$	$-5.83103 - 3.79502I$	0
$u = -0.057418 - 1.395130I$ $a = -1.54371 - 0.64324I$ $b = -1.136840 + 0.424786I$	$-5.83103 + 3.79502I$	0
$u = -0.16335 + 1.41281I$ $a = -0.556055 + 0.832668I$ $b = -0.72716 - 1.67965I$	$-5.98732 - 6.70530I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.16335-1.41281I$ $a=-0.556055-0.832668I$ $b=-0.72716+1.67965I$	$-5.98732+6.70530I$	0
$u=-0.493438+0.257877I$ $a=\quad 0.35961+2.32754I$ $b=-0.373419-1.315190I$	$-0.60246-4.33501I$	$8.99729+10.44789I$
$u=-0.493438-0.257877I$ $a=\quad 0.35961-2.32754I$ $b=-0.373419+1.315190I$	$-0.60246+4.33501I$	$8.99729-10.44789I$
$u=\quad 0.509006+0.161109I$ $a=-0.289495-0.461991I$ $b=\quad 0.494322+0.360163I$	$0.947117+0.129909I$	$11.27686-2.22644I$
$u=\quad 0.509006-0.161109I$ $a=-0.289495+0.461991I$ $b=\quad 0.494322-0.360163I$	$0.947117-0.129909I$	$11.27686+2.22644I$
$u=-0.22783+1.45064I$ $a=-0.329271+1.292780I$ $b=-1.72420-0.54667I$	$-8.34733-4.89875I$	0
$u=-0.22783-1.45064I$ $a=-0.329271-1.292780I$ $b=-1.72420+0.54667I$	$-8.34733+4.89875I$	0
$u=\quad 0.07299+1.48329I$ $a=\quad 0.151391+1.225570I$ $b=-0.143907-0.422731I$	$-8.28129+3.22679I$	0
$u=\quad 0.07299-1.48329I$ $a=\quad 0.151391-1.225570I$ $b=-0.143907+0.422731I$	$-8.28129-3.22679I$	0
$u=\quad 0.069990+0.509753I$ $a=\quad 1.19972+2.08736I$ $b=-0.070424+0.287433I$	$-1.81357+2.38364I$	$0.95087-1.41179I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.069990 - 0.509753I$ $a = 1.19972 - 2.08736I$ $b = -0.070424 - 0.287433I$	$-1.81357 - 2.38364I$	$0.95087 + 1.41179I$
$u = 0.29461 + 1.50032I$ $a = -0.017831 - 1.339470I$ $b = -1.42401 + 0.25866I$	$-12.8030 + 6.0112I$	0
$u = 0.29461 - 1.50032I$ $a = -0.017831 + 1.339470I$ $b = -1.42401 - 0.25866I$	$-12.8030 - 6.0112I$	0
$u = -0.30047 + 1.51505I$ $a = 0.318429 - 1.306700I$ $b = 1.68707 + 0.60140I$	$-12.9927 - 14.6415I$	0
$u = -0.30047 - 1.51505I$ $a = 0.318429 + 1.306700I$ $b = 1.68707 - 0.60140I$	$-12.9927 + 14.6415I$	0
$u = 0.20551 + 1.53545I$ $a = -0.261245 - 0.741640I$ $b = -1.86481 + 0.32365I$	$-14.2076 + 5.8827I$	0
$u = 0.20551 - 1.53545I$ $a = -0.261245 + 0.741640I$ $b = -1.86481 - 0.32365I$	$-14.2076 - 5.8827I$	0
$u = 0.22302 + 1.54513I$ $a = 0.600789 + 0.941334I$ $b = 1.199140 - 0.475695I$	$-7.40823 + 6.78161I$	0
$u = 0.22302 - 1.54513I$ $a = 0.600789 - 0.941334I$ $b = 1.199140 + 0.475695I$	$-7.40823 - 6.78161I$	0
$u = -0.20084 + 1.57551I$ $a = 0.122450 - 0.759219I$ $b = 1.53708 - 0.00469I$	$-14.6210 + 2.0031I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.20084-1.57551I$ $a=\ \ 0.122450+0.759219I$ $b=\ \ 1.53708+0.00469I$	$-14.6210-2.0031I$	0
$u=-0.320973+0.010257I$ $a=\ \ 1.47897+4.46204I$ $b=-0.824971-0.660602I$	$-1.13474-2.72736I$	$9.52970+1.05898I$
$u=-0.320973-0.010257I$ $a=\ \ 1.47897-4.46204I$ $b=-0.824971+0.660602I$	$-1.13474+2.72736I$	$9.52970-1.05898I$
$u=-0.132701$ $a=\ \ 4.04601$ $b=\ \ 1.40543$	2.79911	-5.45500

II.

$$\boldsymbol{I_2^u = \langle u^{12}+u^{11}+\cdots+b-2u,\ -u^{12}-6u^{10}+\cdots+a-2u,\ u^{15}+u^{14}+\cdots-3u^2+1\rangle}$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^{12}+6u^{10}+13u^8+9u^6-6u^4+u^3-9u^2+2u \\ -u^{12}-u^{11}+\cdots+6u^2+2u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -u^{11}-5u^9-9u^7-u^6-5u^5-3u^4+3u^3-3u^2+4u \\ -u^{12}-u^{11}+\cdots+6u^2+2u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -u^{13}-2u^{12}+\cdots+u-3 \\ -u^{13}-u^{12}+\cdots-2u-1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{12}-u^{11}+\cdots+3u-2 \\ -u^{13}-u^{12}+\cdots-2u-1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{11}-5u^9-9u^7-2u^6-6u^5-6u^4+u^3-5u^2+3u+1 \\ u^{14}+u^{13}+\cdots+4u^2+2u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^{14}-3u^{13}+\cdots+5u-3 \\ 2u^{13}+u^{12}+\cdots+u^2+1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{13}-u^{12}+\cdots+6u-2 \\ -2u^{13}-2u^{12}+\cdots-u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -7u^{13}-6u^{12}-49u^{11}-38u^{10}-130u^9-90u^8-150u^7-87u^6-39u^5-10u^4+58u^3+27u^2+31u+8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 12u^{14} + \cdots + 15u - 1$
c_2	$u^{15} + 3u^{14} + \cdots + 4u^2 - 1$
c_3	$u^{15} - 6u^{13} + \cdots + 3u - 1$
c_4	$u^{15} - u^{14} + \cdots - 6u^2 + 1$
c_5	$u^{15} - 4u^{13} + \cdots + u - 1$
c_6, c_7	$u^{15} + u^{14} + \cdots - 3u^2 + 1$
c_8	$u^{15} - 6u^{13} + \cdots - u - 1$
c_9, c_{10}	$u^{15} - 4u^{13} + \cdots + u + 1$
c_{11}	$u^{15} - u^{14} + \cdots + 4u^2 - 1$
c_{12}	$u^{15} - u^{14} + \cdots + 3u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} - 2y^{14} + \cdots + 49y - 1$
c_2	$y^{15} + 7y^{14} + \cdots + 8y - 1$
c_3	$y^{15} - 12y^{14} + \cdots + 11y - 1$
c_4	$y^{15} - 15y^{14} + \cdots + 12y - 1$
c_5, c_9, c_{10}	$y^{15} - 8y^{14} + \cdots - 3y - 1$
c_6, c_7, c_{12}	$y^{15} + 15y^{14} + \cdots + 6y - 1$
c_8	$y^{15} - 12y^{14} + \cdots + 15y - 1$
c_{11}	$y^{15} + 3y^{14} + \cdots + 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.917074$ $a = 0.317754$ $b = -0.706611$	2.01181	23.5320
$u = -0.074215 + 1.225200I$ $a = 1.37536 + 0.51706I$ $b = -0.477263 + 0.644746I$	$-4.31514 + 2.06106I$	$2.80971 - 3.49368I$
$u = -0.074215 - 1.225200I$ $a = 1.37536 - 0.51706I$ $b = -0.477263 - 0.644746I$	$-4.31514 - 2.06106I$	$2.80971 + 3.49368I$
$u = 0.738441$ $a = -1.88795$ $b = 0.822162$	5.31354	5.05140
$u = -0.391682 + 1.206530I$ $a = -0.448299 + 0.314891I$ $b = -0.633852 - 0.204044I$	$-1.63448 - 4.71343I$	$9.81376 + 7.25544I$
$u = -0.391682 - 1.206530I$ $a = -0.448299 - 0.314891I$ $b = -0.633852 + 0.204044I$	$-1.63448 + 4.71343I$	$9.81376 - 7.25544I$
$u = 0.310878 + 1.284290I$ $a = -0.579681 + 0.974594I$ $b = 0.784151 - 0.173085I$	$1.30709 + 3.78442I$	$1.00032 - 4.22940I$
$u = 0.310878 - 1.284290I$ $a = -0.579681 - 0.974594I$ $b = 0.784151 + 0.173085I$	$1.30709 - 3.78442I$	$1.00032 + 4.22940I$
$u = 0.117562 + 1.341930I$ $a = 0.493543 + 0.042097I$ $b = 1.57940 + 0.48851I$	$-1.30643 + 1.67719I$	$7.37794 - 3.24911I$
$u = 0.117562 - 1.341930I$ $a = 0.493543 - 0.042097I$ $b = 1.57940 - 0.48851I$	$-1.30643 - 1.67719I$	$7.37794 + 3.24911I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.19173+1.46876I$ $a=-0.602052+1.218750I$ $b=-1.25573-0.76427I$	$-7.60875-5.65349I$	$0.73377+5.33315I$
$u=-0.19173-1.46876I$ $a=-0.602052-1.218750I$ $b=-1.25573+0.76427I$	$-7.60875+5.65349I$	$0.73377-5.33315I$
$u=-0.356463+0.351194I$ $a=-0.23894+3.19582I$ $b=-0.810143-0.625914I$	$-1.51467-3.34740I$	$2.47459+9.57162I$
$u=-0.356463-0.351194I$ $a=-0.23894-3.19582I$ $b=-0.810143+0.625914I$	$-1.51467+3.34740I$	$2.47459-9.57162I$
$u=$ 0.349922 $a=-0.429663$ $b=$ 1.51132	3.08020	23.9960

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{15} - 12u^{14} + \cdots + 15u - 1)(u^{54} - u^{53} + \cdots - 23705u - 2291)$
c_2	$(u^{15} + 3u^{14} + \cdots + 4u^2 - 1)(u^{54} + 4u^{53} + \cdots + 28u - 1)$
c_3	$(u^{15} - 6u^{13} + \cdots + 3u - 1)(u^{54} - u^{53} + \cdots - 2159u + 239)$
c_4	$(u^{15} - u^{14} + \cdots - 6u^2 + 1)(u^{54} - 6u^{52} + \cdots + 22u + 1)$
c_5	$(u^{15} - 4u^{13} + \cdots + u - 1)(u^{54} + u^{53} + \cdots + 11u - 1)$
c_6, c_7	$(u^{15} + u^{14} + \cdots - 3u^2 + 1)(u^{54} + 27u^{52} + \cdots + 12u + 1)$
c_8	$(u^{15} - 6u^{13} + \cdots - u - 1)(u^{54} + u^{53} + \cdots + u + 1)$
c_9, c_{10}	$(u^{15} - 4u^{13} + \cdots + u + 1)(u^{54} + u^{53} + \cdots + 11u - 1)$
c_{11}	$(u^{15} - u^{14} + \cdots + 4u^2 - 1)(u^{54} - 2u^{53} + \cdots + 36164u - 1709)$
c_{12}	$(u^{15} - u^{14} + \cdots + 3u^2 - 1)(u^{54} + 27u^{52} + \cdots + 12u + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{15} - 2y^{14} + \cdots + 49y - 1)$ $\cdot (y^{54} - 35y^{53} + \cdots - 169277117y + 5248681)$
c_2	$(y^{15} + 7y^{14} + \cdots + 8y - 1)(y^{54} + 54y^{53} + \cdots + 60y + 1)$
c_3	$(y^{15} - 12y^{14} + \cdots + 11y - 1)(y^{54} - 53y^{53} + \cdots + 93385y + 57121)$
c_4	$(y^{15} - 15y^{14} + \cdots + 12y - 1)(y^{54} - 12y^{53} + \cdots - 440y + 1)$
c_5, c_9, c_{10}	$(y^{15} - 8y^{14} + \cdots - 3y - 1)(y^{54} - y^{53} + \cdots - 45y + 1)$
c_6, c_7, c_{12}	$(y^{15} + 15y^{14} + \cdots + 6y - 1)(y^{54} + 54y^{53} + \cdots - 74y + 1)$
c_8	$(y^{15} - 12y^{14} + \cdots + 15y - 1)(y^{54} - 49y^{53} + \cdots - 151y + 1)$
c_{11}	$(y^{15} + 3y^{14} + \cdots + 8y - 1)$ $\cdot (y^{54} + 62y^{53} + \cdots - 555348524y + 2920681)$