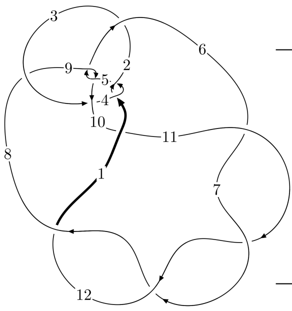
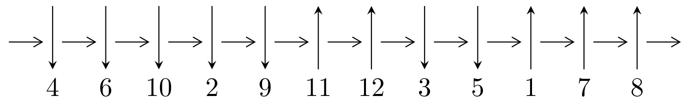
$12a_{0944}$ $(K12a_{0944})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -5.89366 \times 10^{43} u^{82} - 4.02871 \times 10^{43} u^{81} + \cdots + 5.84962 \times 10^{43} b - 9.28047 \times 10^{43},$$
$$- 4.02033 \times 10^{43} u^{82} - 6.96508 \times 10^{43} u^{81} + \cdots + 5.84962 \times 10^{43} a + 9.14712 \times 10^{42},\ u^{83} + 2u^{82} + \cdots + 2u -$$
$$I_2^u = \langle 2b - 3,\ 2a + 1,\ u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 84 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.

$\boldsymbol{I^u_1 = \langle -5.89\times10^{43}u^{82} - 4.03\times10^{43}u^{81} + \cdots + 5.85\times10^{43}b - 9.28\times10^{43},\ -4.02\times10^{43}u^{82} - 6.97\times10^{43}u^{81} + \cdots + 5.85\times10^{43}a + 9.15\times10^{42},\ u^{83} + 2u^{82} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.687280u^{82} + 1.19069u^{81} + \cdots - 4.55423u - 0.156371 \\ 1.00753u^{82} + 0.688714u^{81} + \cdots + 2.17242u + 1.58651 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.595958u^{82} + 0.451262u^{81} + \cdots - 3.44105u + 1.45422 \\ 0.130801u^{82} + 0.302832u^{81} + \cdots + 0.730664u + 0.811722 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.485737u^{82} + 1.80641u^{81} + \cdots - 1.46200u - 1.94018 \\ 1.01774u^{82} + 0.0762026u^{81} + \cdots + 2.45408u + 1.22439 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^6 + 2u^4 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.0563813u^{82} - 0.557025u^{81} + \cdots - 0.575560u + 2.07556 \\ 1.78385u^{82} + 1.83521u^{81} + \cdots + 0.274886u + 1.23971 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.389463u^{82} + 0.804666u^{81} + \cdots - 2.31500u + 0.480446 \\ 0.263809u^{82} - 0.0637110u^{81} + \cdots - 2.47071u - 0.459997 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.357481u^{82} - 3.48793u^{81} + \cdots + 11.5669u - 5.41910$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{83} - 2u^{82} + \cdots - 35u + 4$
c_2	$2(2u^{83} - 13u^{82} + \cdots + 3u + 1)$
c_3	$2(2u^{83} - 11u^{82} + \cdots + 4480u + 352)$
c_5, c_9	$u^{83} + 2u^{82} + \cdots + 4u + 1$
c_6, c_7, c_{11} c_{12}	$u^{83} + 2u^{82} + \cdots + 2u + 1$
c_8	$u^{83} + u^{82} + \cdots - 2u + 8$
c_{10}	$u^{83} + 16u^{82} + \cdots - 11522u - 2671$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{83} - 52y^{82} + \cdots - 479y - 16$
c_2	$4(4y^{83} + 523y^{82} + \cdots - 117y - 1)$
c_3	$4(4y^{83} - 517y^{82} + \cdots + 6829568y - 123904)$
c_5, c_9	$y^{83} + 48y^{82} + \cdots + 12y - 1$
c_6, c_7, c_{11} c_{12}	$y^{83} - 92y^{82} + \cdots + 12y - 1$
c_8	$y^{83} + 9y^{82} + \cdots + 2164y - 64$
c_{10}	$y^{83} + 28y^{82} + \cdots + 65725068y - 7134241$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.011980 + 0.179958I$ $a = 0.609871 - 0.498601I$ $b = -1.54206 + 0.26964I$	$3.08858 - 7.00447I$	0
$u = -1.011980 - 0.179958I$ $a = 0.609871 + 0.498601I$ $b = -1.54206 - 0.26964I$	$3.08858 + 7.00447I$	0
$u = 0.808275 + 0.494108I$ $a = 0.668900 + 0.762033I$ $b = -0.506716 - 0.978105I$	$1.080250 + 0.304022I$	0
$u = 0.808275 - 0.494108I$ $a = 0.668900 - 0.762033I$ $b = -0.506716 + 0.978105I$	$1.080250 - 0.304022I$	0
$u = -0.651779 + 0.604556I$ $a = 1.96345 - 1.28262I$ $b = -0.373780 + 1.237280I$	$-4.75200 - 7.90588I$	0
$u = -0.651779 - 0.604556I$ $a = 1.96345 + 1.28262I$ $b = -0.373780 - 1.237280I$	$-4.75200 + 7.90588I$	0
$u = 0.651416 + 0.587957I$ $a = 2.25811 + 1.40134I$ $b = -0.455813 - 1.238970I$	$-1.07019 + 13.90660I$	0
$u = 0.651416 - 0.587957I$ $a = 2.25811 - 1.40134I$ $b = -0.455813 + 1.238970I$	$-1.07019 - 13.90660I$	0
$u = 0.549669 + 0.652540I$ $a = 1.77757 + 0.60916I$ $b = -0.166242 - 1.069510I$	$1.14584 + 2.23192I$	0
$u = 0.549669 - 0.652540I$ $a = 1.77757 - 0.60916I$ $b = -0.166242 + 1.069510I$	$1.14584 - 2.23192I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.621208+0.516711I$ $a = -1.122620+0.653975I$ $b = 0.442519-0.591802I$	$2.87214+7.55799I$	$0.-9.17056I$
$u = 0.621208-0.516711I$ $a = -1.122620-0.653975I$ $b = 0.442519+0.591802I$	$2.87214-7.55799I$	$0.+9.17056I$
$u = -0.794140+0.067445I$ $a = 0.828496-0.746859I$ $b = -0.754413-0.297712I$	$5.68714+2.25774I$	$7.48178-1.40093I$
$u = -0.794140-0.067445I$ $a = 0.828496+0.746859I$ $b = -0.754413+0.297712I$	$5.68714-2.25774I$	$7.48178+1.40093I$
$u = -0.603519+0.480975I$ $a = -0.693273+0.188096I$ $b = 0.158367+0.299299I$	$-0.49436-3.88362I$	$-2.00000+7.10699I$
$u = -0.603519-0.480975I$ $a = -0.693273-0.188096I$ $b = 0.158367-0.299299I$	$-0.49436+3.88362I$	$-2.00000-7.10699I$
$u = -0.311368+0.686203I$ $a = 2.05458-0.49843I$ $b = -0.259155+0.996903I$	$-5.76402+3.56956I$	$-7.33230-3.19643I$
$u = -0.311368-0.686203I$ $a = 2.05458+0.49843I$ $b = -0.259155-0.996903I$	$-5.76402-3.56956I$	$-7.33230+3.19643I$
$u = -0.540900+0.513654I$ $a = -2.36141+1.14016I$ $b = 0.686576-0.514783I$	$-2.34688-5.23319I$	$-4.54446+9.84503I$
$u = -0.540900-0.513654I$ $a = -2.36141-1.14016I$ $b = 0.686576+0.514783I$	$-2.34688+5.23319I$	$-4.54446-9.84503I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.302357 + 0.661044I$ $a = 2.15568 + 0.69658I$ $b = -0.305424 - 1.170910I$	$-2.10269 - 9.69142I$	$-3.57256 + 4.73391I$
$u = 0.302357 - 0.661044I$ $a = 2.15568 - 0.69658I$ $b = -0.305424 + 1.170910I$	$-2.10269 + 9.69142I$	$-3.57256 - 4.73391I$
$u = 0.176369 + 0.694417I$ $a = 1.79640 - 0.14808I$ $b = -0.244225 - 0.252132I$	$-0.84399 + 3.83418I$	$-2.64069 - 10.16954I$
$u = 0.176369 - 0.694417I$ $a = 1.79640 + 0.14808I$ $b = -0.244225 + 0.252132I$	$-0.84399 - 3.83418I$	$-2.64069 + 10.16954I$
$u = 0.659821 + 0.267940I$ $a = 0.761044 + 0.351679I$ $b = -0.382761 - 0.240353I$	$1.22968 + 0.74629I$	$5.11191 - 1.69537I$
$u = 0.659821 - 0.267940I$ $a = 0.761044 - 0.351679I$ $b = -0.382761 + 0.240353I$	$1.22968 - 0.74629I$	$5.11191 + 1.69537I$
$u = 0.501968 + 0.498745I$ $a = -2.65030 - 1.61037I$ $b = 0.629147 + 1.068660I$	$-3.50723 + 1.89136I$	$-6.82387 - 2.66530I$
$u = 0.501968 - 0.498745I$ $a = -2.65030 + 1.61037I$ $b = 0.629147 - 1.068660I$	$-3.50723 - 1.89136I$	$-6.82387 + 2.66530I$
$u = 1.289970 + 0.207695I$ $a = 0.815121 + 0.281289I$ $b = -2.32584 - 1.05852I$	$-0.716216 - 0.352949I$	0
$u = 1.289970 - 0.207695I$ $a = 0.815121 - 0.281289I$ $b = -2.32584 + 1.05852I$	$-0.716216 + 0.352949I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.305710+0.116254I$ $a=\ \ 0.821552-0.148933I$ $b=-2.60864+0.95083I$	$2.88394+6.80535I$	0
$u=-1.305710-0.116254I$ $a=\ \ 0.821552+0.148933I$ $b=-2.60864-0.95083I$	$2.88394-6.80535I$	0
$u=\ \ 0.465968+0.499477I$ $a=-2.48917-1.39113I$ $b=\ \ 0.76305+1.24356I$	$-3.61323+1.60159I$	$-7.16367-5.67884I$
$u=\ \ 0.465968-0.499477I$ $a=-2.48917+1.39113I$ $b=\ \ 0.76305-1.24356I$	$-3.61323-1.60159I$	$-7.16367+5.67884I$
$u=-0.533295+0.405202I$ $a=\ \ 3.22952+9.36950I$ $b=-3.45923+0.25484I$	$-0.168100-1.376260I$	$-60.2145+47.3401I$
$u=-0.533295-0.405202I$ $a=\ \ 3.22952-9.36950I$ $b=-3.45923-0.25484I$	$-0.168100+1.376260I$	$-60.2145-47.3401I$
$u=-0.413981+0.510073I$ $a=-1.43503+1.37204I$ $b=\ \ 0.607418-1.178460I$	$-2.71843+1.65955I$	$-6.37148-1.99257I$
$u=-0.413981-0.510073I$ $a=-1.43503-1.37204I$ $b=\ \ 0.607418+1.178460I$	$-2.71843-1.65955I$	$-6.37148+1.99257I$
$u=\ \ 0.411973+0.454512I$ $a=\ \ 1.168770+0.361760I$ $b=\ \ 0.160378-0.591800I$	$1.38976+1.62588I$	$0.70067-4.03519I$
$u=\ \ 0.411973-0.454512I$ $a=\ \ 1.168770-0.361760I$ $b=\ \ 0.160378+0.591800I$	$1.38976-1.62588I$	$0.70067+4.03519I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.288666 + 0.539586I$ $a = 0.86073 - 1.17268I$ $b = -0.218842 + 0.593876I$	$1.92020 - 3.90128I$	$-1.03104 + 3.05326I$
$u = 0.288666 - 0.539586I$ $a = 0.86073 + 1.17268I$ $b = -0.218842 - 0.593876I$	$1.92020 + 3.90128I$	$-1.03104 - 3.05326I$
$u = 0.547852 + 0.128586I$ $a = 1.91306 - 0.32470I$ $b = 0.175410 - 0.576033I$	$1.05027 + 2.14204I$	$3.95885 - 3.96047I$
$u = 0.547852 - 0.128586I$ $a = 1.91306 + 0.32470I$ $b = 0.175410 + 0.576033I$	$1.05027 - 2.14204I$	$3.95885 + 3.96047I$
$u = -0.315876 + 0.453421I$ $a = 0.296378 + 0.378985I$ $b = 0.274103 - 0.402505I$	$-1.32179 + 0.54535I$	$-6.25461 - 0.32765I$
$u = -0.315876 - 0.453421I$ $a = 0.296378 - 0.378985I$ $b = 0.274103 + 0.402505I$	$-1.32179 - 0.54535I$	$-6.25461 + 0.32765I$
$u = -1.49785 + 0.04527I$ $a = 0.737149 - 0.181176I$ $b = -1.256150 - 0.488763I$	$7.43791 + 2.40793I$	0
$u = -1.49785 - 0.04527I$ $a = 0.737149 + 0.181176I$ $b = -1.256150 + 0.488763I$	$7.43791 - 2.40793I$	0
$u = 1.50844 + 0.10984I$ $a = -0.366290 - 0.424061I$ $b = 2.14759 + 1.67044I$	$3.62477 + 0.37465I$	0
$u = 1.50844 - 0.10984I$ $a = -0.366290 + 0.424061I$ $b = 2.14759 - 1.67044I$	$3.62477 - 0.37465I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.51764 + 0.07703I$ $a = 0.309031 + 0.420314I$ $b = 0.118516 - 0.411587I$	$4.86678 + 0.90172I$	0
$u = 1.51764 - 0.07703I$ $a = 0.309031 - 0.420314I$ $b = 0.118516 + 0.411587I$	$4.86678 - 0.90172I$	0
$u = -1.52317 + 0.12412I$ $a = -1.002440 + 0.955249I$ $b = 3.54266 - 2.61988I$	$3.00779 - 3.73916I$	0
$u = -1.52317 - 0.12412I$ $a = -1.002440 - 0.955249I$ $b = 3.54266 + 2.61988I$	$3.00779 + 3.73916I$	0
$u = -1.53604 + 0.13173I$ $a = -1.14572 + 1.42417I$ $b = 3.52474 - 3.40314I$	$3.30531 - 4.09518I$	0
$u = -1.53604 - 0.13173I$ $a = -1.14572 - 1.42417I$ $b = 3.52474 + 3.40314I$	$3.30531 + 4.09518I$	0
$u = -1.54259 + 0.07842I$ $a = 1.25091 - 0.75446I$ $b = -2.33633 + 2.11548I$	$7.91717 - 3.07456I$	0
$u = -1.54259 - 0.07842I$ $a = 1.25091 + 0.75446I$ $b = -2.33633 - 2.11548I$	$7.91717 + 3.07456I$	0
$u = 1.54528 + 0.14306I$ $a = -1.00062 - 1.36700I$ $b = 2.99004 + 2.73171I$	$4.62683 + 7.57614I$	0
$u = 1.54528 - 0.14306I$ $a = -1.00062 + 1.36700I$ $b = 2.99004 - 2.73171I$	$4.62683 - 7.57614I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.55353 + 0.11383I$ $a = -0.62588 - 6.02561I$ $b = 0.3272 + 14.6513I$	$6.89620 + 3.23942I$	0
$u = 1.55353 - 0.11383I$ $a = -0.62588 + 6.02561I$ $b = 0.3272 - 14.6513I$	$6.89620 - 3.23942I$	0
$u = -1.55820 + 0.19721I$ $a = 1.143280 - 0.793518I$ $b = -3.16223 + 2.29837I$	$8.17592 - 5.31400I$	0
$u = -1.55820 - 0.19721I$ $a = 1.143280 + 0.793518I$ $b = -3.16223 - 2.29837I$	$8.17592 + 5.31400I$	0
$u = 1.57099 + 0.13986I$ $a = -0.404004 - 0.556034I$ $b = 0.836754 + 0.686893I$	$6.83837 + 6.14929I$	0
$u = 1.57099 - 0.13986I$ $a = -0.404004 + 0.556034I$ $b = 0.836754 - 0.686893I$	$6.83837 - 6.14929I$	0
$u = -1.57388 + 0.15206I$ $a = -0.843712 + 0.254247I$ $b = 1.77781 + 0.28661I$	$10.2522 - 10.0098I$	0
$u = -1.57388 - 0.15206I$ $a = -0.843712 - 0.254247I$ $b = 1.77781 - 0.28661I$	$10.2522 + 10.0098I$	0
$u = 1.58337 + 0.18572I$ $a = 1.01285 + 1.28924I$ $b = -3.02981 - 3.33050I$	$2.72408 + 10.83480I$	0
$u = 1.58337 - 0.18572I$ $a = 1.01285 - 1.28924I$ $b = -3.02981 + 3.33050I$	$2.72408 - 10.83480I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.58408 + 0.17957I$ $a = 1.15293 - 1.49962I$ $b = -3.36712 + 3.72673I$	$6.4197 - 16.7505I$	0
$u = -1.58408 - 0.17957I$ $a = 1.15293 + 1.49962I$ $b = -3.36712 - 3.72673I$	$6.4197 + 16.7505I$	0
$u = 1.60360 + 0.01774I$ $a = 0.453485 + 0.946776I$ $b = -1.62552 - 1.50801I$	$13.83160 - 1.94519I$	0
$u = 1.60360 - 0.01774I$ $a = 0.453485 - 0.946776I$ $b = -1.62552 + 1.50801I$	$13.83160 + 1.94519I$	0
$u = -1.60301 + 0.12387I$ $a = 0.125633 - 0.183458I$ $b = -0.769235 + 0.803186I$	$9.21058 - 2.41580I$	0
$u = -1.60301 - 0.12387I$ $a = 0.125633 + 0.183458I$ $b = -0.769235 - 0.803186I$	$9.21058 + 2.41580I$	0
$u = -1.61558 + 0.05199I$ $a = 0.324769 - 0.551870I$ $b = -1.36648 + 1.04218I$	$9.23692 - 1.94054I$	0
$u = -1.61558 - 0.05199I$ $a = 0.324769 + 0.551870I$ $b = -1.36648 - 1.04218I$	$9.23692 + 1.94054I$	0
$u = 1.63808 + 0.02486I$ $a = -0.038093 + 0.657170I$ $b = -0.91055 - 1.15054I$	$12.0271 + 7.5660I$	0
$u = 1.63808 - 0.02486I$ $a = -0.038093 - 0.657170I$ $b = -0.91055 + 1.15054I$	$12.0271 - 7.5660I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.323079$ $a = \quad 1.36070$ $b = \quad 0.686867$	-1.16036	-10.6000
$u = -0.117959 + 0.274951I$ $a = \quad 0.758936 - 0.289574I$ $b = \quad 1.170840 + 0.220885I$	$-0.892197 - 0.937335I$	$-1.14664 - 2.00945I$
$u = -0.117959 - 0.274951I$ $a = \quad 0.758936 + 0.289574I$ $b = \quad 1.170840 - 0.220885I$	$-0.892197 + 0.937335I$	$-1.14664 + 2.00945I$

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

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.5 \\ 1.5 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.5 \\ 0.5 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2.25$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.500000$ $b = 1.50000$	0	2.25000

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^{83}-2u^{82}+\cdots-35u+4)$
c_2	$4(2u-1)(2u^{83}-13u^{82}+\cdots+3u+1)$
c_3	$4(2u-1)(2u^{83}-11u^{82}+\cdots+4480u+352)$
c_4	$(u+1)(u^{83}-2u^{82}+\cdots-35u+4)$
c_5	$(u+1)(u^{83}+2u^{82}+\cdots+4u+1)$
c_6, c_7	$(u+1)(u^{83}+2u^{82}+\cdots+2u+1)$
c_8	$u(u^{83}+u^{82}+\cdots-2u+8)$
c_9	$(u-1)(u^{83}+2u^{82}+\cdots+4u+1)$
c_{10}	$(u+1)(u^{83}+16u^{82}+\cdots-11522u-2671)$
c_{11}, c_{12}	$(u-1)(u^{83}+2u^{82}+\cdots+2u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y-1)(y^{83} - 52y^{82} + \cdots - 479y - 16)$
c_2	$16(4y-1)(4y^{83} + 523y^{82} + \cdots - 117y - 1)$
c_3	$16(4y-1)(4y^{83} - 517y^{82} + \cdots + 6829568y - 123904)$
c_5, c_9	$(y-1)(y^{83} + 48y^{82} + \cdots + 12y - 1)$
c_6, c_7, c_{11} c_{12}	$(y-1)(y^{83} - 92y^{82} + \cdots + 12y - 1)$
c_8	$y(y^{83} + 9y^{82} + \cdots + 2164y - 64)$
c_{10}	$(y-1)(y^{83} + 28y^{82} + \cdots + 6.57251 \times 10^{7}y - 7134241)$