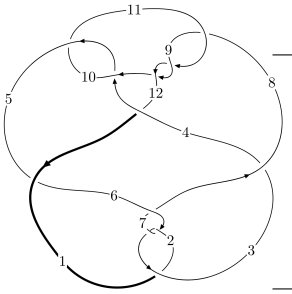
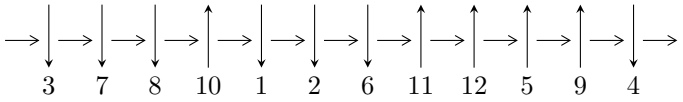
$12a_{0544}$ $(K12a_{0544})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I_1^u = \langle u^{85}+u^{84}+\cdots+b+1,\ u^{85}+u^{84}+\cdots+a+3,\ u^{86}+2u^{85}+\cdots+5u+1\rangle$
$I_2^u = \langle -u^7+u^5-u^3+b-1,\ -u^7+u^5-u^4-u^3+u^2+a-2,\ u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1\rangle$

* 2 irreducible components of $\dim_{\mathbb{C}}=0$, with total 94 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.

$\boldsymbol{I_1^u = \langle u^{85}+u^{84}+\cdots+b+1,\ u^{85}+u^{84}+\cdots+a+3,\ u^{86}+2u^{85}+\cdots+5u+1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_7 = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-u^2+1\\-u^4\end{pmatrix}$$

$$a_6 = \begin{pmatrix}u\\u\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-u^3\\-u^3+u\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-u^8+u^6-u^4+1\\-u^8+2u^6-2u^4+2u^2\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-u^7+2u^5-2u^3+2u\\-u^9+u^7-u^5+u\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-u^{85}-u^{84}+\cdots+2u^2-3\\-u^{85}-u^{84}+\cdots-2u-1\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-u^{85}+u^{84}+\cdots+5u-2\\-3u^{85}-u^{84}+\cdots-3u-1\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-u^{20}+3u^{18}-7u^{16}+10u^{14}-10u^{12}+7u^{10}-u^8-2u^6+3u^4-3u^2+1\\-u^{20}+4u^{18}-10u^{16}+18u^{14}-23u^{12}+24u^{10}-18u^8+10u^6-5u^4\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-u^{85}+14u^{83}+\cdots+2u-2\\-2u^{85}-u^{84}+\cdots-2u-1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^{85}+2u^{84}+\cdots-17u+9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{86} + 30u^{85} + \cdots + 21u + 1$
c_2, c_6	$u^{86} - 2u^{85} + \cdots - 5u + 1$
c_3, c_5	$u^{86} + 2u^{85} + \cdots - 165u + 25$
c_4, c_{10}	$u^{86} + u^{85} + \cdots - 128u - 256$
c_8, c_9, c_{11}	$u^{86} + 9u^{85} + \cdots - 5u - 1$
c_{12}	$u^{86} - 6u^{85} + \cdots - 188531u - 19355$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{86} + 54y^{85} + \cdots - 85y + 1$
c_2, c_6	$y^{86} - 30y^{85} + \cdots - 21y + 1$
c_3, c_5	$y^{86} - 54y^{85} + \cdots - 56325y + 625$
c_4, c_{10}	$y^{86} - 51y^{85} + \cdots - 770048y + 65536$
c_8, c_9, c_{11}	$y^{86} - 83y^{85} + \cdots + 11y + 1$
c_{12}	$y^{86} + 30y^{85} + \cdots - 11372097821y + 374616025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.644322+0.763022I$ $a=-2.49856-2.34077I$ $b=-3.39594+0.39825I$	$3.04197-1.23689I$	0
$u=-0.644322-0.763022I$ $a=-2.49856+2.34077I$ $b=-3.39594-0.39825I$	$3.04197+1.23689I$	0
$u=-0.624282+0.788202I$ $a=\ \ 1.96775+2.90021I$ $b=\ \ 3.51438+0.25956I$	$1.85559-6.25999I$	0
$u=-0.624282-0.788202I$ $a=\ \ 1.96775-2.90021I$ $b=\ \ 3.51438-0.25956I$	$1.85559+6.25999I$	0
$u=\ \ 0.635949+0.780261I$ $a=-0.000971-0.291356I$ $b=-0.226716+0.186045I$	$4.51518+3.88065I$	0
$u=\ \ 0.635949-0.780261I$ $a=-0.000971+0.291356I$ $b=-0.226716-0.186045I$	$4.51518-3.88065I$	0
$u=\ \ 0.995318+0.151698I$ $a=\ \ 0.634999+0.381559I$ $b=-0.574143-0.476101I$	$4.54238+0.77262I$	0
$u=\ \ 0.995318-0.151698I$ $a=\ \ 0.634999-0.381559I$ $b=-0.574143+0.476101I$	$4.54238-0.77262I$	0
$u=-0.621025+0.808585I$ $a=-1.54027-2.83739I$ $b=-3.25082-0.51666I$	$7.92588-10.43740I$	0
$u=-0.621025-0.808585I$ $a=-1.54027+2.83739I$ $b=-3.25082+0.51666I$	$7.92588+10.43740I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.939582+0.439354I$ $a=-1.69616+1.00521I$ $b=-1.15204+1.68969I$	$6.05490+6.47779I$	0
$u=-0.939582-0.439354I$ $a=-1.69616-1.00521I$ $b=-1.15204-1.68969I$	$6.05490-6.47779I$	0
$u=\ 0.599249+0.749796I$ $a=\ 0.010665+0.191543I$ $b=\ 0.137227-0.122779I$	$-0.86295+1.97413I$	0
$u=\ 0.599249-0.749796I$ $a=\ 0.010665-0.191543I$ $b=\ 0.137227+0.122779I$	$-0.86295-1.97413I$	0
$u=-0.695405+0.781531I$ $a=\ 1.83711+1.76117I$ $b=\ 2.65395-0.21103I$	$10.63500+1.13527I$	0
$u=-0.695405-0.781531I$ $a=\ 1.83711-1.76117I$ $b=\ 2.65395+0.21103I$	$10.63500-1.13527I$	0
$u=\ 1.055180+0.044844I$ $a=-1.173280-0.522379I$ $b=\ 1.214600+0.603818I$	$-2.66377-0.78012I$	0
$u=\ 1.055180-0.044844I$ $a=-1.173280+0.522379I$ $b=\ 1.214600-0.603818I$	$-2.66377+0.78012I$	0
$u=\ 0.753966+0.564465I$ $a=\ 0.414722+0.331891I$ $b=-0.125345-0.484331I$	$2.72095-1.94577I$	0
$u=\ 0.753966-0.564465I$ $a=\ 0.414722-0.331891I$ $b=-0.125345+0.484331I$	$2.72095+1.94577I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.818096+0.462766I$ $a=\ 1.80340-0.97079I$ $b=\ 1.02610-1.62875I$	$0.27792+3.52574I$	$0.-7.76895I$
$u=-0.818096-0.462766I$ $a=\ 1.80340+0.97079I$ $b=\ 1.02610+1.62875I$	$0.27792-3.52574I$	$0.+7.76895I$
$u=\ 0.528787+0.762232I$ $a=\ 0.181744-0.155133I$ $b=-0.214351-0.056498I$	$2.01778+1.41913I$	$4.35505+0.I$
$u=\ 0.528787-0.762232I$ $a=\ 0.181744+0.155133I$ $b=-0.214351+0.056498I$	$2.01778-1.41913I$	$4.35505+0.I$
$u=-1.071200+0.063000I$ $a=-0.466424+0.597060I$ $b=-0.462021+0.668958I$	$-1.40842+3.34085I$	0
$u=-1.071200-0.063000I$ $a=-0.466424-0.597060I$ $b=-0.462021-0.668958I$	$-1.40842-3.34085I$	0
$u=-0.657734+0.633849I$ $a=-2.81811+0.08292I$ $b=-1.80101+1.84079I$	$1.93628-0.07508I$	$3.12339+0.I$
$u=-0.657734-0.633849I$ $a=-2.81811-0.08292I$ $b=-1.80101-1.84079I$	$1.93628+0.07508I$	$3.12339+0.I$
$u=-1.087850+0.023482I$ $a=\ 0.259732-0.373506I$ $b=\ 0.273778-0.412416I$	$-6.48774+1.07685I$	0
$u=-1.087850-0.023482I$ $a=\ 0.259732+0.373506I$ $b=\ 0.273778+0.412416I$	$-6.48774-1.07685I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.087560 + 0.063752I$ $a = 0.953887 + 0.843497I$ $b = -0.983635 - 0.978166I$	$-4.14938 - 5.58135I$	0
$u = 1.087560 - 0.063752I$ $a = 0.953887 - 0.843497I$ $b = -0.983635 + 0.978166I$	$-4.14938 + 5.58135I$	0
$u = -0.856607 + 0.685840I$ $a = -0.434425 - 0.670558I$ $b = -0.832027 - 0.276459I$	$2.51119 + 2.64006I$	0
$u = -0.856607 - 0.685840I$ $a = -0.434425 + 0.670558I$ $b = -0.832027 + 0.276459I$	$2.51119 - 2.64006I$	0
$u = 1.104870 + 0.078322I$ $a = -0.763300 - 0.875069I$ $b = 0.774807 + 1.026620I$	$1.70607 - 9.68554I$	0
$u = 1.104870 - 0.078322I$ $a = -0.763300 + 0.875069I$ $b = 0.774807 - 1.026620I$	$1.70607 + 9.68554I$	0
$u = 0.846833 + 0.739427I$ $a = -0.104906 + 0.607186I$ $b = 0.537807 - 0.436615I$	$5.91288 - 0.28575I$	0
$u = 0.846833 - 0.739427I$ $a = -0.104906 - 0.607186I$ $b = 0.537807 + 0.436615I$	$5.91288 + 0.28575I$	0
$u = -1.12431$ $a = -0.439010$ $b = -0.493583$	-3.61959	0
$u = 0.832766 + 0.766471I$ $a = 0.061542 - 0.538508I$ $b = -0.464001 + 0.401281I$	$12.77860 + 3.20089I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.832766 - 0.766471I$ $a = 0.061542 + 0.538508I$ $b = -0.464001 - 0.401281I$	$12.77860 - 3.20089I$	0
$u = 0.548860 + 0.670260I$ $a = -0.260929 - 0.066464I$ $b = 0.098666 + 0.211370I$	$-1.368170 + 0.151851I$	$-5.37422 + 0.I$
$u = 0.548860 - 0.670260I$ $a = -0.260929 + 0.066464I$ $b = 0.098666 - 0.211370I$	$-1.368170 - 0.151851I$	$-5.37422 + 0.I$
$u = -0.862761 + 0.739667I$ $a = 0.81855 + 1.19919I$ $b = 1.59321 + 0.42916I$	$7.97212 + 2.80429I$	0
$u = -0.862761 - 0.739667I$ $a = 0.81855 - 1.19919I$ $b = 1.59321 - 0.42916I$	$7.97212 - 2.80429I$	0
$u = 0.876965 + 0.734442I$ $a = 0.210003 - 0.563483I$ $b = -0.598011 + 0.339920I$	$5.82164 - 5.30620I$	0
$u = 0.876965 - 0.734442I$ $a = 0.210003 + 0.563483I$ $b = -0.598011 - 0.339920I$	$5.82164 + 5.30620I$	0
$u = 0.985770 + 0.613915I$ $a = 0.297145 + 0.040593I$ $b = -0.267996 - 0.222437I$	$1.84898 - 2.73464I$	0
$u = 0.985770 - 0.613915I$ $a = 0.297145 - 0.040593I$ $b = -0.267996 + 0.222437I$	$1.84898 + 2.73464I$	0
$u = 0.897745 + 0.750927I$ $a = -0.194401 + 0.482231I$ $b = 0.536642 - 0.286940I$	$12.5809 - 8.9241I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.897745 - 0.750927I$ $a = -0.194401 - 0.482231I$ $b = 0.536642 + 0.286940I$	$12.5809 + 8.9241I$	0
$u = -1.005200 + 0.601671I$ $a = -2.34798 + 1.94760I$ $b = -1.18837 + 3.37043I$	$-0.907287 + 0.762860I$	0
$u = -1.005200 - 0.601671I$ $a = -2.34798 - 1.94760I$ $b = -1.18837 - 3.37043I$	$-0.907287 - 0.762860I$	0
$u = -1.023690 + 0.578425I$ $a = 2.45336 - 1.36732I$ $b = 1.72059 - 2.81879I$	$4.75158 - 3.05104I$	0
$u = -1.023690 - 0.578425I$ $a = 2.45336 + 1.36732I$ $b = 1.72059 + 2.81879I$	$4.75158 + 3.05104I$	0
$u = -0.992069 + 0.640336I$ $a = 1.49158 - 3.08313I$ $b = -0.49449 - 4.01379I$	$0.92734 + 5.11847I$	0
$u = -0.992069 - 0.640336I$ $a = 1.49158 + 3.08313I$ $b = -0.49449 + 4.01379I$	$0.92734 - 5.11847I$	0
$u = 1.019680 + 0.638063I$ $a = -0.160436 - 0.029171I$ $b = 0.144980 + 0.132113I$	$-2.68629 - 5.25864I$	0
$u = 1.019680 - 0.638063I$ $a = -0.160436 + 0.029171I$ $b = 0.144980 - 0.132113I$	$-2.68629 + 5.25864I$	0
$u = -0.995660 + 0.707545I$ $a = 0.98045 + 2.67558I$ $b = 2.86928 + 1.97025I$	$9.72668 + 4.49486I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.995660-0.707545I$ $a=\ \ 0.98045-2.67558I$ $b=\ \ 2.86928-1.97025I$	$9.72668-4.49486I$	0
$u=-1.016540+0.684727I$ $a=-1.43780-3.78428I$ $b=-4.05278-2.86236I$	$1.92833+6.74200I$	0
$u=-1.016540-0.684727I$ $a=-1.43780+3.78428I$ $b=-4.05278+2.86236I$	$1.92833-6.74200I$	0
$u=\ \ 1.028130+0.668591I$ $a=\ \ 0.0670267-0.1082740I$ $b=-0.141304+0.066507I$	$-2.12564-7.38364I$	0
$u=\ \ 1.028130-0.668591I$ $a=\ \ 0.0670267+0.1082740I$ $b=-0.141304-0.066507I$	$-2.12564+7.38364I$	0
$u=-0.365583+0.674667I$ $a=-1.78579+1.67124I$ $b=\ \ 0.47467+1.81579I$	$6.50962+7.73312I$	$3.40392-5.74930I$
$u=-0.365583-0.674667I$ $a=-1.78579-1.67124I$ $b=\ \ 0.47467-1.81579I$	$6.50962-7.73312I$	$3.40392+5.74930I$
$u=\ \ 1.049220+0.649176I$ $a=\ \ 0.067844+0.125985I$ $b=\ \ 0.010603-0.176229I$	$0.50223-6.76285I$	0
$u=\ \ 1.049220-0.649176I$ $a=\ \ 0.067844-0.125985I$ $b=\ \ 0.010603+0.176229I$	$0.50223+6.76285I$	0
$u=\ \ 1.024280+0.689404I$ $a=-0.093305+0.179764I$ $b=\ \ 0.219500-0.119803I$	$3.35241-9.44481I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.024280 - 0.689404I$ $a = -0.093305 - 0.179764I$ $b = 0.219500 + 0.119803I$	$3.35241 + 9.44481I$	0
$u = -1.031130 + 0.688932I$ $a = 2.31019 + 3.40684I$ $b = 4.72918 + 1.92131I$	$0.63817 + 11.84140I$	0
$u = -1.031130 - 0.688932I$ $a = 2.31019 - 3.40684I$ $b = 4.72918 - 1.92131I$	$0.63817 - 11.84140I$	0
$u = -1.039140 + 0.695413I$ $a = -2.44845 - 2.88748I$ $b = -4.55228 - 1.29781I$	$6.6689 + 16.0940I$	0
$u = -1.039140 - 0.695413I$ $a = -2.44845 + 2.88748I$ $b = -4.55228 + 1.29781I$	$6.6689 - 16.0940I$	0
$u = -0.398130 + 0.609706I$ $a = 2.14911 - 1.50619I$ $b = -0.06271 - 1.90998I$	$0.56072 + 3.91091I$	$0.13322 - 6.24601I$
$u = -0.398130 - 0.609706I$ $a = 2.14911 + 1.50619I$ $b = -0.06271 + 1.90998I$	$0.56072 - 3.91091I$	$0.13322 + 6.24601I$
$u = 0.662907 + 0.150680I$ $a = -0.364676 - 0.218371I$ $b = 0.208842 + 0.199709I$	$-1.063330 - 0.228988I$	$-9.16624 + 0.72602I$
$u = 0.662907 - 0.150680I$ $a = -0.364676 + 0.218371I$ $b = 0.208842 - 0.199709I$	$-1.063330 + 0.228988I$	$-9.16624 - 0.72602I$
$u = 0.361470 + 0.545503I$ $a = 0.619606 + 0.047322I$ $b = -0.198155 - 0.355103I$	$3.08058 - 1.78213I$	$2.34878 + 3.32275I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.361470 - 0.545503I$ $a = 0.619606 - 0.047322I$ $b = -0.198155 + 0.355103I$	$3.08058 + 1.78213I$	$2.34878 - 3.32275I$
$u = -0.166463 + 0.584238I$ $a = 1.56913 - 0.80481I$ $b = -0.208998 - 1.050720I$	$8.16368 - 2.95800I$	$6.03028 + 1.02435I$
$u = -0.166463 - 0.584238I$ $a = 1.56913 + 0.80481I$ $b = -0.208998 + 1.050720I$	$8.16368 + 2.95800I$	$6.03028 - 1.02435I$
$u = -0.272822 + 0.448177I$ $a = -2.14812 + 0.77001I$ $b = -0.240951 + 1.172810I$	$1.53008 - 0.42029I$	$4.05787 - 0.04900I$
$u = -0.272822 - 0.448177I$ $a = -2.14812 - 0.77001I$ $b = -0.240951 - 1.172810I$	$1.53008 + 0.42029I$	$4.05787 + 0.04900I$
$u = -0.296137$ $a = -3.40349$ $b = -1.00790$	1.23313	11.1890

II. $I_2^u = \langle -u^7+u^5-u^3+b-1,\ -u^7+u^5-u^4-u^3+u^2+a-2,\ u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ -u^3+u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^7+2u^5-2u^3+2u \\ -u^7+u^6+2u^5-u^4-2u^3+2u^2+2u-1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^7-u^5+u^4+u^3-u^2+2 \\ u^7-u^5+u^3+1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^7-u^5+u^4+u^3-u^2+2 \\ u^7-u^5+u^3+1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^7-u^5+u^4-u^2+2 \\ u^7-u^5+u+1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^7+u^6+11u^5-8u^4-11u^3+7u^2+4u-11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_2, c_6	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$
c_3, c_5, c_{12}	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$
c_4, c_{10}	y^8
c_8, c_9, c_{11}	$(y-1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.570868 + 0.730671I$ $a = 1.53392 - 0.14090I$ $b = 0.97862 + 1.04036I$	$0.604279 + 1.131230I$	$-1.351190 - 0.172290I$
$u = 0.570868 - 0.730671I$ $a = 1.53392 + 0.14090I$ $b = 0.97862 - 1.04036I$	$0.604279 - 1.131230I$	$-1.351190 + 0.172290I$
$u = -0.855237 + 0.665892I$ $a = -0.322641 + 0.144481I$ $b = 0.179726 - 0.338410I$	$3.80435 + 2.57849I$	$5.95120 - 3.90294I$
$u = -0.855237 - 0.665892I$ $a = -0.322641 - 0.144481I$ $b = 0.179726 + 0.338410I$	$3.80435 - 2.57849I$	$5.95120 + 3.90294I$
$u = -1.09818$ $a = 0.595007$ $b = -0.653425$	-4.85780	-8.27570
$u = 1.031810 + 0.655470I$ $a = -0.47742 - 1.64247I$ $b = 0.58399 - 2.00765I$	$-0.73474 - 6.44354I$	$-3.58146 + 4.68309I$
$u = 1.031810 - 0.655470I$ $a = -0.47742 + 1.64247I$ $b = 0.58399 + 2.00765I$	$-0.73474 + 6.44354I$	$-3.58146 - 4.68309I$
$u = 0.603304$ $a = 1.93726$ $b = 1.16875$	0.799899	-8.76140

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^8-3u^7+7u^6-10u^5+11u^4-10u^3+6u^2-4u+1)$ $\cdot(u^{86}+30u^{85}+\cdots+21u+1)$
c_2	$(u^8-u^7+\cdots+2u-1)(u^{86}-2u^{85}+\cdots-5u+1)$
c_3	$(u^8+u^7-3u^6-2u^5+3u^4+2u-1)(u^{86}+2u^{85}+\cdots-165u+25)$
c_4, c_{10}	$u^8(u^{86}+u^{85}+\cdots-128u-256)$
c_5	$(u^8-u^7-3u^6+2u^5+3u^4-2u-1)(u^{86}+2u^{85}+\cdots-165u+25)$
c_6	$(u^8+u^7+\cdots-2u-1)(u^{86}-2u^{85}+\cdots-5u+1)$
c_7	$(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)$ $\cdot(u^{86}+30u^{85}+\cdots+21u+1)$
c_8, c_9	$((u+1)^8)(u^{86}+9u^{85}+\cdots-5u-1)$
c_{11}	$((u-1)^8)(u^{86}+9u^{85}+\cdots-5u-1)$
c_{12}	$(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{86}-6u^{85}+\cdots-188531u-19355)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)$ $\cdot (y^{86} + 54y^{85} + \cdots - 85y + 1)$
c_2, c_6	$(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)$ $\cdot (y^{86} - 30y^{85} + \cdots - 21y + 1)$
c_3, c_5	$(y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{86} - 54y^{85} + \cdots - 56325y + 625)$
c_4, c_{10}	$y^8(y^{86} - 51y^{85} + \cdots - 770048y + 65536)$
c_8, c_9, c_{11}	$((y-1)^8)(y^{86} - 83y^{85} + \cdots + 11y + 1)$
c_{12}	$(y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{86} + 30y^{85} + \cdots - 11372097821y + 374616025)$