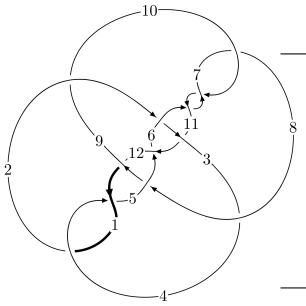
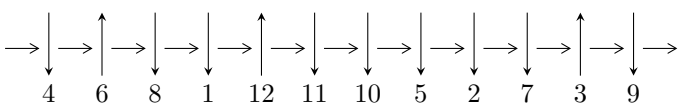
$12a_{0908}$ $(K12a_{0908})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -8.64139 \times 10^{24} u^{52} - 1.07961 \times 10^{26} u^{51} + \cdots + 7.39787 \times 10^{23} b + 6.82500 \times 10^{25}, \\
&\quad - 3.41250 \times 10^{25} u^{52} - 4.26342 \times 10^{26} u^{51} + \cdots + 1.47957 \times 10^{24} a + 2.88944 \times 10^{26}, \\
&\quad u^{53} + 13u^{52} + \cdots - 18u - 4 \rangle \\
I_2^u &= \langle 56634753 u^{22} a^3 - 240804262 u^{22} a^2 + \cdots - 330550633 a - 132611191, \\
&\quad - u^{22} a^3 + 5u^{22} a^2 + \cdots - 4a + 51,\ u^{23} - 5u^{22} + \cdots - 6u^2 + 1 \rangle \\
I_3^u &= \langle 59u^{27} - 471u^{26} + \cdots + 47b - 50,\ 50u^{27} - 341u^{26} + \cdots + 47a + 58,\ u^{28} - 8u^{27} + \cdots - 2u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 173 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. $\boldsymbol{I_1^u = \langle -8.64 \times 10^{24} u^{52} - 1.08 \times 10^{26} u^{51} + \cdots + 7.40 \times 10^{23} b + 6.83 \times 10^{25},\ -3.41 \times 10^{25} u^{52} - 4.26 \times 10^{26} u^{51} + \cdots + 1.48 \times 10^{24} a + 2.89 \times 10^{26},\ u^{53} + 13 u^{52} + \cdots - 18u - 4 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 23.0641u^{52} + 288.152u^{51} + \cdots - 461.727u - 195.289 \\ 11.6809u^{52} + 145.935u^{51} + \cdots - 219.864u - 92.2563 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 34.8240u^{52} + 435.869u^{51} + \cdots - 659.197u - 297.311 \\ 16.8427u^{52} + 210.735u^{51} + \cdots - 328.520u - 139.296 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 11.3832u^{52} + 142.217u^{51} + \cdots - 241.863u - 103.033 \\ 11.6809u^{52} + 145.935u^{51} + \cdots - 219.864u - 92.2563 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -38.2045u^{52} - 480.262u^{51} + \cdots + 774.344u + 369.617 \\ -24.6163u^{52} - 310.110u^{51} + \cdots + 482.937u + 220.189 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 21.0832u^{52} + 263.927u^{51} + \cdots - 431.740u - 179.708 \\ 9.66738u^{52} + 121.370u^{51} + \cdots - 192.750u - 83.0710 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 40.8118u^{52} + 510.563u^{51} + \cdots - 813.034u - 355.160 \\ 25.5389u^{52} + 319.906u^{51} + \cdots - 495.955u - 211.836 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.42379u^{52} + 43.8595u^{51} + \cdots - 53.5420u - 34.9635 \\ 1.13831u^{52} + 14.3096u^{51} + \cdots - 27.9059u - 18.2484 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{781388539870537954800202 2}{369893658631687521362639}u^{52} + \frac{977384035353846988319739 70}{369893658631687521362639}u^{51} + \cdots - \frac{144011829016585325244113120}{369893658631687521362639}u - \frac{670865857979724195218294 78}{369893658631687521362639}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{53} - 21u^{52} + \cdots - 3256u + 192$
c_2, c_{11}	$u^{53} - 3u^{52} + \cdots + 7u + 1$
c_3, c_9	$u^{53} - u^{52} + \cdots - 12u + 1$
c_5	$u^{53} - 38u^{52} + \cdots - 150994944u + 8388608$
c_6, c_7, c_{10}	$u^{53} - 13u^{52} + \cdots - 18u + 4$
c_8, c_{12}	$u^{53} + u^{52} + \cdots + 18u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{53} + 39y^{52} + \cdots + 230080y - 36864$
c_2, c_{11}	$y^{53} - 25y^{52} + \cdots - 89y - 1$
c_3, c_9	$y^{53} - 5y^{52} + \cdots + 10y - 1$
c_5	$y^{53} + 16y^{52} + \cdots + 140737488355328y - 70368744177664$
c_6, c_7, c_{10}	$y^{53} + 51y^{52} + \cdots + 764y - 16$
c_8, c_{12}	$y^{53} + 17y^{52} + \cdots - 36y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.705381+0.706977I$ $a=\ \ 0.940947+0.011228I$ $b=\ \ 0.671664-0.657308I$	$-3.12391-4.65185I$	0
$u=-0.705381-0.706977I$ $a=\ \ 0.940947-0.011228I$ $b=\ \ 0.671664+0.657308I$	$-3.12391+4.65185I$	0
$u=-0.846780+0.538162I$ $a=-0.299959-1.372480I$ $b=-0.992613-1.000760I$	$-0.0493+15.5803I$	0
$u=-0.846780-0.538162I$ $a=-0.299959+1.372480I$ $b=-0.992613+1.000760I$	$-0.0493-15.5803I$	0
$u=-0.921335+0.403223I$ $a=\ \ 0.731872+0.584881I$ $b=\ \ 0.910136+0.243764I$	$4.18006+7.18781I$	0
$u=-0.921335-0.403223I$ $a=\ \ 0.731872-0.584881I$ $b=\ \ 0.910136-0.243764I$	$4.18006-7.18781I$	0
$u=-0.537871+0.784035I$ $a=\ \ 0.278841+0.943890I$ $b=\ \ 0.890023+0.289070I$	$5.74699-1.95135I$	0
$u=-0.537871-0.784035I$ $a=\ \ 0.278841-0.943890I$ $b=\ \ 0.890023-0.289070I$	$5.74699+1.95135I$	0
$u=-0.795408+0.442380I$ $a=\ \ 0.43381+1.47445I$ $b=\ \ 0.997322+0.980880I$	$-3.88201+9.72876I$	0
$u=-0.795408-0.442380I$ $a=\ \ 0.43381-1.47445I$ $b=\ \ 0.997322-0.980880I$	$-3.88201-9.72876I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.884649+0.636725I$ $a=-0.861899+0.160096I$ $b=-0.660540+0.690422I$	$0.16418-9.89272I$	0
$u=-0.884649-0.636725I$ $a=-0.861899-0.160096I$ $b=-0.660540-0.690422I$	$0.16418+9.89272I$	0
$u=1.166540+0.234114I$ $a=-0.0096401+0.0930633I$ $b=0.0330331-0.1063050I$	$-1.01570-1.08166I$	0
$u=1.166540-0.234114I$ $a=-0.0096401-0.0930633I$ $b=0.0330331+0.1063050I$	$-1.01570+1.08166I$	0
$u=0.132150+1.227450I$ $a=-0.614846+0.058087I$ $b=0.152551+0.747014I$	$2.82416-2.70237I$	0
$u=0.132150-1.227450I$ $a=-0.614846-0.058087I$ $b=0.152551-0.747014I$	$2.82416+2.70237I$	0
$u=-0.056333+1.254440I$ $a=-0.168258+0.728529I$ $b=0.904418+0.252110I$	$5.40952-2.59372I$	0
$u=-0.056333-1.254440I$ $a=-0.168258-0.728529I$ $b=0.904418-0.252110I$	$5.40952+2.59372I$	0
$u=-0.586615+0.265441I$ $a=-1.03974-1.14731I$ $b=-0.914471-0.397042I$	$1.49476+1.54837I$	$1.89519-3.54470I$
$u=-0.586615-0.265441I$ $a=-1.03974+1.14731I$ $b=-0.914471+0.397042I$	$1.49476-1.54837I$	$1.89519+3.54470I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.521207+0.343252I$ $a=-0.40504-2.22925I$ $b=-0.976303-1.022870I$	$1.59267+3.97075I$	$8.04998-10.15076I$
$u=-0.521207-0.343252I$ $a=-0.40504+2.22925I$ $b=-0.976303+1.022870I$	$1.59267-3.97075I$	$8.04998+10.15076I$
$u=-0.041141+1.384110I$ $a=\ \ 0.621792-0.871465I$ $b=-1.18062-0.89648I$	$5.84394+2.71782I$	0
$u=-0.041141-1.384110I$ $a=\ \ 0.621792+0.871465I$ $b=-1.18062+0.89648I$	$5.84394-2.71782I$	0
$u=\ \ 0.04414+1.42109I$ $a=-0.703415+0.845262I$ $b=\ \ 1.23224+0.96230I$	$6.72507+1.35266I$	0
$u=\ \ 0.04414-1.42109I$ $a=-0.703415-0.845262I$ $b=\ \ 1.23224-0.96230I$	$6.72507-1.35266I$	0
$u=-0.36334+1.37838I$ $a=-0.221898-0.637733I$ $b=-0.959664+0.074146I$	$5.57512+2.07297I$	0
$u=-0.36334-1.37838I$ $a=-0.221898+0.637733I$ $b=-0.959664-0.074146I$	$5.57512-2.07297I$	0
$u=\ \ 0.08011+1.44842I$ $a=\ \ 0.388708-0.632540I$ $b=-0.947321-0.512342I$	$7.93090-3.01833I$	0
$u=\ \ 0.08011-1.44842I$ $a=\ \ 0.388708+0.632540I$ $b=-0.947321+0.512342I$	$7.93090+3.01833I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.19568+1.44259I$ $a=\ \ 0.702045-1.064010I$ $b=-1.39755-1.22097I$	$7.37959+6.62771I$	0
$u=-0.19568-1.44259I$ $a=\ \ 0.702045+1.064010I$ $b=-1.39755+1.22097I$	$7.37959-6.62771I$	0
$u=\ \ 0.536362$ $a=-0.412615$ $b=\ \ 0.221311$	-0.915843	-11.2030
$u=-0.24997+1.44388I$ $a=\ \ 0.287466-1.002230I$ $b=-1.37525-0.66560I$	$7.08466+4.78253I$	0
$u=-0.24997-1.44388I$ $a=\ \ 0.287466+1.002230I$ $b=-1.37525+0.66560I$	$7.08466-4.78253I$	0
$u=-0.04329+1.49707I$ $a=-0.162493+0.458582I$ $b=\ \ 0.679495+0.263116I$	$4.90382-2.29725I$	0
$u=-0.04329-1.49707I$ $a=-0.162493-0.458582I$ $b=\ \ 0.679495-0.263116I$	$4.90382+2.29725I$	0
$u=-0.28675+1.49647I$ $a=-0.546695+1.000300I$ $b=\ \ 1.34014+1.10495I$	$2.39051+13.65630I$	0
$u=-0.28675-1.49647I$ $a=-0.546695-1.000300I$ $b=\ \ 1.34014-1.10495I$	$2.39051-13.65630I$	0
$u=-0.473148+0.012404I$ $a=-1.73924-1.18472I$ $b=-0.837614-0.538973I$	$1.37401+1.60518I$	$0.98727-1.76402I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.473148-0.012404I$ $a=-1.73924+1.18472I$ $b=-0.837614+0.538973I$	$1.37401-1.60518I$	$0.98727+1.76402I$
$u=-0.33123+1.51592I$ $a=-0.164815+0.861559I$ $b=1.251470+0.535219I$	$10.4327+11.7049I$	0
$u=-0.33123-1.51592I$ $a=-0.164815-0.861559I$ $b=1.251470-0.535219I$	$10.4327-11.7049I$	0
$u=-0.15501+1.54465I$ $a=-0.350654+0.808638I$ $b=1.194710+0.666986I$	$13.27140+0.47929I$	0
$u=-0.15501-1.54465I$ $a=-0.350654-0.808638I$ $b=1.194710-0.666986I$	$13.27140-0.47929I$	0
$u=-0.30052+1.54210I$ $a=0.534893-0.962600I$ $b=-1.32368-1.11414I$	$6.7038+19.7778I$	0
$u=-0.30052-1.54210I$ $a=0.534893+0.962600I$ $b=-1.32368+1.11414I$	$6.7038-19.7778I$	0
$u=0.124193+0.376004I$ $a=0.04375-1.87558I$ $b=-0.710661+0.216483I$	$1.99587-1.98789I$	$0.55073+4.64963I$
$u=0.124193-0.376004I$ $a=0.04375+1.87558I$ $b=-0.710661-0.216483I$	$1.99587+1.98789I$	$0.55073-4.64963I$
$u=-0.16302+1.72258I$ $a=0.012987-0.317247I$ $b=-0.544367-0.074090I$	$8.35128-5.41960I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.16302-1.72258I$ $a=\ \ 0.012987+0.317247I$ $b=-0.544367+0.074090I$	$8.35128+5.41960I$	0
$u=\ \ 0.143374+0.069582I$ $a=-6.73222-0.17863I$ $b=\ \ 0.952798+0.494051I$	$1.60714+1.98817I$	$0.01145-3.39198I$
$u=\ \ 0.143374-0.069582I$ $a=-6.73222+0.17863I$ $b=\ \ 0.952798-0.494051I$	$1.60714-1.98817I$	$0.01145+3.39198I$

II. $\boldsymbol{I_2^u = \langle 5.66 \times 10^7 a^3 u^{22} - 2.41 \times 10^8 a^2 u^{22} + \cdots - 3.31 \times 10^8 a - 1.33 \times 10^8,\ -u^{22}a^3 + 5u^{22}a^2 + \cdots - 4a + 51,\ u^{23} - 5u^{22} + \cdots - 6u^2 + 1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -0.100953a^3u^{22} + 0.429241a^2u^{22} + \cdots + 0.589216a + 0.236383 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} a^2u \\ 0.118983a^3u^{22} + 0.100953a^2u^{22} + \cdots - 0.597423a + 0.441808 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.100953a^3u^{22} - 0.429241a^2u^{22} + \cdots + 0.410784a - 0.236383 \\ -0.100953a^3u^{22} + 0.429241a^2u^{22} + \cdots + 0.589216a + 0.236383 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.100514a^3u^{22} - 0.245183a^2u^{22} + \cdots + 0.346239a + 0.178354 \\ 0.118983a^3u^{22} + 0.100953a^2u^{22} + \cdots - 0.597423a - 0.558192 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.216382a^3u^{22} + 0.0434821a^2u^{22} + \cdots + 0.114127a - 0.297301 \\ -0.171643a^3u^{22} - 0.00407502a^2u^{22} + \cdots + 0.141712a - 0.0148777 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.155470a^3u^{22} - 0.104587a^2u^{22} + \cdots + 0.455317a + 0.456813 \\ 0.295891a^3u^{22} - 0.206190a^2u^{22} + \cdots + 1.13295a - 0.333330 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.155444a^3u^{22} + 0.0144758a^2u^{22} + \cdots + 0.745033a - 0.122273 \\ 0.126936a^3u^{22} - 0.0925502a^2u^{22} + \cdots + 0.139554a - 0.879438 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{266998012}{561000751}u^{22}a^3 - \frac{226539012}{561000751}u^{22}a^2 + \cdots + \frac{1340618208}{561000751}a - \frac{11089432646}{561000751}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^{23} + 7u^{22} + \cdots + 4u + 1)^4$
c_2, c_{11}	$u^{92} - 7u^{91} + \cdots + 206u + 37$
c_3, c_9	$u^{92} + u^{91} + \cdots - 141040u + 27037$
c_5	$(u^2 + u + 1)^{46}$
c_6, c_7, c_{10}	$(u^{23} + 5u^{22} + \cdots + 6u^2 - 1)^4$
c_8, c_{12}	$u^{92} - u^{91} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{23} + 15y^{22} + \cdots - 12y - 1)^4$
c_2, c_{11}	$y^{92} + 15y^{91} + \cdots + 12324y + 1369$
c_3, c_9	$y^{92} - 9y^{91} + \cdots - 4059414400y + 730999369$
c_5	$(y^2 + y + 1)^{46}$
c_6, c_7, c_{10}	$(y^{23} + 23y^{22} + \cdots + 12y - 1)^4$
c_8, c_{12}	$y^{92} - 21y^{91} + \cdots - 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.816909 + 0.632975I$ $a = -0.132905 - 1.127110I$ $b = 0.955647 - 0.890603I$	$-1.16253 - 5.71950I$	$-10.3146 + 14.3306I$
$u = 0.816909 + 0.632975I$ $a = 0.656732 + 0.473901I$ $b = 0.160095 + 0.441907I$	$-1.16253 - 1.65973I$	$-10.31455 + 7.40239I$
$u = 0.816909 + 0.632975I$ $a = -0.203134 + 1.247610I$ $b = -0.604864 + 1.004880I$	$-1.16253 - 5.71950I$	$-10.3146 + 14.3306I$
$u = 0.816909 + 0.632975I$ $a = -0.384363 - 0.243129I$ $b = -0.236523 - 0.802829I$	$-1.16253 - 1.65973I$	$-10.31455 + 7.40239I$
$u = 0.816909 - 0.632975I$ $a = -0.132905 + 1.127110I$ $b = 0.955647 + 0.890603I$	$-1.16253 + 5.71950I$	$-10.3146 - 14.3306I$
$u = 0.816909 - 0.632975I$ $a = 0.656732 - 0.473901I$ $b = 0.160095 - 0.441907I$	$-1.16253 + 1.65973I$	$-10.31455 - 7.40239I$
$u = 0.816909 - 0.632975I$ $a = -0.203134 - 1.247610I$ $b = -0.604864 - 1.004880I$	$-1.16253 + 5.71950I$	$-10.3146 - 14.3306I$
$u = 0.816909 - 0.632975I$ $a = -0.384363 + 0.243129I$ $b = -0.236523 + 0.802829I$	$-1.16253 + 1.65973I$	$-10.31455 - 7.40239I$
$u = 0.801341 + 0.397729I$ $a = -0.918744 - 0.455551I$ $b = -0.207708 - 0.570360I$	$-1.84456 + 0.33069I$	$-13.29306 - 2.86632I$
$u = 0.801341 + 0.397729I$ $a = -0.173679 + 1.071300I$ $b = -0.877581 + 1.010140I$	$-1.84456 - 3.72908I$	$-13.29306 + 4.06189I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.801341 + 0.397729I$ $a = 0.491411 + 0.467855I$ $b = 0.555041 + 0.730463I$	$-1.84456 + 0.33069I$	$-13.29306 - 2.86632I$
$u = 0.801341 + 0.397729I$ $a = 0.37669 - 1.44753I$ $b = 0.565262 - 0.789396I$	$-1.84456 - 3.72908I$	$-13.29306 + 4.06189I$
$u = 0.801341 - 0.397729I$ $a = -0.918744 + 0.455551I$ $b = -0.207708 + 0.570360I$	$-1.84456 - 0.33069I$	$-13.29306 + 2.86632I$
$u = 0.801341 - 0.397729I$ $a = -0.173679 - 1.071300I$ $b = -0.877581 - 1.010140I$	$-1.84456 + 3.72908I$	$-13.29306 - 4.06189I$
$u = 0.801341 - 0.397729I$ $a = 0.491411 - 0.467855I$ $b = 0.555041 - 0.730463I$	$-1.84456 - 0.33069I$	$-13.29306 + 2.86632I$
$u = 0.801341 - 0.397729I$ $a = 0.37669 + 1.44753I$ $b = 0.565262 + 0.789396I$	$-1.84456 + 3.72908I$	$-13.29306 - 4.06189I$
$u = 0.183062 + 0.717931I$ $a = -0.573742 - 1.227590I$ $b = 0.150561 + 0.314245I$	$2.40316 - 2.52933I$	$-0.58287 + 2.63457I$
$u = 0.183062 + 0.717931I$ $a = -0.461198 + 0.092116I$ $b = -0.776293 + 0.636632I$	$2.40316 - 2.52933I$	$-0.58287 + 2.63457I$
$u = 0.183062 + 0.717931I$ $a = 0.01885 - 1.53818I$ $b = 0.59714 - 1.28539I$	$2.40316 - 6.58910I$	$-0.58287 + 9.56277I$
$u = 0.183062 + 0.717931I$ $a = 1.48197 + 1.20963I$ $b = -1.107760 + 0.268048I$	$2.40316 - 6.58910I$	$-0.58287 + 9.56277I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.183062 - 0.717931I$ $a = -0.573742 + 1.227590I$ $b = 0.150561 - 0.314245I$	$2.40316 + 2.52933I$	$-0.58287 - 2.63457I$
$u = 0.183062 - 0.717931I$ $a = -0.461198 - 0.092116I$ $b = -0.776293 - 0.636632I$	$2.40316 + 2.52933I$	$-0.58287 - 2.63457I$
$u = 0.183062 - 0.717931I$ $a = 0.01885 + 1.53818I$ $b = 0.59714 + 1.28539I$	$2.40316 + 6.58910I$	$-0.58287 - 9.56277I$
$u = 0.183062 - 0.717931I$ $a = 1.48197 - 1.20963I$ $b = -1.107760 - 0.268048I$	$2.40316 + 6.58910I$	$-0.58287 - 9.56277I$
$u = 0.111985 + 1.275990I$ $a = -0.924330 - 0.026533I$ $b = 0.326257 + 0.347377I$	$2.88331 - 2.69431I$	$-6.87243 + 2.20033I$
$u = 0.111985 + 1.275990I$ $a = 0.714488 + 0.420155I$ $b = -1.97889 + 0.53671I$	$2.88331 - 6.75407I$	$-6.87243 + 9.12853I$
$u = 0.111985 + 1.275990I$ $a = -0.28234 - 1.57564I$ $b = 0.456102 - 0.958731I$	$2.88331 - 6.75407I$	$-6.87243 + 9.12853I$
$u = 0.111985 + 1.275990I$ $a = -0.292428 + 0.230025I$ $b = 0.069655 + 1.182410I$	$2.88331 - 2.69431I$	$-6.87243 + 2.20033I$
$u = 0.111985 - 1.275990I$ $a = -0.924330 + 0.026533I$ $b = 0.326257 - 0.347377I$	$2.88331 + 2.69431I$	$-6.87243 - 2.20033I$
$u = 0.111985 - 1.275990I$ $a = 0.714488 - 0.420155I$ $b = -1.97889 - 0.53671I$	$2.88331 + 6.75407I$	$-6.87243 - 9.12853I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.111985 - 1.275990I$ $a = -0.28234 + 1.57564I$ $b = 0.456102 + 0.958731I$	$2.88331 + 6.75407I$	$-6.87243 - 9.12853I$
$u = 0.111985 - 1.275990I$ $a = -0.292428 - 0.230025I$ $b = 0.069655 - 1.182410I$	$2.88331 + 2.69431I$	$-6.87243 - 2.20033I$
$u = 0.605875 + 0.307254I$ $a = 0.657522 + 0.536626I$ $b = 0.811755 + 0.560398I$	$-1.67096 + 0.25033I$	$-11.09313 + 1.32660I$
$u = 0.605875 + 0.307254I$ $a = -0.377921 + 1.171620I$ $b = -0.906876 + 1.077900I$	$-1.67096 - 3.80943I$	$-11.09313 + 8.25480I$
$u = 0.605875 + 0.307254I$ $a = -1.43883 - 0.19527I$ $b = -0.233496 - 0.527155I$	$-1.67096 + 0.25033I$	$-11.09313 + 1.32660I$
$u = 0.605875 + 0.307254I$ $a = 0.47296 - 2.01893I$ $b = 0.588957 - 0.593734I$	$-1.67096 - 3.80943I$	$-11.09313 + 8.25480I$
$u = 0.605875 - 0.307254I$ $a = 0.657522 - 0.536626I$ $b = 0.811755 - 0.560398I$	$-1.67096 - 0.25033I$	$-11.09313 - 1.32660I$
$u = 0.605875 - 0.307254I$ $a = -0.377921 - 1.171620I$ $b = -0.906876 - 1.077900I$	$-1.67096 + 3.80943I$	$-11.09313 - 8.25480I$
$u = 0.605875 - 0.307254I$ $a = -1.43883 + 0.19527I$ $b = -0.233496 + 0.527155I$	$-1.67096 - 0.25033I$	$-11.09313 - 1.32660I$
$u = 0.605875 - 0.307254I$ $a = 0.47296 + 2.01893I$ $b = 0.588957 + 0.593734I$	$-1.67096 + 3.80943I$	$-11.09313 - 8.25480I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.052152+1.332210I$ $a=-0.801782+0.035405I$ $b=\ \ 2.05182+0.52630I$	$0.292728-0.708872I$	$-10.99704-0.88326I$
$u=-0.052152+1.332210I$ $a=-0.33425+1.55325I$ $b=\ \ 0.005352+1.069990I$	$0.292728-0.708872I$	$-10.99704-0.88326I$
$u=-0.052152+1.332210I$ $a=\ \ 0.121716-0.181614I$ $b=\ \ 0.58944-2.40808I$	$0.29273+3.35089I$	$-10.99704-7.81146I$
$u=-0.052152+1.332210I$ $a=\ \ 1.82212+0.37112I$ $b=-0.235600-0.171622I$	$0.29273+3.35089I$	$-10.99704-7.81146I$
$u=-0.052152-1.332210I$ $a=-0.801782-0.035405I$ $b=\ \ 2.05182-0.52630I$	$0.292728+0.708872I$	$-10.99704+0.88326I$
$u=-0.052152-1.332210I$ $a=-0.33425-1.55325I$ $b=\ \ 0.005352-1.069990I$	$0.292728+0.708872I$	$-10.99704+0.88326I$
$u=-0.052152-1.332210I$ $a=\ \ 0.121716+0.181614I$ $b=\ \ 0.58944+2.40808I$	$0.29273-3.35089I$	$-10.99704+7.81146I$
$u=-0.052152-1.332210I$ $a=\ \ 1.82212-0.37112I$ $b=-0.235600+0.171622I$	$0.29273-3.35089I$	$-10.99704+7.81146I$
$u=-0.096870+1.402080I$ $a=\ \ 0.334278-0.927721I$ $b=-0.26543-1.67133I$	$5.35246+5.29024I$	$-3.16679-5.90545I$
$u=-0.096870+1.402080I$ $a=\ \ 1.173360-0.270378I$ $b=-1.268360-0.558555I$	$5.35246+5.29024I$	$-3.16679-5.90545I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.096870+1.402080I$ $a=-0.045350+0.201337I$ $b=-1.44214+2.36016I$	$5.35246+9.35001I$	$-3.16679-12.83365I$
$u=-0.096870+1.402080I$ $a=-1.74605-0.90794I$ $b=0.277898+0.083088I$	$5.35246+9.35001I$	$-3.16679-12.83365I$
$u=-0.096870-1.402080I$ $a=0.334278+0.927721I$ $b=-0.26543+1.67133I$	$5.35246-5.29024I$	$-3.16679+5.90545I$
$u=-0.096870-1.402080I$ $a=1.173360+0.270378I$ $b=-1.268360+0.558555I$	$5.35246-5.29024I$	$-3.16679+5.90545I$
$u=-0.096870-1.402080I$ $a=-0.045350-0.201337I$ $b=-1.44214-2.36016I$	$5.35246-9.35001I$	$-3.16679+12.83365I$
$u=-0.096870-1.402080I$ $a=-1.74605+0.90794I$ $b=0.277898-0.083088I$	$5.35246-9.35001I$	$-3.16679+12.83365I$
$u=0.26164+1.48846I$ $a=0.541804+0.713453I$ $b=-1.39530+1.05281I$	$4.27121-7.43348I$	$-6.73363+5.21535I$
$u=0.26164+1.48846I$ $a=-0.526279-1.029920I$ $b=0.920184-0.993121I$	$4.27121-7.43348I$	$-6.73363+5.21535I$
$u=0.26164+1.48846I$ $a=0.071703+0.543174I$ $b=-0.500478+0.630455I$	$4.27121-3.37372I$	$-6.73363-1.71285I$
$u=0.26164+1.48846I$ $a=-0.353535-0.398385I$ $b=0.789730-0.248843I$	$4.27121-3.37372I$	$-6.73363-1.71285I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.26164 - 1.48846I$ $a = 0.541804 - 0.713453I$ $b = -1.39530 - 1.05281I$	$4.27121 + 7.43348I$	$-6.73363 - 5.21535I$
$u = 0.26164 - 1.48846I$ $a = -0.526279 + 1.029920I$ $b = 0.920184 + 0.993121I$	$4.27121 + 7.43348I$	$-6.73363 - 5.21535I$
$u = 0.26164 - 1.48846I$ $a = 0.071703 - 0.543174I$ $b = -0.500478 - 0.630455I$	$4.27121 + 3.37372I$	$-6.73363 + 1.71285I$
$u = 0.26164 - 1.48846I$ $a = -0.353535 + 0.398385I$ $b = 0.789730 + 0.248843I$	$4.27121 + 3.37372I$	$-6.73363 + 1.71285I$
$u = 0.11855 + 1.54039I$ $a = -0.281597 - 1.006820I$ $b = 0.364867 - 0.311396I$	$9.79790 - 3.98573I$	$3.34351 + 1.99239I$
$u = 0.11855 + 1.54039I$ $a = -0.313354 - 0.661484I$ $b = 1.34877 - 1.68020I$	$9.79790 - 8.04549I$	$3.34351 + 8.92059I$
$u = 0.11855 + 1.54039I$ $a = 1.017350 + 0.953900I$ $b = -0.981796 + 0.561108I$	$9.79790 - 8.04549I$	$3.34351 + 8.92059I$
$u = 0.11855 + 1.54039I$ $a = 0.182841 + 0.250938I$ $b = -1.51751 + 0.55313I$	$9.79790 - 3.98573I$	$3.34351 + 1.99239I$
$u = 0.11855 - 1.54039I$ $a = -0.281597 + 1.006820I$ $b = 0.364867 + 0.311396I$	$9.79790 + 3.98573I$	$3.34351 - 1.99239I$
$u = 0.11855 - 1.54039I$ $a = -0.313354 + 0.661484I$ $b = 1.34877 + 1.68020I$	$9.79790 + 8.04549I$	$3.34351 - 8.92059I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.11855 - 1.54039I$ $a = 1.017350 - 0.953900I$ $b = -0.981796 - 0.561108I$	$9.79790 + 8.04549I$	$3.34351 - 8.92059I$
$u = 0.11855 - 1.54039I$ $a = 0.182841 - 0.250938I$ $b = -1.51751 - 0.55313I$	$9.79790 + 3.98573I$	$3.34351 - 1.99239I$
$u = 0.29767 + 1.56676I$ $a = -0.647721 - 0.738613I$ $b = 1.30323 - 0.85409I$	$5.98402 - 9.89332I$	$-2.38194 + 13.91001I$
$u = 0.29767 + 1.56676I$ $a = 0.373610 + 0.902781I$ $b = -0.96442 + 1.23469I$	$5.98402 - 9.89332I$	$-2.38194 + 13.91001I$
$u = 0.29767 + 1.56676I$ $a = 0.399520 + 0.556339I$ $b = -0.592520 + 0.307844I$	$5.98402 - 5.83356I$	$-2.38194 + 6.98181I$
$u = 0.29767 + 1.56676I$ $a = -0.120291 - 0.401036I$ $b = 0.752725 - 0.791559I$	$5.98402 - 5.83356I$	$-2.38194 + 6.98181I$
$u = 0.29767 - 1.56676I$ $a = -0.647721 + 0.738613I$ $b = 1.30323 + 0.85409I$	$5.98402 + 9.89332I$	$-2.38194 - 13.91001I$
$u = 0.29767 - 1.56676I$ $a = 0.373610 - 0.902781I$ $b = -0.96442 - 1.23469I$	$5.98402 + 9.89332I$	$-2.38194 - 13.91001I$
$u = 0.29767 - 1.56676I$ $a = 0.399520 - 0.556339I$ $b = -0.592520 - 0.307844I$	$5.98402 + 5.83356I$	$-2.38194 - 6.98181I$
$u = 0.29767 - 1.56676I$ $a = -0.120291 + 0.401036I$ $b = 0.752725 + 0.791559I$	$5.98402 + 5.83356I$	$-2.38194 - 6.98181I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.370862+0.160193I$ $a=-0.37927+1.48446I$ $b=-1.34705+1.21058I$	$0.28220+7.76558I$	$-12.5426-14.9198I$
$u=-0.370862+0.160193I$ $a=0.78273-2.65115I$ $b=-0.818415-0.884781I$	$0.28220+3.70582I$	$-12.5426-7.9916I$
$u=-0.370862+0.160193I$ $a=-0.99132-2.81394I$ $b=-0.134412-1.108600I$	$0.28220+3.70582I$	$-12.5426-7.9916I$
$u=-0.370862+0.160193I$ $a=-4.24934+1.42873I$ $b=0.097142+0.611286I$	$0.28220+7.76558I$	$-12.5426-14.9198I$
$u=-0.370862-0.160193I$ $a=-0.37927-1.48446I$ $b=-1.34705-1.21058I$	$0.28220-7.76558I$	$-12.5426+14.9198I$
$u=-0.370862-0.160193I$ $a=0.78273+2.65115I$ $b=-0.818415+0.884781I$	$0.28220-3.70582I$	$-12.5426+7.9916I$
$u=-0.370862-0.160193I$ $a=-0.99132+2.81394I$ $b=-0.134412+1.108600I$	$0.28220-3.70582I$	$-12.5426+7.9916I$
$u=-0.370862-0.160193I$ $a=-4.24934-1.42873I$ $b=0.097142-0.611286I$	$0.28220-7.76558I$	$-12.5426+14.9198I$
$u=-0.354306$ $a=0.17563+2.02911I$ $b=1.09356+1.28296I$	$-3.82984-2.02988I$	$-22.7310+3.4641I$
$u=-0.354306$ $a=0.17563-2.02911I$ $b=1.09356-1.28296I$	$-3.82984+2.02988I$	$-22.7310-3.4641I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.354306$		
$a=\ \ 3.08650+3.62106I$	$-3.82984-2.02988I$	$-22.7310+3.4641I$
$b=\ \ 0.062227+0.718925I$		
$u=-0.354306$		
$a=\ \ 3.08650-3.62106I$	$-3.82984+2.02988I$	$-22.7310-3.4641I$
$b=\ \ 0.062227-0.718925I$		

III. $I_3^u = \langle 59u^{27} - 471u^{26} + \cdots + 47b - 50,\ 50u^{27} - 341u^{26} + \cdots + 47a + 58,\ u^{28} - 8u^{27} + \cdots - 2u + 1\rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.06383u^{27} + 7.25532u^{26} + \cdots - 3.34043u - 1.23404 \\ -1.25532u^{27} + 10.0213u^{26} + \cdots - 3.36170u + 1.06383 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0.212766u^{27} - 1.85106u^{26} + \cdots + 0.468085u - 0.553191 \\ -0.148936u^{27} + 1.59574u^{26} + \cdots + 0.872340u - 0.212766 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.191489u^{27} - 2.76596u^{26} + \cdots + 0.0212766u - 2.29787 \\ -1.25532u^{27} + 10.0213u^{26} + \cdots - 3.36170u + 1.06383 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.595745u^{27} - 5.38298u^{26} + \cdots + 5.51064u - 2.14894 \\ -0.212766u^{27} + 1.85106u^{26} + \cdots - 2.46809u - 0.446809 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.787234u^{27} + 4.14894u^{26} + \cdots - 0.531915u - 1.55319 \\ -1.51064u^{27} + 12.0426u^{26} + \cdots - 3.72340u + 1.12766 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0425532u^{27} - 0.170213u^{26} + \cdots + 3.89362u - 2.51064 \\ -0.297872u^{27} + 2.19149u^{26} + \cdots - 2.25532u + 0.574468 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.10638u^{27} - 8.42553u^{26} + \cdots - 2.76596u + 1.72340 \\ 0.191489u^{27} - 1.76596u^{26} + \cdots + 4.02128u - 1.29787 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{409}{47}u^{27} - \frac{2952}{47}u^{26} + \cdots + \frac{928}{47}u - \frac{631}{47}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28} - 10u^{27} + \cdots - 87u + 13$
c_2, c_{11}	$u^{28} + 3u^{27} + \cdots + 2u + 1$
c_3, c_9	$u^{28} - u^{27} + \cdots - 7u + 1$
c_4	$u^{28} + 10u^{27} + \cdots + 87u + 13$
c_5	$u^{28} - u^{27} + \cdots + 6u + 1$
c_6, c_7	$u^{28} - 8u^{27} + \cdots - 2u + 1$
c_8, c_{12}	$u^{28} - u^{27} + \cdots + u + 1$
c_{10}	$u^{28} + 8u^{27} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{28} + 24y^{27} + \cdots + 3793y + 169$
c_2, c_{11}	$y^{28} + 7y^{27} + \cdots + 12y + 1$
c_3, c_9	$y^{28} - y^{27} + \cdots - 7y + 1$
c_5	$y^{28} + 15y^{27} + \cdots - 20y + 1$
c_6, c_7, c_{10}	$y^{28} + 28y^{27} + \cdots + 8y + 1$
c_8, c_{12}	$y^{28} - 11y^{27} + \cdots - 17y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.826281 + 0.576167I$ $a = -0.075421 + 1.153680I$ $b = -0.727028 + 0.909805I$	$-1.00522 - 4.77212I$	$-6.00000 + 5.13529I$
$u = 0.826281 - 0.576167I$ $a = -0.075421 - 1.153680I$ $b = -0.727028 - 0.909805I$	$-1.00522 + 4.77212I$	$-6.00000 - 5.13529I$
$u = 1.055240 + 0.007074I$ $a = 0.262407 - 0.362782I$ $b = 0.279469 - 0.380966I$	$-1.17311 - 1.21773I$	$-11.7683 + 18.4278I$
$u = 1.055240 - 0.007074I$ $a = 0.262407 + 0.362782I$ $b = 0.279469 + 0.380966I$	$-1.17311 + 1.21773I$	$-11.7683 - 18.4278I$
$u = 1.033550 + 0.510555I$ $a = -0.372133 - 0.276260I$ $b = -0.243573 - 0.475523I$	$-1.26351 - 1.00699I$	$-13.3094 - 10.7825I$
$u = 1.033550 - 0.510555I$ $a = -0.372133 + 0.276260I$ $b = -0.243573 + 0.475523I$	$-1.26351 + 1.00699I$	$-13.3094 + 10.7825I$
$u = -0.027818 + 1.182340I$ $a = 0.854342 - 0.070049I$ $b = 0.059056 + 1.012070I$	$3.23180 + 3.06600I$	$5.06709 - 12.60017I$
$u = -0.027818 - 1.182340I$ $a = 0.854342 + 0.070049I$ $b = 0.059056 - 1.012070I$	$3.23180 - 3.06600I$	$5.06709 + 12.60017I$
$u = 0.139552 + 1.302460I$ $a = -0.646984 - 0.589290I$ $b = 0.677236 - 0.924903I$	$2.97091 - 4.72480I$	$-6.00000 + 6.29565I$
$u = 0.139552 - 1.302460I$ $a = -0.646984 + 0.589290I$ $b = 0.677236 + 0.924903I$	$2.97091 + 4.72480I$	$-6.00000 - 6.29565I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.006578+1.336890I$ $a=\ \ 0.866683+0.633813I$ $b=-0.85304+1.15449I$	$0.59900+2.06815I$	$-8.19665-3.62924I$
$u=-0.006578-1.336890I$ $a=\ \ 0.866683-0.633813I$ $b=-0.85304-1.15449I$	$0.59900-2.06815I$	$-8.19665+3.62924I$
$u=-0.066422+1.387730I$ $a=-0.836610-0.634596I$ $b=\ \ 0.93622-1.11884I$	$5.24801+8.22321I$	$-6.00000-4.19364I$
$u=-0.066422-1.387730I$ $a=-0.836610+0.634596I$ $b=\ \ 0.93622+1.11884I$	$5.24801-8.22321I$	$-6.00000+4.19364I$
$u=\ \ 0.421190+0.370789I$ $a=-0.18726-2.30354I$ $b=\ \ 0.775254-1.039660I$	$1.09986-4.14329I$	$-5.4583+13.1620I$
$u=\ \ 0.421190-0.370789I$ $a=-0.18726+2.30354I$ $b=\ \ 0.775254+1.039660I$	$1.09986+4.14329I$	$-5.4583-13.1620I$
$u=\ \ 0.18349+1.45815I$ $a=-0.692963-0.960195I$ $b=\ \ 1.27296-1.18662I$	$7.08958-6.51889I$	0
$u=\ \ 0.18349-1.45815I$ $a=-0.692963+0.960195I$ $b=\ \ 1.27296+1.18662I$	$7.08958+6.51889I$	0
$u=\ \ 0.31048+1.53901I$ $a=-0.148210-0.503925I$ $b=\ \ 0.729529-0.384554I$	$4.77832-4.06764I$	0
$u=\ \ 0.31048-1.53901I$ $a=-0.148210+0.503925I$ $b=\ \ 0.729529+0.384554I$	$4.77832+4.06764I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.29019 + 1.54957I$ $a = \ 0.513688 + 0.811901I$ $b = -1.10903 + 1.03160I$	$5.89872 - 8.87295I$	0
$u = \ 0.29019 - 1.54957I$ $a = \ 0.513688 - 0.811901I$ $b = -1.10903 - 1.03160I$	$5.89872 + 8.87295I$	0
$u = \ 0.06343 + 1.67014I$ $a = \ 0.277618 + 0.244945I$ $b = -0.391482 + 0.479199I$	$7.78404 - 5.94723I$	0
$u = \ 0.06343 - 1.67014I$ $a = \ 0.277618 - 0.244945I$ $b = -0.391482 - 0.479199I$	$7.78404 + 5.94723I$	0
$u = \ 0.008501 + 0.315744I$ $a = -2.52227 + 1.21558I$ $b = -0.405253 - 0.786056I$	$-3.12515 - 2.03402I$	$-8.09076 + 3.19595I$
$u = \ 0.008501 - 0.315744I$ $a = -2.52227 - 1.21558I$ $b = -0.405253 + 0.786056I$	$-3.12515 + 2.03402I$	$-8.09076 - 3.19595I$
$u = -0.231094 + 0.125953I$ $a = -0.29289 - 3.42985I$ $b = \ 0.499686 + 0.755725I$	$0.76542 - 7.25391I$	$-3.00320 + 4.52417I$
$u = -0.231094 - 0.125953I$ $a = -0.29289 + 3.42985I$ $b = \ 0.499686 - 0.755725I$	$0.76542 + 7.25391I$	$-3.00320 - 4.52417I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^{23}+7u^{22}+\cdots+4u+1)^4)(u^{28}-10u^{27}+\cdots-87u+13)$ $\cdot(u^{53}-21u^{52}+\cdots-3256u+192)$
c_2, c_{11}	$(u^{28}+3u^{27}+\cdots+2u+1)(u^{53}-3u^{52}+\cdots+7u+1)$ $\cdot(u^{92}-7u^{91}+\cdots+206u+37)$
c_3, c_9	$(u^{28}-u^{27}+\cdots-7u+1)(u^{53}-u^{52}+\cdots-12u+1)$ $\cdot(u^{92}+u^{91}+\cdots-141040u+27037)$
c_4	$((u^{23}+7u^{22}+\cdots+4u+1)^4)(u^{28}+10u^{27}+\cdots+87u+13)$ $\cdot(u^{53}-21u^{52}+\cdots-3256u+192)$
c_5	$((u^2+u+1)^{46})(u^{28}-u^{27}+\cdots+6u+1)$ $\cdot(u^{53}-38u^{52}+\cdots-150994944u+8388608)$
c_6, c_7	$((u^{23}+5u^{22}+\cdots+6u^2-1)^4)(u^{28}-8u^{27}+\cdots-2u+1)$ $\cdot(u^{53}-13u^{52}+\cdots-18u+4)$
c_8, c_{12}	$(u^{28}-u^{27}+\cdots+u+1)(u^{53}+u^{52}+\cdots+18u^2+1)$ $\cdot(u^{92}-u^{91}+\cdots+2u+1)$
c_{10}	$((u^{23}+5u^{22}+\cdots+6u^2-1)^4)(u^{28}+8u^{27}+\cdots+2u+1)$ $\cdot(u^{53}-13u^{52}+\cdots-18u+4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^{23}+15y^{22}+\cdots-12y-1)^4)(y^{28}+24y^{27}+\cdots+3793y+169)$ $\cdot(y^{53}+39y^{52}+\cdots+230080y-36864)$
c_2, c_{11}	$(y^{28}+7y^{27}+\cdots+12y+1)(y^{53}-25y^{52}+\cdots-89y-1)$ $\cdot(y^{92}+15y^{91}+\cdots+12324y+1369)$
c_3, c_9	$(y^{28}-y^{27}+\cdots-7y+1)(y^{53}-5y^{52}+\cdots+10y-1)$ $\cdot(y^{92}-9y^{91}+\cdots-4059414400y+730999369)$
c_5	$((y^2+y+1)^{46})(y^{28}+15y^{27}+\cdots-20y+1)$ $\cdot(y^{53}+16y^{52}+\cdots+140737488355328y-70368744177664)$
c_6, c_7, c_{10}	$((y^{23}+23y^{22}+\cdots+12y-1)^4)(y^{28}+28y^{27}+\cdots+8y+1)$ $\cdot(y^{53}+51y^{52}+\cdots+764y-16)$
c_8, c_{12}	$(y^{28}-11y^{27}+\cdots-17y+1)(y^{53}+17y^{52}+\cdots-36y-1)$ $\cdot(y^{92}-21y^{91}+\cdots-8y+1)$