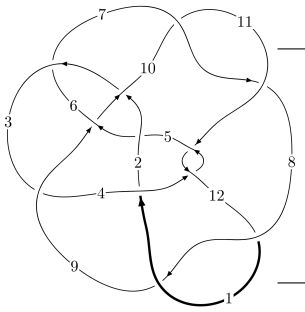
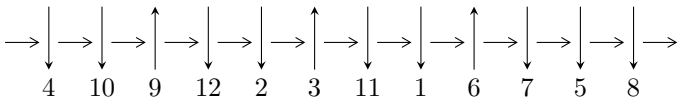
$12a_{1186}$ $(K12a_{1186})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -4.29362 \times 10^{974} u^{160} + 9.03975 \times 10^{975} u^{159} + \cdots + 2.56768 \times 10^{977} b - 5.48790 \times 10^{979},$$
$$2.14000 \times 10^{981} u^{160} + 8.49665 \times 10^{979} u^{159} + \cdots + 7.75053 \times 10^{982} a + 1.27842 \times 10^{985},$$
$$u^{161} + u^{160} + \cdots + 24936u + 6037 \rangle$$
$$I_2^u = \langle 8.82947 \times 10^{39} u^{38} - 3.03134 \times 10^{39} u^{37} + \cdots + 1.76750 \times 10^{39} b - 1.68233 \times 10^{39},$$
$$6.00426 \times 10^{41} u^{38} - 8.14543 \times 10^{40} u^{37} + \cdots + 4.41875 \times 10^{40} a + 1.01665 \times 10^{42},\ u^{39} - 11u^{37} + \cdots + 3u -$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 200 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. $\boldsymbol{I_1^u = \langle -4.29 \times 10^{974} u^{160} + 9.04 \times 10^{975} u^{159} + \cdots + 2.57 \times 10^{977} b - 5.49 \times 10^{979},\ 2.14 \times 10^{981} u^{160} + 8.50 \times 10^{979} u^{159} + \cdots + 7.75 \times 10^{982} a + 1.28 \times 10^{985},\ u^{161} + u^{160} + \cdots + 24936u + 6037 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.0276110u^{160} - 0.00109627u^{159} + \cdots - 596.130u - 164.946 \\ 0.00167218u^{160} - 0.0352059u^{159} + \cdots + 881.794u + 213.730 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0259389u^{160} - 0.0363022u^{159} + \cdots + 285.664u + 48.7846 \\ 0.00167218u^{160} - 0.0352059u^{159} + \cdots + 881.794u + 213.730 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0140242u^{160} + 0.0992901u^{159} + \cdots - 2567.63u - 568.860 \\ 0.0512106u^{160} + 0.0914353u^{159} + \cdots - 1358.16u - 259.711 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0283411u^{160} + 0.00279385u^{159} + \cdots - 716.842u - 195.452 \\ 0.00124565u^{160} - 0.0347879u^{159} + \cdots + 864.002u + 207.442 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0511473u^{160} + 0.0914235u^{159} + \cdots - 1305.75u - 241.050 \\ -0.0126687u^{160} + 0.0104702u^{159} + \cdots - 455.455u - 123.126 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0636829u^{160} + 0.0996925u^{159} + \cdots - 1408.75u - 255.065 \\ 0.00974077u^{160} + 0.0620108u^{159} + \cdots - 1360.10u - 317.976 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0711499u^{160} + 0.0878869u^{159} + \cdots - 1083.95u - 147.955 \\ 0.0378081u^{160} + 0.0759707u^{159} + \cdots - 1106.45u - 204.614 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.665656u^{160} + 1.37405u^{159} + \cdots - 21354.7u - 4205.34 \\ -0.0352658u^{160} - 0.0888632u^{159} + \cdots + 1676.79u + 350.164 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.338853u^{160} - 0.432348u^{159} + \cdots + 7021.47u + 747.654$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{161}+14u^{160}+\cdots+298224u-35381)$
c_2	$u^{161}-9u^{160}+\cdots-548262u+99355$
c_3	$u^{161}-7u^{160}+\cdots+4011301212363u+841089013283$
c_4, c_{11}	$u^{161}+45u^{159}+\cdots+4938u+811$
c_5	$u^{161}-2u^{160}+\cdots+765004288u+512157412$
c_6	$u^{161}-9u^{160}+\cdots-454022u-31165$
c_7, c_{10}	$5(5u^{161}+13u^{160}+\cdots-906128u-1823792)$
c_8, c_{12}	$u^{161}-u^{160}+\cdots+24936u-6037$
c_9	$5(5u^{161}-2u^{160}+\cdots-51u-1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{161} - 1686y^{160} + \cdots + 4.37080 \times 10^{11}y - 1.25182 \times 10^9)$
c_2	$y^{161} - 85y^{160} + \cdots + 456455767864y - 9871416025$
c_3	$y^{161} + 49y^{160} + \cdots - 3.51 \times 10^{25}y - 7.07 \times 10^{23}$
c_4, c_{11}	$y^{161} + 90y^{160} + \cdots + 12246418y - 657721$
c_5	$y^{161} - 36y^{160} + \cdots - 6.33 \times 10^{18}y - 2.62 \times 10^{17}$
c_6	$y^{161} + 61y^{160} + \cdots + 157597174614y - 971257225$
c_7, c_{10}	$25 \cdot (25y^{161} - 2849y^{160} + \cdots - 219322678065152y - 3326217259264)$
c_8, c_{12}	$y^{161} - 105y^{160} + \cdots + 3354234814y - 36445369$
c_9	$25(25y^{161} + 1126y^{160} + \cdots + 1967y - 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.997231 + 0.047117I$ $a = -0.43191 - 1.44048I$ $b = -0.10014 + 1.49479I$	$-1.88652 - 1.20331I$	0
$u = 0.997231 - 0.047117I$ $a = -0.43191 + 1.44048I$ $b = -0.10014 - 1.49479I$	$-1.88652 + 1.20331I$	0
$u = 1.001590 + 0.013656I$ $a = 4.17228 + 0.26887I$ $b = 0.131236 - 0.863602I$	$-3.63160 - 0.05409I$	0
$u = 1.001590 - 0.013656I$ $a = 4.17228 - 0.26887I$ $b = 0.131236 + 0.863602I$	$-3.63160 + 0.05409I$	0
$u = 0.469079 + 0.869391I$ $a = 0.793271 - 0.991446I$ $b = -0.603780 + 0.420923I$	$-5.56060 - 0.85512I$	0
$u = 0.469079 - 0.869391I$ $a = 0.793271 + 0.991446I$ $b = -0.603780 - 0.420923I$	$-5.56060 + 0.85512I$	0
$u = -1.019120 + 0.053244I$ $a = -0.106597 - 0.984322I$ $b = -0.08565 + 2.19234I$	$-2.73668 + 6.02897I$	0
$u = -1.019120 - 0.053244I$ $a = -0.106597 + 0.984322I$ $b = -0.08565 - 2.19234I$	$-2.73668 - 6.02897I$	0
$u = -0.879021 + 0.412006I$ $a = 1.05605 + 1.06424I$ $b = 0.279868 - 0.990779I$	$1.84415 + 2.12053I$	0
$u = -0.879021 - 0.412006I$ $a = 1.05605 - 1.06424I$ $b = 0.279868 + 0.990779I$	$1.84415 - 2.12053I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.924911 + 0.273015I$ $a = -0.392924 + 0.428602I$ $b = 0.40296 - 1.66723I$	$-0.86418 - 3.14112I$	0
$u = 0.924911 - 0.273015I$ $a = -0.392924 - 0.428602I$ $b = 0.40296 + 1.66723I$	$-0.86418 + 3.14112I$	0
$u = 0.205271 + 1.020660I$ $a = -0.38916 + 1.69345I$ $b = 0.545906 - 0.623479I$	$-4.32822 + 0.22652I$	0
$u = 0.205271 - 1.020660I$ $a = -0.38916 - 1.69345I$ $b = 0.545906 + 0.623479I$	$-4.32822 - 0.22652I$	0
$u = 0.234051 + 0.919743I$ $a = -0.41837 - 1.46533I$ $b = 0.504875 + 1.181830I$	$-1.05075 - 5.36609I$	0
$u = 0.234051 - 0.919743I$ $a = -0.41837 + 1.46533I$ $b = 0.504875 - 1.181830I$	$-1.05075 + 5.36609I$	0
$u = 0.083853 + 0.943879I$ $a = -0.08194 - 1.69278I$ $b = -0.338894 + 1.231970I$	$2.03563 + 8.47449I$	0
$u = 0.083853 - 0.943879I$ $a = -0.08194 + 1.69278I$ $b = -0.338894 - 1.231970I$	$2.03563 - 8.47449I$	0
$u = -0.450880 + 0.828705I$ $a = 0.374284 + 1.317450I$ $b = 0.121510 - 1.181440I$	$2.90186 + 2.53799I$	0
$u = -0.450880 - 0.828705I$ $a = 0.374284 - 1.317450I$ $b = 0.121510 + 1.181440I$	$2.90186 - 2.53799I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.929111 + 0.163151I$ $a = 0.379863 - 0.077376I$ $b = 0.921115 - 0.244664I$	$-0.980980 - 0.322040I$	0
$u = 0.929111 - 0.163151I$ $a = 0.379863 + 0.077376I$ $b = 0.921115 + 0.244664I$	$-0.980980 + 0.322040I$	0
$u = -0.474653 + 0.805520I$ $a = 0.86515 + 1.33187I$ $b = -0.518764 - 0.304689I$	$-6.19510 + 9.33654I$	0
$u = -0.474653 - 0.805520I$ $a = 0.86515 - 1.33187I$ $b = -0.518764 + 0.304689I$	$-6.19510 - 9.33654I$	0
$u = 1.025840 + 0.297656I$ $a = 0.943361 + 0.420612I$ $b = -0.304974 + 0.689289I$	$-3.58960 + 1.06942I$	0
$u = 1.025840 - 0.297656I$ $a = 0.943361 - 0.420612I$ $b = -0.304974 - 0.689289I$	$-3.58960 - 1.06942I$	0
$u = -0.832999 + 0.417115I$ $a = -1.21518 - 2.35938I$ $b = -0.291421 + 0.859200I$	$-3.08080 + 1.50448I$	0
$u = -0.832999 - 0.417115I$ $a = -1.21518 + 2.35938I$ $b = -0.291421 - 0.859200I$	$-3.08080 - 1.50448I$	0
$u = 1.071430 + 0.010458I$ $a = -0.912189 - 0.061666I$ $b = -0.398832 - 1.016720I$	$-2.30151 - 0.79773I$	0
$u = 1.071430 - 0.010458I$ $a = -0.912189 + 0.061666I$ $b = -0.398832 + 1.016720I$	$-2.30151 + 0.79773I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.071220+0.030154I$ $a=-1.13924-1.19995I$ $b=-0.732485+1.068550I$	$-6.46533+1.37125I$	0
$u=-1.071220-0.030154I$ $a=-1.13924+1.19995I$ $b=-0.732485-1.068550I$	$-6.46533-1.37125I$	0
$u=-1.024840+0.331353I$ $a=-0.424494+0.514772I$ $b=-0.206787-0.544013I$	$-1.51905+4.34421I$	0
$u=-1.024840-0.331353I$ $a=-0.424494-0.514772I$ $b=-0.206787+0.544013I$	$-1.51905-4.34421I$	0
$u=0.513031+0.967666I$ $a=0.868286-0.887208I$ $b=-0.253811+1.019720I$	$-0.761914+0.765531I$	0
$u=0.513031-0.967666I$ $a=0.868286+0.887208I$ $b=-0.253811-1.019720I$	$-0.761914-0.765531I$	0
$u=0.535901+0.972225I$ $a=-0.581412+0.867669I$ $b=0.620190-1.083680I$	$-0.71369+6.13552I$	0
$u=0.535901-0.972225I$ $a=-0.581412-0.867669I$ $b=0.620190+1.083680I$	$-0.71369-6.13552I$	0
$u=-1.075290+0.277095I$ $a=-0.883535-0.970865I$ $b=-1.04684+1.29123I$	$-4.98673+6.47779I$	0
$u=-1.075290-0.277095I$ $a=-0.883535+0.970865I$ $b=-1.04684-1.29123I$	$-4.98673-6.47779I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.082520 + 0.258235I$ $a = -0.793724 - 0.103184I$ $b = -0.714675 + 0.663702I$	$-3.91674 - 2.47645I$	0
$u = 1.082520 - 0.258235I$ $a = -0.793724 + 0.103184I$ $b = -0.714675 - 0.663702I$	$-3.91674 + 2.47645I$	0
$u = -0.320549 + 1.072130I$ $a = 0.347941 + 1.341790I$ $b = -0.215248 - 1.095380I$	$4.83942 - 0.02613I$	0
$u = -0.320549 - 1.072130I$ $a = 0.347941 - 1.341790I$ $b = -0.215248 + 1.095380I$	$4.83942 + 0.02613I$	0
$u = -1.11904$ $a = -0.190106$ $b = 1.19430$	-6.50755	0
$u = -1.124600 + 0.139389I$ $a = -1.037280 + 0.257560I$ $b = -0.559398 - 0.321660I$	$-5.10195 + 2.20658I$	0
$u = -1.124600 - 0.139389I$ $a = -1.037280 - 0.257560I$ $b = -0.559398 + 0.321660I$	$-5.10195 - 2.20658I$	0
$u = -0.696017 + 0.512560I$ $a = 0.534865 + 0.136115I$ $b = -0.811932 - 1.016260I$	$-2.87403 + 4.61318I$	0
$u = -0.696017 - 0.512560I$ $a = 0.534865 - 0.136115I$ $b = -0.811932 + 1.016260I$	$-2.87403 - 4.61318I$	0
$u = 1.099390 + 0.305529I$ $a = 0.571961 - 0.954203I$ $b = 1.09475 + 1.38868I$	$-4.77079 - 4.74149I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.099390 - 0.305529I$ $a = 0.571961 + 0.954203I$ $b = 1.09475 - 1.38868I$	$-4.77079 + 4.74149I$	0
$u = -0.843254 + 0.153132I$ $a = -0.442523 + 0.151465I$ $b = -0.16865 + 1.51500I$	$-2.36331 - 5.28557I$	0
$u = -0.843254 - 0.153132I$ $a = -0.442523 - 0.151465I$ $b = -0.16865 - 1.51500I$	$-2.36331 + 5.28557I$	0
$u = -1.090170 + 0.391506I$ $a = -0.982039 - 0.569011I$ $b = -0.646629 + 1.133240I$	$1.78188 + 7.26409I$	0
$u = -1.090170 - 0.391506I$ $a = -0.982039 + 0.569011I$ $b = -0.646629 - 1.133240I$	$1.78188 - 7.26409I$	0
$u = -1.155500 + 0.100686I$ $a = 1.19325 + 1.70493I$ $b = 0.483737 - 1.103890I$	$-8.13024 + 9.75297I$	0
$u = -1.155500 - 0.100686I$ $a = 1.19325 - 1.70493I$ $b = 0.483737 + 1.103890I$	$-8.13024 - 9.75297I$	0
$u = -1.077390 + 0.430251I$ $a = -1.40436 - 0.58167I$ $b = -0.047079 + 0.528569I$	$-4.46694 + 2.00851I$	0
$u = -1.077390 - 0.430251I$ $a = -1.40436 + 0.58167I$ $b = -0.047079 - 0.528569I$	$-4.46694 - 2.00851I$	0
$u = 1.041170 + 0.522316I$ $a = 0.47854 - 1.41131I$ $b = 0.62384 + 1.31171I$	$-2.46122 - 6.27398I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.041170 - 0.522316I$ $a = 0.47854 + 1.41131I$ $b = 0.62384 - 1.31171I$	$-2.46122 + 6.27398I$	0
$u = 0.809325 + 0.045131I$ $a = -1.149470 + 0.249698I$ $b = -1.039260 - 0.920904I$	$0.151278 + 1.132340I$	0
$u = 0.809325 - 0.045131I$ $a = -1.149470 - 0.249698I$ $b = -1.039260 + 0.920904I$	$0.151278 - 1.132340I$	0
$u = -0.090033 + 0.792201I$ $a = 0.334946 - 1.167340I$ $b = 0.253019 + 0.997992I$	$0.81946 - 2.73729I$	0
$u = -0.090033 - 0.792201I$ $a = 0.334946 + 1.167340I$ $b = 0.253019 - 0.997992I$	$0.81946 + 2.73729I$	0
$u = 0.085674 + 1.203580I$ $a = 0.46553 - 1.47072I$ $b = -0.541681 + 1.064120I$	$-3.69920 + 5.42968I$	0
$u = 0.085674 - 1.203580I$ $a = 0.46553 + 1.47072I$ $b = -0.541681 - 1.064120I$	$-3.69920 - 5.42968I$	0
$u = 1.140050 + 0.441785I$ $a = 1.042880 - 0.361110I$ $b = 0.296241 + 0.958121I$	$1.86572 + 0.08258I$	0
$u = 1.140050 - 0.441785I$ $a = 1.042880 + 0.361110I$ $b = 0.296241 - 0.958121I$	$1.86572 - 0.08258I$	0
$u = -0.578433 + 0.498871I$ $a = 1.17783 + 1.64732I$ $b = 1.003800 - 0.558776I$	$-2.52166 - 0.50488I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.578433-0.498871I$ $a=\ \ 1.17783-1.64732I$ $b=\ \ 1.003800+0.558776I$	$-2.52166+0.50488I$	0
$u=-1.154620+0.442101I$ $a=\ \ 0.491828+0.581112I$ $b=\ \ 0.851702-0.042998I$	$-5.24815+8.82520I$	0
$u=-1.154620-0.442101I$ $a=\ \ 0.491828-0.581112I$ $b=\ \ 0.851702+0.042998I$	$-5.24815-8.82520I$	0
$u=\ \ 1.232880+0.147006I$ $a=-0.83870+1.52060I$ $b=-0.480548-1.061570I$	$-7.47936-0.85302I$	0
$u=\ \ 1.232880-0.147006I$ $a=-0.83870-1.52060I$ $b=-0.480548+1.061570I$	$-7.47936+0.85302I$	0
$u=\ \ 1.078290+0.617576I$ $a=-0.74217+1.23413I$ $b=-0.90249-1.14947I$	$-2.49969-11.89640I$	0
$u=\ \ 1.078290-0.617576I$ $a=-0.74217-1.23413I$ $b=-0.90249+1.14947I$	$-2.49969+11.89640I$	0
$u=-1.253890+0.026652I$ $a=\ \ 0.094338-0.463157I$ $b=\ \ 0.532853+1.180110I$	$-2.81584-4.84054I$	0
$u=-1.253890-0.026652I$ $a=\ \ 0.094338+0.463157I$ $b=\ \ 0.532853-1.180110I$	$-2.81584+4.84054I$	0
$u=-0.021345+0.744466I$ $a=\ \ 0.347398-0.257171I$ $b=-0.743891-0.053407I$	$-1.93128-4.57376I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.021345-0.744466I$ $a=\ 0.347398+0.257171I$ $b=-0.743891+0.053407I$	$-1.93128+4.57376I$	0
$u=\ 1.164470+0.472549I$ $a=\ 0.443935-0.905324I$ $b=\ 0.596806+0.314041I$	$-5.30030+0.37371I$	0
$u=\ 1.164470-0.472549I$ $a=\ 0.443935+0.905324I$ $b=\ 0.596806-0.314041I$	$-5.30030-0.37371I$	0
$u=-1.242830+0.294812I$ $a=\ 1.64477+0.39977I$ $b=\ 0.380330-1.043300I$	$-2.22525+2.29036I$	0
$u=-1.242830-0.294812I$ $a=\ 1.64477-0.39977I$ $b=\ 0.380330+1.043300I$	$-2.22525-2.29036I$	0
$u=\ 0.602824+0.349600I$ $a=\ 0.908381+0.415557I$ $b=\ 0.125458+0.577831I$	$-1.52180-0.10799I$	0
$u=\ 0.602824-0.349600I$ $a=\ 0.908381-0.415557I$ $b=\ 0.125458-0.577831I$	$-1.52180+0.10799I$	0
$u=-1.200120+0.546792I$ $a=\ 0.788213+1.092240I$ $b=\ 0.565029-1.189730I$	$1.96037+5.65057I$	0
$u=-1.200120-0.546792I$ $a=\ 0.788213-1.092240I$ $b=\ 0.565029+1.189730I$	$1.96037-5.65057I$	0
$u=\ 0.319077+0.593317I$ $a=-0.37306-1.63390I$ $b=\ 0.054703+1.301780I$	$4.49407-4.21302I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.319077 - 0.593317I$ $a = -0.37306 + 1.63390I$ $b = 0.054703 - 1.301780I$	$4.49407 + 4.21302I$	0
$u = -0.041857 + 1.336800I$ $a = 0.379542 + 1.331940I$ $b = -0.534959 - 1.111520I$	$-3.8954 - 13.8094I$	0
$u = -0.041857 - 1.336800I$ $a = 0.379542 - 1.331940I$ $b = -0.534959 + 1.111520I$	$-3.8954 + 13.8094I$	0
$u = 1.324290 + 0.204220I$ $a = -0.0099875 - 0.0859164I$ $b = -1.48935 + 0.18773I$	$-9.93961 - 2.79893I$	0
$u = 1.324290 - 0.204220I$ $a = -0.0099875 + 0.0859164I$ $b = -1.48935 - 0.18773I$	$-9.93961 + 2.79893I$	0
$u = -0.606615 + 0.199346I$ $a = 2.19120 + 1.89354I$ $b = -0.250867 + 0.353438I$	$-5.94976 + 9.40107I$	0
$u = -0.606615 - 0.199346I$ $a = 2.19120 - 1.89354I$ $b = -0.250867 - 0.353438I$	$-5.94976 - 9.40107I$	0
$u = -1.326560 + 0.307662I$ $a = -0.0949899 + 0.0802360I$ $b = 1.327480 + 0.317912I$	$-10.97640 + 4.57822I$	0
$u = -1.326560 - 0.307662I$ $a = -0.0949899 - 0.0802360I$ $b = 1.327480 - 0.317912I$	$-10.97640 - 4.57822I$	0
$u = 0.219923 + 1.344370I$ $a = -0.353153 + 1.160640I$ $b = 0.538156 - 0.971769I$	$-3.27130 + 4.18014I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.219923 - 1.344370I$ $a = -0.353153 - 1.160640I$ $b = 0.538156 + 0.971769I$	$-3.27130 - 4.18014I$	0
$u = 1.331680 + 0.364357I$ $a = -0.0768674 - 0.0024075I$ $b = 1.348830 - 0.366543I$	$-11.3000 - 13.2855I$	0
$u = 1.331680 - 0.364357I$ $a = -0.0768674 + 0.0024075I$ $b = 1.348830 + 0.366543I$	$-11.3000 + 13.2855I$	0
$u = 0.612876$ $a = 0.611130$ $b = 0.558515$	-0.979087	-12.0490
$u = -1.315550 + 0.458891I$ $a = -0.914716 - 0.604929I$ $b = -0.591364 + 0.948819I$	$-3.06088 + 7.48197I$	0
$u = -1.315550 - 0.458891I$ $a = -0.914716 + 0.604929I$ $b = -0.591364 - 0.948819I$	$-3.06088 - 7.48197I$	0
$u = 1.308400 + 0.485745I$ $a = 1.12579 - 0.93068I$ $b = 0.523536 + 1.202890I$	$-1.82987 - 13.63400I$	0
$u = 1.308400 - 0.485745I$ $a = 1.12579 + 0.93068I$ $b = 0.523536 - 1.202890I$	$-1.82987 + 13.63400I$	0
$u = -1.37350 + 0.42552I$ $a = 0.031725 + 0.172957I$ $b = -1.054160 - 0.514298I$	$-9.26018 + 4.79629I$	0
$u = -1.37350 - 0.42552I$ $a = 0.031725 - 0.172957I$ $b = -1.054160 + 0.514298I$	$-9.26018 - 4.79629I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.42669 + 0.19956I$ $a = -0.078353 - 0.163822I$ $b = -0.982428 - 0.267198I$	$-8.67089 - 4.74455I$	0
$u = 1.42669 - 0.19956I$ $a = -0.078353 + 0.163822I$ $b = -0.982428 + 0.267198I$	$-8.67089 + 4.74455I$	0
$u = 1.40544 + 0.35898I$ $a = -0.760398 + 0.547935I$ $b = -0.532971 - 1.105230I$	$-2.85516 - 6.69223I$	0
$u = 1.40544 - 0.35898I$ $a = -0.760398 - 0.547935I$ $b = -0.532971 + 1.105230I$	$-2.85516 + 6.69223I$	0
$u = -0.391385 + 0.346930I$ $a = -0.141416 - 0.960085I$ $b = 0.299732 + 1.364440I$	$4.10493 - 3.82429I$	$5.81960 - 4.26429I$
$u = -0.391385 - 0.346930I$ $a = -0.141416 + 0.960085I$ $b = 0.299732 - 1.364440I$	$4.10493 + 3.82429I$	$5.81960 + 4.26429I$
$u = 0.11635 + 1.47242I$ $a = 0.129078 + 1.256150I$ $b = -0.020364 - 0.969933I$	$4.23955 - 0.10935I$	0
$u = 0.11635 - 1.47242I$ $a = 0.129078 - 1.256150I$ $b = -0.020364 + 0.969933I$	$4.23955 + 0.10935I$	0
$u = 1.36378 + 0.57381I$ $a = 0.67663 - 1.31562I$ $b = 0.72134 + 1.31252I$	$-7.79561 - 11.61920I$	0
$u = 1.36378 - 0.57381I$ $a = 0.67663 + 1.31562I$ $b = 0.72134 - 1.31252I$	$-7.79561 + 11.61920I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.28428 + 0.74474I$ $a = 0.33455 - 1.42071I$ $b = 0.630008 + 1.026600I$	$-7.77324 - 5.59324I$	0
$u = 1.28428 - 0.74474I$ $a = 0.33455 + 1.42071I$ $b = 0.630008 - 1.026600I$	$-7.77324 + 5.59324I$	0
$u = -1.44673 + 0.35469I$ $a = -0.227735 - 0.290167I$ $b = 0.784112 + 0.526242I$	$-9.25374 + 0.30391I$	0
$u = -1.44673 - 0.35469I$ $a = -0.227735 + 0.290167I$ $b = 0.784112 - 0.526242I$	$-9.25374 - 0.30391I$	0
$u = -0.130889 + 0.489286I$ $a = -0.38304 + 2.78783I$ $b = -0.253669 - 1.109880I$	$1.20466 + 0.90755I$	$-4.96796 - 3.95022I$
$u = -0.130889 - 0.489286I$ $a = -0.38304 - 2.78783I$ $b = -0.253669 + 1.109880I$	$1.20466 - 0.90755I$	$-4.96796 + 3.95022I$
$u = 1.36069 + 0.62628I$ $a = -0.51741 + 1.47440I$ $b = -0.519572 - 1.107110I$	$-7.78138 - 6.43012I$	0
$u = 1.36069 - 0.62628I$ $a = -0.51741 - 1.47440I$ $b = -0.519572 + 1.107110I$	$-7.78138 + 6.43012I$	0
$u = 0.021736 + 0.497035I$ $a = 2.19685 - 1.34673I$ $b = -0.393388 + 1.138270I$	$-1.91184 + 1.63431I$	$-7.48809 - 0.24849I$
$u = 0.021736 - 0.497035I$ $a = 2.19685 + 1.34673I$ $b = -0.393388 - 1.138270I$	$-1.91184 - 1.63431I$	$-7.48809 + 0.24849I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43874+0.47675I$ $a=-0.552469-1.027880I$ $b=-0.80206+1.37255I$	$-6.31373+10.55060I$	0
$u=-1.43874-0.47675I$ $a=-0.552469+1.027880I$ $b=-0.80206-1.37255I$	$-6.31373-10.55060I$	0
$u=1.38603+0.62295I$ $a=-0.683125+0.878022I$ $b=-0.320503-1.030870I$	$-0.10876-6.76941I$	0
$u=1.38603-0.62295I$ $a=-0.683125-0.878022I$ $b=-0.320503+1.030870I$	$-0.10876+6.76941I$	0
$u=1.52676+0.00239I$ $a=0.069415+0.396814I$ $b=0.440290+0.432311I$	$-10.23660+5.73554I$	0
$u=1.52676-0.00239I$ $a=0.069415-0.396814I$ $b=0.440290-0.432311I$	$-10.23660-5.73554I$	0
$u=0.182507+0.423739I$ $a=0.850292-0.231731I$ $b=0.569996+0.185173I$	$-1.49211-0.35609I$	$-7.64304+0.79961I$
$u=0.182507-0.423739I$ $a=0.850292+0.231731I$ $b=0.569996-0.185173I$	$-1.49211+0.35609I$	$-7.64304-0.79961I$
$u=-1.41528+0.61197I$ $a=0.631916+1.226880I$ $b=0.75156-1.30976I$	$-8.2677+20.5140I$	0
$u=-1.41528-0.61197I$ $a=0.631916-1.226880I$ $b=0.75156+1.30976I$	$-8.2677-20.5140I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.41126 + 0.66886I$ $a = -0.589868 + 1.203710I$ $b = -0.731067 - 1.180930I$	$-7.14854 - 11.24570I$	0
$u = 1.41126 - 0.66886I$ $a = -0.589868 - 1.203710I$ $b = -0.731067 + 1.180930I$	$-7.14854 + 11.24570I$	0
$u = -1.35120 + 0.80638I$ $a = 0.23120 + 1.46063I$ $b = 0.496636 - 1.044560I$	$-8.31687 - 2.66714I$	0
$u = -1.35120 - 0.80638I$ $a = 0.23120 - 1.46063I$ $b = 0.496636 + 1.044560I$	$-8.31687 + 2.66714I$	0
$u = -0.321264 + 0.239172I$ $a = -2.07038 - 0.20844I$ $b = 0.608345 + 1.026730I$	$-2.78747 - 3.99803I$	$-14.3390 + 6.0136I$
$u = -0.321264 - 0.239172I$ $a = -2.07038 + 0.20844I$ $b = 0.608345 - 1.026730I$	$-2.78747 + 3.99803I$	$-14.3390 - 6.0136I$
$u = -0.369437 + 0.099813I$ $a = -1.90072 - 1.58482I$ $b = 0.737193 - 0.294866I$	$-4.77747 + 1.17364I$	$-19.2191 - 4.3733I$
$u = -0.369437 - 0.099813I$ $a = -1.90072 + 1.58482I$ $b = 0.737193 + 0.294866I$	$-4.77747 - 1.17364I$	$-19.2191 + 4.3733I$
$u = -1.62187 + 0.03515I$ $a = -0.165099 + 0.088452I$ $b = -0.317016 + 0.609319I$	$-9.15781 + 2.76204I$	0
$u = -1.62187 - 0.03515I$ $a = -0.165099 - 0.088452I$ $b = -0.317016 - 0.609319I$	$-9.15781 - 2.76204I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.59956+0.30385I$ $a=\ \ 0.023582+0.186968I$ $b=-0.548764-0.424913I$	$-9.87602+2.04084I$	0
$u=-1.59956-0.30385I$ $a=\ \ 0.023582-0.186968I$ $b=-0.548764+0.424913I$	$-9.87602-2.04084I$	0
$u=-0.107516+0.302641I$ $a=\ \ 2.05805+0.73003I$ $b=-0.136968+0.382875I$	$0.93679-1.52756I$	$-0.85007+3.34990I$
$u=-0.107516-0.302641I$ $a=\ \ 2.05805-0.73003I$ $b=-0.136968-0.382875I$	$0.93679+1.52756I$	$-0.85007-3.34990I$
$u=-1.55053+0.67238I$ $a=-0.357735-1.197500I$ $b=-0.53765+1.31997I$	$-4.09041+9.97245I$	0
$u=-1.55053-0.67238I$ $a=-0.357735+1.197500I$ $b=-0.53765-1.31997I$	$-4.09041-9.97245I$	0
$u=\ \ 1.83391+0.36281I$ $a=-0.149417+0.429631I$ $b=\ \ 0.351682-0.578618I$	$-9.93579+6.48404I$	0
$u=\ \ 1.83391-0.36281I$ $a=-0.149417-0.429631I$ $b=\ \ 0.351682+0.578618I$	$-9.93579-6.48404I$	0
$u=\ \ 0.119965$ $a=-60.3815$ $b=\ \ 0.122385$	-3.29701	706.560
$u=-0.37231+1.88768I$ $a=-0.351845-1.131180I$ $b=\ \ 0.314557+0.918518I$	$0.58876-1.30903I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.37231-1.88768I$		
$a=-0.351845+1.131180I$	$0.58876+1.30903I$	0
$b=\ \ 0.314557-0.918518I$		

II. $I_2^u =$
$\langle \mathbf{8.83\times10^{39}u^{38}-3.03\times10^{39}u^{37}+\cdots+1.77\times10^{39}b-1.68\times10^{39}},\ \mathbf{6.00\times10^{41}u^{38}-8.15\times10^{40}u^{37}+\cdots+4.42\times10^{40}a+1.02\times10^{42}},\ \mathbf{u^{39}-11u^{37}+\cdots+3u-1}\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -13.5881u^{38} + 1.84338u^{37} + \cdots - 31.8555u - 23.0076 \\ -4.99545u^{38} + 1.71504u^{37} + \cdots - 10.7045u + 0.951811 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -18.5836u^{38} + 3.55842u^{37} + \cdots - 42.5600u - 22.0558 \\ -4.99545u^{38} + 1.71504u^{37} + \cdots - 10.7045u + 0.951811 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -29.0192u^{38} + 15.5376u^{37} + \cdots - 108.021u - 1.24395 \\ -3.85507u^{38} + 4.55790u^{37} + \cdots - 25.0117u + 7.82298 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -12.7996u^{38} + 1.09305u^{37} + \cdots - 27.7593u - 21.9677 \\ -6.73020u^{38} + 1.70789u^{37} + \cdots - 12.3250u - 1.60173 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -8.92643u^{38} + 5.72240u^{37} + \cdots - 39.9473u + 3.02678 \\ -0.273198u^{38} - 1.13709u^{37} + \cdots + 2.05616u - 3.23767 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 21.4703u^{38} - 15.5888u^{37} + \cdots + 94.3910u - 15.2673 \\ 2.06734u^{38} - 0.216825u^{37} + \cdots + 6.39434u + 0.0965510 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 17.5992u^{38} - 16.0601u^{37} + \cdots + 89.6342u - 24.0430 \\ 2.60034u^{38} - 2.46014u^{37} + \cdots + 15.4014u - 2.67030 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 28.6527u^{38} - 24.6190u^{37} + \cdots + 132.809u - 31.1615 \\ 7.77691u^{38} - 9.36834u^{37} + \cdots + 49.1361u - 14.1271 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 11.4477u^{38} - 16.8667u^{37} + \cdots + 69.4170u - 62.9382$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$5(5u^{39} - 41u^{38} + \cdots + 81u - 9)$
c_2	$u^{39} - 11u^{37} + \cdots - 7u + 5$
c_3	$u^{39} + 6u^{37} + \cdots - 620u + 107$
c_4	$u^{39} - u^{38} + \cdots + 3u - 1$
c_5	$u^{39} - 5u^{38} + \cdots + 68u + 4$
c_6	$u^{39} - 4u^{38} + \cdots - 19u - 5$
c_7	$5(5u^{39} - 8u^{38} + \cdots + 8u - 16)$
c_8	$u^{39} - 11u^{37} + \cdots + 3u + 1$
c_9	$5(5u^{39} + 33u^{38} + \cdots - 2u^2 - 1)$
c_{10}	$5(5u^{39} + 8u^{38} + \cdots + 8u + 16)$
c_{11}	$u^{39} + u^{38} + \cdots + 3u + 1$
c_{12}	$u^{39} - 11u^{37} + \cdots + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$25(25y^{39} - 531y^{38} + \cdots - 243y - 81)$
c_2	$y^{39} - 22y^{38} + \cdots + 89y - 25$
c_3	$y^{39} + 12y^{38} + \cdots - 147390y - 11449$
c_4, c_{11}	$y^{39} + 33y^{38} + \cdots - 21y - 1$
c_5	$y^{39} + 19y^{38} + \cdots + 296y - 16$
c_6	$y^{39} + 28y^{38} + \cdots + 91y - 25$
c_7, c_{10}	$25(25y^{39} - 754y^{38} + \cdots + 1728y - 256)$
c_8, c_{12}	$y^{39} - 22y^{38} + \cdots + 23y - 1$
c_9	$25(25y^{39} + 221y^{38} + \cdots - 4y - 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.967281 + 0.284906I$ $a = 2.73812 - 2.28495I$ $b = 0.159317 + 0.903356I$	$-3.33978 - 0.91311I$	$-7.71270 - 9.95764I$
$u = 0.967281 - 0.284906I$ $a = 2.73812 + 2.28495I$ $b = 0.159317 - 0.903356I$	$-3.33978 + 0.91311I$	$-7.71270 + 9.95764I$
$u = -0.950992 + 0.249595I$ $a = 0.136551 + 0.589164I$ $b = -0.53119 - 1.36829I$	$-0.67989 + 2.56626I$	$-5.02471 - 1.36275I$
$u = -0.950992 - 0.249595I$ $a = 0.136551 - 0.589164I$ $b = -0.53119 + 1.36829I$	$-0.67989 - 2.56626I$	$-5.02471 + 1.36275I$
$u = -0.779642 + 0.525616I$ $a = 1.06127 + 2.47824I$ $b = 0.440692 - 0.821339I$	$-5.57812 + 10.35400I$	$-8.63172 - 10.95448I$
$u = -0.779642 - 0.525616I$ $a = 1.06127 - 2.47824I$ $b = 0.440692 + 0.821339I$	$-5.57812 - 10.35400I$	$-8.63172 + 10.95448I$
$u = -0.132053 + 0.920650I$ $a = -0.59813 - 1.29562I$ $b = 0.564388 + 1.080620I$	$-1.59117 - 4.63758I$	$-8.40083 + 4.77285I$
$u = -0.132053 - 0.920650I$ $a = -0.59813 + 1.29562I$ $b = 0.564388 - 1.080620I$	$-1.59117 + 4.63758I$	$-8.40083 - 4.77285I$
$u = -0.861898 + 0.013533I$ $a = -1.81763 + 1.00508I$ $b = 0.081399 + 0.533443I$	$-3.69600 - 0.47126I$	$-7.76586 - 2.48354I$
$u = -0.861898 - 0.013533I$ $a = -1.81763 - 1.00508I$ $b = 0.081399 - 0.533443I$	$-3.69600 + 0.47126I$	$-7.76586 + 2.48354I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.131690 + 0.246331I$ $a = 0.494648 - 1.010710I$ $b = 0.75858 + 1.66956I$	$-3.87458 - 6.63931I$	$-10.8187 + 10.8649I$
$u = 1.131690 - 0.246331I$ $a = 0.494648 + 1.010710I$ $b = 0.75858 - 1.66956I$	$-3.87458 + 6.63931I$	$-10.8187 - 10.8649I$
$u = -0.802715 + 0.220717I$ $a = 1.220490 + 0.099383I$ $b = 0.790155 - 0.563810I$	$-0.027648 - 0.489500I$	$-4.27639 - 1.50380I$
$u = -0.802715 - 0.220717I$ $a = 1.220490 - 0.099383I$ $b = 0.790155 + 0.563810I$	$-0.027648 + 0.489500I$	$-4.27639 + 1.50380I$
$u = -1.132820 + 0.350207I$ $a = -0.84690 - 1.19304I$ $b = -0.765864 + 0.915357I$	$-5.78006 + 3.44016I$	$-14.8229 - 4.0451I$
$u = -1.132820 - 0.350207I$ $a = -0.84690 + 1.19304I$ $b = -0.765864 - 0.915357I$	$-5.78006 - 3.44016I$	$-14.8229 + 4.0451I$
$u = 0.800777 + 0.032907I$ $a = 0.128964 - 0.155625I$ $b = 0.05596 - 2.09546I$	$-1.88821 - 5.79482I$	$0.89215 + 9.55285I$
$u = 0.800777 - 0.032907I$ $a = 0.128964 + 0.155625I$ $b = 0.05596 + 2.09546I$	$-1.88821 + 5.79482I$	$0.89215 - 9.55285I$
$u = -0.268566 + 0.566508I$ $a = -1.19604 - 2.29997I$ $b = 0.521367 + 0.392295I$	$-3.65673 + 0.09726I$	$-8.42041 - 1.01984I$
$u = -0.268566 - 0.566508I$ $a = -1.19604 + 2.29997I$ $b = 0.521367 - 0.392295I$	$-3.65673 - 0.09726I$	$-8.42041 + 1.01984I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.39298 + 0.26566I$ $a = -0.0102456 - 0.1101570I$ $b = -1.121110 + 0.193588I$	$-9.13340 - 3.44462I$	0
$u = 1.39298 - 0.26566I$ $a = -0.0102456 + 0.1101570I$ $b = -1.121110 - 0.193588I$	$-9.13340 + 3.44462I$	0
$u = 1.39078 + 0.50530I$ $a = -0.568157 + 0.684866I$ $b = -0.486744 - 1.004780I$	$-1.00503 - 7.03175I$	0
$u = 1.39078 - 0.50530I$ $a = -0.568157 - 0.684866I$ $b = -0.486744 + 1.004780I$	$-1.00503 + 7.03175I$	0
$u = 0.10114 + 1.47968I$ $a = -0.091557 + 1.262030I$ $b = 0.139111 - 0.958569I$	$4.13498 + 0.58246I$	0
$u = 0.10114 - 1.47968I$ $a = -0.091557 - 1.262030I$ $b = 0.139111 + 0.958569I$	$4.13498 - 0.58246I$	0
$u = -1.41090 + 0.54168I$ $a = -0.580183 - 1.111460I$ $b = -0.75422 + 1.29708I$	$-5.88684 + 10.22140I$	0
$u = -1.41090 - 0.54168I$ $a = -0.580183 + 1.111460I$ $b = -0.75422 - 1.29708I$	$-5.88684 - 10.22140I$	0
$u = -0.115508 + 0.435857I$ $a = 2.20858 + 0.98808I$ $b = 0.063560 - 1.183680I$	$-0.073245 + 1.117680I$	$-4.33055 - 1.94396I$
$u = -0.115508 - 0.435857I$ $a = 2.20858 - 0.98808I$ $b = 0.063560 + 1.183680I$	$-0.073245 - 1.117680I$	$-4.33055 + 1.94396I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.58869 + 0.12876I$ $a = -0.325629 - 0.093273I$ $b = -0.163505 - 0.346726I$	$-9.14929 - 2.34663I$	0
$u = \quad 1.58869 - 0.12876I$ $a = -0.325629 + 0.093273I$ $b = -0.163505 + 0.346726I$	$-9.14929 + 2.34663I$	0
$u = \quad 0.377693 + 0.146767I$ $a = \quad 0.788857 + 1.170140I$ $b = \quad 0.240942 - 1.379240I$	$3.83054 + 3.96873I$	$-17.5053 - 7.1285I$
$u = \quad 0.377693 - 0.146767I$ $a = \quad 0.788857 - 1.170140I$ $b = \quad 0.240942 + 1.379240I$	$3.83054 - 3.96873I$	$-17.5053 + 7.1285I$
$u = \quad 0.305325$ $a = -13.3195$ $b = -0.326379$	-3.32781	-31.7350
$u = \quad 0.29831 + 1.72434I$ $a = \quad 0.473941 - 1.118450I$ $b = -0.252446 + 0.959532I$	$0.880386 + 1.016950I$	0
$u = \quad 0.29831 - 1.72434I$ $a = \quad 0.473941 + 1.118450I$ $b = -0.252446 - 0.959532I$	$0.880386 - 1.016950I$	0
$u = -1.74692 + 0.20217I$ $a = \quad 0.342807 + 0.147541I$ $b = -0.077210 - 0.621369I$	$-9.39469 - 6.13628I$	0
$u = -1.74692 - 0.20217I$ $a = \quad 0.342807 - 0.147541I$ $b = -0.077210 + 0.621369I$	$-9.39469 + 6.13628I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$25(5u^{39}-41u^{38}+\cdots+81u-9)$ $\cdot(5u^{161}+14u^{160}+\cdots+298224u-35381)$
c_2	$(u^{39}-11u^{37}+\cdots-7u+5)(u^{161}-9u^{160}+\cdots-548262u+99355)$
c_3	$(u^{39}+6u^{37}+\cdots-620u+107)$ $\cdot(u^{161}-7u^{160}+\cdots+4011301212363u+841089013283)$
c_4	$(u^{39}-u^{38}+\cdots+3u-1)(u^{161}+45u^{159}+\cdots+4938u+811)$
c_5	$(u^{39}-5u^{38}+\cdots+68u+4)$ $\cdot(u^{161}-2u^{160}+\cdots+765004288u+512157412)$
c_6	$(u^{39}-4u^{38}+\cdots-19u-5)(u^{161}-9u^{160}+\cdots-454022u-31165)$
c_7	$25(5u^{39}-8u^{38}+\cdots+8u-16)$ $\cdot(5u^{161}+13u^{160}+\cdots-906128u-1823792)$
c_8	$(u^{39}-11u^{37}+\cdots+3u+1)(u^{161}-u^{160}+\cdots+24936u-6037)$
c_9	$25(5u^{39}+33u^{38}+\cdots-2u^2-1)(5u^{161}-2u^{160}+\cdots-51u-1)$
c_{10}	$25(5u^{39}+8u^{38}+\cdots+8u+16)$ $\cdot(5u^{161}+13u^{160}+\cdots-906128u-1823792)$
c_{11}	$(u^{39}+u^{38}+\cdots+3u+1)(u^{161}+45u^{159}+\cdots+4938u+811)$
c_{12}	$(u^{39}-11u^{37}+\cdots+3u-1)(u^{161}-u^{160}+\cdots+24936u-6037)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$625(25y^{39} - 531y^{38} + \cdots - 243y - 81)$ $\cdot (25y^{161} - 1686y^{160} + \cdots + 437080225596y - 1251815161)$
c_2	$(y^{39} - 22y^{38} + \cdots + 89y - 25)$ $\cdot (y^{161} - 85y^{160} + \cdots + 456455767864y - 9871416025)$
c_3	$(y^{39} + 12y^{38} + \cdots - 147390y - 11449)$ $\cdot (y^{161} + 49y^{160} + \cdots - 3.51 \times 10^{25}y - 7.07 \times 10^{23})$
c_4, c_{11}	$(y^{39} + 33y^{38} + \cdots - 21y - 1)$ $\cdot (y^{161} + 90y^{160} + \cdots + 12246418y - 657721)$
c_5	$(y^{39} + 19y^{38} + \cdots + 296y - 16)$ $\cdot (y^{161} - 36y^{160} + \cdots - 6.33 \times 10^{18}y - 2.62 \times 10^{17})$
c_6	$(y^{39} + 28y^{38} + \cdots + 91y - 25)$ $\cdot (y^{161} + 61y^{160} + \cdots + 157597174614y - 971257225)$
c_7, c_{10}	$625(25y^{39} - 754y^{38} + \cdots + 1728y - 256)$ $\cdot (25y^{161} - 2849y^{160} + \cdots - 219322678065152y - 3326217259264)$
c_8, c_{12}	$(y^{39} - 22y^{38} + \cdots + 23y - 1)$ $\cdot (y^{161} - 105y^{160} + \cdots + 3354234814y - 36445369)$
c_9	$625(25y^{39} + 221y^{38} + \cdots - 4y - 1)$ $\cdot (25y^{161} + 1126y^{160} + \cdots + 1967y - 1)$