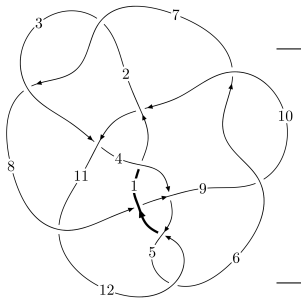
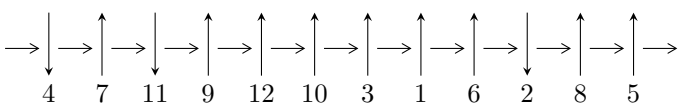
$12a_{1101}$ $(K12a_{1101})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4.20156 \times 10^{826} u^{157} - 1.46744 \times 10^{828} u^{156} + \cdots + 7.17053 \times 10^{829} b - 9.65577 \times 10^{830},$$
$$2.89627 \times 10^{830} u^{157} - 3.51152 \times 10^{830} u^{156} + \cdots + 9.35037 \times 10^{831} a - 3.38511 \times 10^{833},$$
$$u^{158} - u^{157} + \cdots - 2697u - 163 \rangle$$
$$I_2^u = \langle 8.79895 \times 10^{26} u^{39} - 1.14601 \times 10^{27} u^{38} + \cdots + 7.82938 \times 10^{24} b + 6.82482 \times 10^{26},$$
$$3.10296 \times 10^{27} u^{39} - 4.02963 \times 10^{27} u^{38} + \cdots + 1.56588 \times 10^{25} a + 2.38940 \times 10^{27},\ u^{40} - 11u^{38} + \cdots + 2u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 198 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. $\boldsymbol{I_1^u = \langle 4.20 \times 10^{826} u^{157} - 1.47 \times 10^{828} u^{156} + \cdots + 7.17 \times 10^{829} b - 9.66 \times 10^{830},\ 2.90 \times 10^{830} u^{157} - 3.51 \times 10^{830} u^{156} + \cdots + 9.35 \times 10^{831} a - 3.39 \times 10^{833},\ u^{158} - u^{157} + \cdots - 2697u - 163 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_{10} = \begin{pmatrix} -0.0309749u^{157} + 0.0375549u^{156} + \cdots + 326.486u + 36.2030 \\ -0.000585948u^{157} + 0.0204648u^{156} + \cdots + 140.491u + 13.4659 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0303889u^{157} + 0.0170901u^{156} + \cdots + 185.995u + 22.7371 \\ -0.000585948u^{157} + 0.0204648u^{156} + \cdots + 140.491u + 13.4659 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0472203u^{157} + 0.0619381u^{156} + \cdots + 583.791u + 58.0681 \\ -0.0201682u^{157} + 0.0280384u^{156} + \cdots + 257.010u + 25.1093 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0234350u^{157} + 0.0270363u^{156} + \cdots + 211.541u + 24.1368 \\ -0.00474923u^{157} + 0.0153554u^{156} + \cdots + 119.324u + 12.1108 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.107539u^{157} - 0.136689u^{156} + \cdots - 1241.05u - 119.312 \\ 0.0481404u^{157} - 0.0530366u^{156} + \cdots - 492.326u - 47.5686 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0398818u^{157} + 0.0361639u^{156} + \cdots + 281.333u + 31.2174 \\ -0.0144608u^{157} + 0.00568183u^{156} + \cdots + 91.0633u + 10.1594 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0855294u^{157} + 0.110350u^{156} + \cdots + 960.430u + 93.9086 \\ -0.0333719u^{157} + 0.0414586u^{156} + \cdots + 395.243u + 38.6279 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00240024u^{157} + 0.0117237u^{156} + \cdots + 188.798u + 18.4530 \\ -0.00256341u^{157} + 0.00167084u^{156} + \cdots + 35.6458u + 4.07512 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.000109904u^{157} - 0.00588549u^{156} + \cdots - 275.257u - 34.1483$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{158} - 11u^{157} + \cdots - 6874340367u + 404850059$
c_2, c_7	$u^{158} + u^{157} + \cdots + 2697u - 163$
c_3	$4(4u^{158} - 12u^{157} + \cdots + 3747366u + 276277)$
c_4	$u^{158} + 2u^{157} + \cdots - 16u - 16$
c_5, c_{12}	$u^{158} - 3u^{157} + \cdots - 68508u + 5048$
c_6, c_9	$4(4u^{158} - 32u^{157} + \cdots - 1649929u - 86329)$
c_8	$4(4u^{158} - 4u^{157} + \cdots - 245u + 11)$
c_{10}	$u^{158} + 9u^{157} + \cdots + 92598104u + 15966368$
c_{11}	$u^{158} + 3u^{157} + \cdots + 104047000685u + 19423529740$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{158}+63y^{157}+\cdots+1.55\times10^{18}y+1.64\times10^{17}$
c_2, c_7	$y^{158}-113y^{157}+\cdots-2010213y+26569$
c_3	$16(16y^{158}+824y^{157}+\cdots-4.73888\times10^{12}y+7.63290\times10^{10})$
c_4	$y^{158}-4y^{157}+\cdots-8896y+256$
c_5, c_{12}	$y^{158}+93y^{157}+\cdots-3359381776y+25482304$
c_6, c_9	$16(16y^{158}-2328y^{157}+\cdots-3.44551\times10^{11}y+7.45270\times10^{9})$
c_8	$16(16y^{158}+216y^{157}+\cdots-669y+121)$
c_{10}	$y^{158}+79y^{157}+\cdots-33590848646406208y+254924907111424$
c_{11}	$y^{158}-85y^{157}+\cdots-3.42\times10^{22}y+3.77\times10^{20}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.972496+0.176994I$ $a=-0.073541+0.876303I$ $b=-0.57216-1.40449I$	$-1.69003-5.70181I$	0
$u=-0.972496-0.176994I$ $a=-0.073541-0.876303I$ $b=-0.57216+1.40449I$	$-1.69003+5.70181I$	0
$u=\ \ 0.524096+0.819167I$ $a=\ \ 0.594120-1.147880I$ $b=-0.52115-1.34476I$	$0.58624-5.07304I$	0
$u=\ \ 0.524096-0.819167I$ $a=\ \ 0.594120+1.147880I$ $b=-0.52115+1.34476I$	$0.58624+5.07304I$	0
$u=\ \ 0.892950+0.303249I$ $a=\ \ 0.173154-1.065080I$ $b=-0.174260+0.435076I$	$-3.04707-2.27103I$	0
$u=\ \ 0.892950-0.303249I$ $a=\ \ 0.173154+1.065080I$ $b=-0.174260-0.435076I$	$-3.04707+2.27103I$	0
$u=-1.048140+0.190695I$ $a=-1.58091+0.91977I$ $b=\ \ 0.011945-0.609301I$	$2.57946+0.04227I$	0
$u=-1.048140-0.190695I$ $a=-1.58091-0.91977I$ $b=\ \ 0.011945+0.609301I$	$2.57946-0.04227I$	0
$u=\ \ 1.006040+0.431525I$ $a=-1.203940+0.189020I$ $b=-0.26780+2.24989I$	$2.12257+9.84038I$	0
$u=\ \ 1.006040-0.431525I$ $a=-1.203940-0.189020I$ $b=-0.26780-2.24989I$	$2.12257-9.84038I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.886316 + 0.136831I$ $a = 2.84905 + 1.23233I$ $b = -0.016301 - 0.449801I$	$3.26182 + 0.52209I$	0
$u = 0.886316 - 0.136831I$ $a = 2.84905 - 1.23233I$ $b = -0.016301 + 0.449801I$	$3.26182 - 0.52209I$	0
$u = -0.520804 + 0.719046I$ $a = -0.559338 - 1.265560I$ $b = 0.482395 - 0.572738I$	$0.56865 + 1.56704I$	0
$u = -0.520804 - 0.719046I$ $a = -0.559338 + 1.265560I$ $b = 0.482395 + 0.572738I$	$0.56865 - 1.56704I$	0
$u = -0.182545 + 1.108990I$ $a = -0.370635 + 0.572715I$ $b = -0.456034 + 0.397160I$	$-4.80667 - 1.90727I$	0
$u = -0.182545 - 1.108990I$ $a = -0.370635 - 0.572715I$ $b = -0.456034 - 0.397160I$	$-4.80667 + 1.90727I$	0
$u = 0.209754 + 1.109620I$ $a = 0.482782 - 1.310490I$ $b = 0.382311 - 1.073030I$	$5.02998 + 1.75266I$	0
$u = 0.209754 - 1.109620I$ $a = 0.482782 + 1.310490I$ $b = 0.382311 + 1.073030I$	$5.02998 - 1.75266I$	0
$u = -1.087210 + 0.344346I$ $a = 1.224740 + 0.088820I$ $b = 1.08024 + 1.44995I$	$2.35644 - 5.67072I$	0
$u = -1.087210 - 0.344346I$ $a = 1.224740 - 0.088820I$ $b = 1.08024 - 1.44995I$	$2.35644 + 5.67072I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.131001+0.843040I$ $a=\ 1.209090-0.413809I$ $b=\ 0.907246-0.711468I$	$-1.89484+8.93030I$	0
$u=-0.131001-0.843040I$ $a=\ 1.209090+0.413809I$ $b=\ 0.907246+0.711468I$	$-1.89484-8.93030I$	0
$u=-1.154430+0.169353I$ $a=-0.666205+0.461464I$ $b=\ 0.099171-0.835807I$	$2.74617+0.23020I$	0
$u=-1.154430-0.169353I$ $a=-0.666205-0.461464I$ $b=\ 0.099171+0.835807I$	$2.74617-0.23020I$	0
$u=\ 1.135510+0.274743I$ $a=\ 1.00468+1.56112I$ $b=\ 0.591744-0.615130I$	$1.95988-0.09410I$	0
$u=\ 1.135510-0.274743I$ $a=\ 1.00468-1.56112I$ $b=\ 0.591744+0.615130I$	$1.95988+0.09410I$	0
$u=-1.166460+0.090330I$ $a=\ 1.299070+0.189538I$ $b=\ 1.323790-0.126033I$	$3.58747-2.79067I$	0
$u=-1.166460-0.090330I$ $a=\ 1.299070-0.189538I$ $b=\ 1.323790+0.126033I$	$3.58747+2.79067I$	0
$u=-0.116066+0.812332I$ $a=-0.897072-0.201798I$ $b=-0.784145-0.592525I$	$1.21129-4.40721I$	0
$u=-0.116066-0.812332I$ $a=-0.897072+0.201798I$ $b=-0.784145+0.592525I$	$1.21129+4.40721I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.179580 + 0.029736I$ $a = -1.32946 + 0.52017I$ $b = -1.148630 - 0.110588I$	$4.54299 + 0.54773I$	0
$u = 1.179580 - 0.029736I$ $a = -1.32946 - 0.52017I$ $b = -1.148630 + 0.110588I$	$4.54299 - 0.54773I$	0
$u = 1.180930 + 0.044499I$ $a = 1.068350 + 0.124337I$ $b = 2.82651 + 1.24716I$	$5.17203 + 9.21722I$	0
$u = 1.180930 - 0.044499I$ $a = 1.068350 - 0.124337I$ $b = 2.82651 - 1.24716I$	$5.17203 - 9.21722I$	0
$u = 0.536868 + 0.616169I$ $a = -1.078980 + 0.276097I$ $b = -0.933898 - 0.044945I$	$-4.20059 + 5.90431I$	0
$u = 0.536868 - 0.616169I$ $a = -1.078980 - 0.276097I$ $b = -0.933898 + 0.044945I$	$-4.20059 - 5.90431I$	0
$u = 0.259597 + 1.158670I$ $a = -0.475211 + 1.081420I$ $b = -0.543486 + 0.985503I$	$6.36687 + 7.91230I$	0
$u = 0.259597 - 1.158670I$ $a = -0.475211 - 1.081420I$ $b = -0.543486 - 0.985503I$	$6.36687 - 7.91230I$	0
$u = 1.175410 + 0.202419I$ $a = -0.0600927 + 0.0711441I$ $b = -0.86941 - 1.19621I$	$5.22153 + 2.39646I$	0
$u = 1.175410 - 0.202419I$ $a = -0.0600927 - 0.0711441I$ $b = -0.86941 + 1.19621I$	$5.22153 - 2.39646I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.200440+0.064067I$ $a=-1.074530-0.025046I$ $b=-2.22782-2.13888I$	$9.40499+1.88060I$	0
$u=-1.200440-0.064067I$ $a=-1.074530+0.025046I$ $b=-2.22782+2.13888I$	$9.40499-1.88060I$	0
$u=-0.141766+1.197420I$ $a=-0.562048-1.039970I$ $b=-0.478009-1.016290I$	$4.37943-5.11985I$	0
$u=-0.141766-1.197420I$ $a=-0.562048+1.039970I$ $b=-0.478009+1.016290I$	$4.37943+5.11985I$	0
$u=-1.153430+0.352973I$ $a=-0.126504-0.441810I$ $b=0.99858-1.40863I$	$2.01105-6.84612I$	0
$u=-1.153430-0.352973I$ $a=-0.126504+0.441810I$ $b=0.99858+1.40863I$	$2.01105+6.84612I$	0
$u=1.198370+0.227073I$ $a=0.466174+0.359694I$ $b=0.68893-1.24429I$	$1.95646+4.00929I$	0
$u=1.198370-0.227073I$ $a=0.466174-0.359694I$ $b=0.68893+1.24429I$	$1.95646-4.00929I$	0
$u=-1.209880+0.201266I$ $a=1.072660+0.145832I$ $b=1.53815+2.37422I$	$8.00150-5.00996I$	0
$u=-1.209880-0.201266I$ $a=1.072660-0.145832I$ $b=1.53815-2.37422I$	$8.00150+5.00996I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.231880+0.008491I$ $a=-0.998482+0.167959I$ $b=-0.74436-1.56845I$	$5.03180+3.49129I$	0
$u=-1.231880-0.008491I$ $a=-0.998482-0.167959I$ $b=-0.74436+1.56845I$	$5.03180-3.49129I$	0
$u=0.170038+1.222920I$ $a=-0.320527+0.215257I$ $b=-0.307318+0.027207I$	$-4.70136-1.98621I$	0
$u=0.170038-1.222920I$ $a=-0.320527-0.215257I$ $b=-0.307318-0.027207I$	$-4.70136+1.98621I$	0
$u=-0.694239+0.307579I$ $a=-0.552988+0.227283I$ $b=-1.152400+0.801745I$	$-2.57390+3.50364I$	0
$u=-0.694239-0.307579I$ $a=-0.552988-0.227283I$ $b=-1.152400-0.801745I$	$-2.57390-3.50364I$	0
$u=-0.108940+1.238290I$ $a=-0.047728-1.125060I$ $b=0.285890-1.129490I$	$4.30242+3.38275I$	0
$u=-0.108940-1.238290I$ $a=-0.047728+1.125060I$ $b=0.285890+1.129490I$	$4.30242-3.38275I$	0
$u=0.664175+0.355810I$ $a=0.576003+0.778348I$ $b=0.717451-0.332543I$	$-2.39540+1.85956I$	0
$u=0.664175-0.355810I$ $a=0.576003-0.778348I$ $b=0.717451+0.332543I$	$-2.39540-1.85956I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.607564+0.438868I$		
$a=$	$0.588777+0.455203I$	$-2.70359+1.56793I$	0
$b=$	$1.048600-0.069155I$		
$u=$	$0.607564-0.438868I$		
$a=$	$0.588777-0.455203I$	$-2.70359-1.56793I$	0
$b=$	$1.048600+0.069155I$		
$u=$	$-0.135834+1.247920I$		
$a=$	$0.445245+1.095000I$	$3.2775-14.0624I$	0
$b=$	$0.537035+1.051880I$		
$u=$	$-0.135834-1.247920I$		
$a=$	$0.445245-1.095000I$	$3.2775+14.0624I$	0
$b=$	$0.537035-1.051880I$		
$u=$	$1.247020+0.160701I$		
$a=$	$1.050930+0.207259I$	$5.53116+5.99526I$	0
$b=$	$1.18198-1.70202I$		
$u=$	$1.247020-0.160701I$		
$a=$	$1.050930-0.207259I$	$5.53116-5.99526I$	0
$b=$	$1.18198+1.70202I$		
$u=$	$1.266680+0.000702I$		
$a=$	$-0.898403-0.104619I$	$7.29221+1.25319I$	0
$b=$	$-1.89802-1.29012I$		
$u=$	$1.266680-0.000702I$		
$a=$	$-0.898403+0.104619I$	$7.29221-1.25319I$	0
$b=$	$-1.89802+1.29012I$		
$u=$	$-1.261130+0.138936I$		
$a=$	$-0.254687-0.734299I$	$1.88739-2.47937I$	0
$b=$	$0.485281+1.004630I$		
$u=$	$-1.261130-0.138936I$		
$a=$	$-0.254687+0.734299I$	$1.88739+2.47937I$	0
$b=$	$0.485281-1.004630I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.250090+0.241877I$ $a=-0.080927+0.896505I$ $b=-0.234905-0.962361I$	$5.46473-2.84011I$	0
$u=-1.250090-0.241877I$ $a=-0.080927-0.896505I$ $b=-0.234905+0.962361I$	$5.46473+2.84011I$	0
$u=-1.263360+0.200311I$ $a=-0.113462-0.425456I$ $b=\ \ 0.306504+0.663413I$	$2.05238-1.32981I$	0
$u=-1.263360-0.200311I$ $a=-0.113462+0.425456I$ $b=\ \ 0.306504-0.663413I$	$2.05238+1.32981I$	0
$u=-1.199950+0.470520I$ $a=-0.894677+0.262000I$ $b=-0.772532-1.042120I$	$-1.56522-3.38023I$	0
$u=-1.199950-0.470520I$ $a=-0.894677-0.262000I$ $b=-0.772532+1.042120I$	$-1.56522+3.38023I$	0
$u=\ \ 1.289730+0.065499I$ $a=\ \ 1.250570+0.372455I$ $b=\ \ 0.423635-1.053610I$	$10.69750+3.82655I$	0
$u=\ \ 1.289730-0.065499I$ $a=\ \ 1.250570-0.372455I$ $b=\ \ 0.423635+1.053610I$	$10.69750-3.82655I$	0
$u=\ \ 1.239890+0.363577I$ $a=\ \ 0.412526+0.411125I$ $b=\ \ 0.310240-1.324370I$	$2.52060+6.53191I$	0
$u=\ \ 1.239890-0.363577I$ $a=\ \ 0.412526-0.411125I$ $b=\ \ 0.310240+1.324370I$	$2.52060-6.53191I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.233350+0.406634I$ $a=\ 0.782995-0.925735I$ $b=\ 0.734911+0.940159I$	$1.55342-13.45400I$	0
$u=-1.233350-0.406634I$ $a=\ 0.782995+0.925735I$ $b=\ 0.734911-0.940159I$	$1.55342+13.45400I$	0
$u=-0.089749+0.694593I$ $a=\ 0.30094+1.45572I$ $b=\ 0.659706+1.027540I$	$-0.29199-3.17931I$	$0.+6.67643I$
$u=-0.089749-0.694593I$ $a=\ 0.30094-1.45572I$ $b=\ 0.659706-1.027540I$	$-0.29199+3.17931I$	$0.-6.67643I$
$u=\ 0.027364+0.694608I$ $a=\ 0.04426-2.08651I$ $b=\ 0.498891-1.001460I$	$4.25937+2.05166I$	$9.86825-3.99888I$
$u=\ 0.027364-0.694608I$ $a=\ 0.04426+2.08651I$ $b=\ 0.498891+1.001460I$	$4.25937-2.05166I$	$9.86825+3.99888I$
$u=-1.239290+0.427582I$ $a=\ 0.094661+0.185977I$ $b=-0.562354+0.696633I$	$4.55768-0.18030I$	0
$u=-1.239290-0.427582I$ $a=\ 0.094661-0.185977I$ $b=-0.562354-0.696633I$	$4.55768+0.18030I$	0
$u=-1.311730+0.112851I$ $a=-1.38563+0.36984I$ $b=-0.455582-0.897722I$	$7.33792-10.12360I$	0
$u=-1.311730-0.112851I$ $a=-1.38563-0.36984I$ $b=-0.455582+0.897722I$	$7.33792+10.12360I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.082464+1.319310I$ $a=-0.043371-0.926541I$ $b=-0.218391-0.994642I$	$3.59690-0.82728I$	0
$u=-0.082464-1.319310I$ $a=-0.043371+0.926541I$ $b=-0.218391+0.994642I$	$3.59690+0.82728I$	0
$u=1.243230+0.481417I$ $a=-0.328977-0.468734I$ $b=-0.316688+0.593529I$	$-1.13878+7.49614I$	0
$u=1.243230-0.481417I$ $a=-0.328977+0.468734I$ $b=-0.316688-0.593529I$	$-1.13878-7.49614I$	0
$u=0.124803+0.644685I$ $a=0.032379+0.363993I$ $b=0.513510+0.736845I$	$-0.92261-2.62985I$	$4.21753+4.40726I$
$u=0.124803-0.644685I$ $a=0.032379-0.363993I$ $b=0.513510-0.736845I$	$-0.92261+2.62985I$	$4.21753-4.40726I$
$u=1.311880+0.329941I$ $a=-0.477865-0.655221I$ $b=-0.629737+1.029840I$	$5.67724+8.45520I$	0
$u=1.311880-0.329941I$ $a=-0.477865+0.655221I$ $b=-0.629737-1.029840I$	$5.67724-8.45520I$	0
$u=1.323920+0.303669I$ $a=0.887984+0.035456I$ $b=0.99042-1.99909I$	$4.14211+6.83802I$	0
$u=1.323920-0.303669I$ $a=0.887984-0.035456I$ $b=0.99042+1.99909I$	$4.14211-6.83802I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.358770 + 0.155274I$ $a = 0.050662 + 0.171830I$ $b = 0.663872 + 1.150450I$	$3.24320 - 5.27212I$	0
$u = 1.358770 - 0.155274I$ $a = 0.050662 - 0.171830I$ $b = 0.663872 - 1.150450I$	$3.24320 + 5.27212I$	0
$u = 1.352840 + 0.216916I$ $a = -1.145330 + 0.010321I$ $b = -0.496026 + 0.846466I$	$8.78920 + 1.55715I$	0
$u = 1.352840 - 0.216916I$ $a = -1.145330 - 0.010321I$ $b = -0.496026 - 0.846466I$	$8.78920 - 1.55715I$	0
$u = 0.224820 + 0.587817I$ $a = 0.624793 - 1.170690I$ $b = -0.333869 + 0.265909I$	$1.67631 + 1.08555I$	$11.12651 - 5.08174I$
$u = 0.224820 - 0.587817I$ $a = 0.624793 + 1.170690I$ $b = -0.333869 - 0.265909I$	$1.67631 - 1.08555I$	$11.12651 + 5.08174I$
$u = 0.018477 + 0.599029I$ $a = 1.82913 + 0.39746I$ $b = 0.676478 + 0.759055I$	$-1.23861 + 3.38808I$	$5.09987 - 3.91185I$
$u = 0.018477 - 0.599029I$ $a = 1.82913 - 0.39746I$ $b = 0.676478 - 0.759055I$	$-1.23861 - 3.38808I$	$5.09987 + 3.91185I$
$u = -1.406480 + 0.012457I$ $a = 0.912512 - 0.310317I$ $b = 0.280328 + 0.894705I$	$7.90395 + 2.90748I$	0
$u = -1.406480 - 0.012457I$ $a = 0.912512 + 0.310317I$ $b = 0.280328 - 0.894705I$	$7.90395 - 2.90748I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.42327$ $a = -0.934980$ $b = -1.39459$	7.59081	0
$u = -1.41147 + 0.45996I$ $a = 1.137190 + 0.107640I$ $b = 0.99473 + 1.59165I$	$10.11070 - 7.17354I$	0
$u = -1.41147 - 0.45996I$ $a = 1.137190 - 0.107640I$ $b = 0.99473 - 1.59165I$	$10.11070 + 7.17354I$	0
$u = -0.027917 + 0.510011I$ $a = 0.625937 + 0.766897I$ $b = 0.821473 + 0.311864I$	$-1.54343 - 1.25994I$	$-0.90756 + 4.15364I$
$u = -0.027917 - 0.510011I$ $a = 0.625937 - 0.766897I$ $b = 0.821473 - 0.311864I$	$-1.54343 + 1.25994I$	$-0.90756 - 4.15364I$
$u = -0.031821 + 0.507487I$ $a = -1.185640 - 0.454865I$ $b = -0.589764 + 0.575921I$	$1.75476 - 0.00881I$	$9.25065 + 0.20424I$
$u = -0.031821 - 0.507487I$ $a = -1.185640 + 0.454865I$ $b = -0.589764 - 0.575921I$	$1.75476 + 0.00881I$	$9.25065 - 0.20424I$
$u = 1.43160 + 0.50110I$ $a = -1.152710 - 0.047862I$ $b = -0.97736 + 1.39351I$	$9.3803 + 11.0084I$	0
$u = 1.43160 - 0.50110I$ $a = -1.152710 + 0.047862I$ $b = -0.97736 - 1.39351I$	$9.3803 - 11.0084I$	0
$u = -0.316065 + 0.362795I$ $a = -1.35281 - 2.00326I$ $b = 0.0807781 + 0.0430423I$	$1.08480 + 1.35011I$	$7.86429 + 4.10908I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.316065-0.362795I$ $a=-1.35281+2.00326I$ $b=\ 0.0807781-0.0430423I$	$1.08480-1.35011I$	$7.86429-4.10908I$
$u=-1.45399+0.46764I$ $a=-1.017860-0.050164I$ $b=-1.00969-1.57753I$	$11.7618-13.5679I$	0
$u=-1.45399-0.46764I$ $a=-1.017860+0.050164I$ $b=-1.00969+1.57753I$	$11.7618+13.5679I$	0
$u=\ 1.45012+0.52667I$ $a=\ 1.091200-0.048739I$ $b=\ 0.98501-1.54394I$	$8.3083+20.2211I$	0
$u=\ 1.45012-0.52667I$ $a=\ 1.091200+0.048739I$ $b=\ 0.98501+1.54394I$	$8.3083-20.2211I$	0
$u=\ 1.41217+0.63611I$ $a=-0.899446+0.448745I$ $b=-0.466691+1.260560I$	$8.74406+4.82722I$	0
$u=\ 1.41217-0.63611I$ $a=-0.899446-0.448745I$ $b=-0.466691-1.260560I$	$8.74406-4.82722I$	0
$u=-1.43009+0.60638I$ $a=\ 0.941449+0.215775I$ $b=\ 0.65181+1.55927I$	$8.54213-9.98741I$	0
$u=-1.43009-0.60638I$ $a=\ 0.941449-0.215775I$ $b=\ 0.65181-1.55927I$	$8.54213+9.98741I$	0
$u=\ 1.48102+0.48582I$ $a=-0.944532+0.186449I$ $b=-0.523837+1.039610I$	$9.49782+2.72844I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.48102 - 0.48582I$ $a = -0.944532 - 0.186449I$ $b = -0.523837 - 1.039610I$	$9.49782 - 2.72844I$	0
$u = \quad 1.49218 + 0.51974I$ $a = -0.812465 + 0.101790I$ $b = -0.65610 + 1.43526I$	$8.77165 + 7.29520I$	0
$u = \quad 1.49218 - 0.51974I$ $a = -0.812465 - 0.101790I$ $b = -0.65610 - 1.43526I$	$8.77165 - 7.29520I$	0
$u = -0.419362$ $a = -1.15392$ $b = -0.179600$	0.733985	13.9250
$u = -1.48119 + 0.60190I$ $a = \quad 0.699727 + 0.380594I$ $b = \quad 0.307076 + 1.179410I$	$8.61838 - 1.63934I$	0
$u = -1.48119 - 0.60190I$ $a = \quad 0.699727 - 0.380594I$ $b = \quad 0.307076 - 1.179410I$	$8.61838 + 1.63934I$	0
$u = \quad 1.55440 + 0.38829I$ $a = \quad 0.792212 - 0.091477I$ $b = \quad 1.03536 - 1.17689I$	$5.36976 + 3.67718I$	0
$u = \quad 1.55440 - 0.38829I$ $a = \quad 0.792212 + 0.091477I$ $b = \quad 1.03536 + 1.17689I$	$5.36976 - 3.67718I$	0
$u = -0.339824 + 0.172306I$ $a = -4.54248 + 0.60166I$ $b = -0.654412 + 0.480759I$	$2.66144 - 0.90561I$	$8.87778 + 3.44537I$
$u = -0.339824 - 0.172306I$ $a = -4.54248 - 0.60166I$ $b = -0.654412 - 0.480759I$	$2.66144 + 0.90561I$	$8.87778 - 3.44537I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.51459+0.57605I$ $a=\ \ 0.867845+0.134554I$ $b=\ \ 0.472778+0.998305I$	$8.31088-6.11794I$	0
$u=-1.51459-0.57605I$ $a=\ \ 0.867845-0.134554I$ $b=\ \ 0.472778-0.998305I$	$8.31088+6.11794I$	0
$u=-1.56637+0.54685I$ $a=-0.860530-0.113138I$ $b=-0.919502-1.032930I$	$4.03489-11.20490I$	0
$u=-1.56637-0.54685I$ $a=-0.860530+0.113138I$ $b=-0.919502+1.032930I$	$4.03489+11.20490I$	0
$u=-1.58210+0.63538I$ $a=-0.703750-0.373404I$ $b=-0.319120-0.967375I$	$7.66634+6.87529I$	0
$u=-1.58210-0.63538I$ $a=-0.703750+0.373404I$ $b=-0.319120+0.967375I$	$7.66634-6.87529I$	0
$u=\ \ 1.52417+0.77909I$ $a=\ \ 0.714408-0.393402I$ $b=\ \ 0.335005-0.839056I$	$9.79703-0.61756I$	0
$u=\ \ 1.52417-0.77909I$ $a=\ \ 0.714408+0.393402I$ $b=\ \ 0.335005+0.839056I$	$9.79703+0.61756I$	0
$u=-0.068387+0.279446I$ $a=\ \ 1.66125+3.63079I$ $b=\ \ 0.347019+1.141660I$	$1.56097-4.17167I$	$10.7930+10.9520I$
$u=-0.068387-0.279446I$ $a=\ \ 1.66125-3.63079I$ $b=\ \ 0.347019-1.141660I$	$1.56097+4.17167I$	$10.7930-10.9520I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.263119 + 0.093851I$ $a = -4.99663 - 0.00442I$ $b = 0.745352 + 1.086500I$	$2.47935 + 9.02049I$	$6.50503 - 3.40743I$
$u = 0.263119 - 0.093851I$ $a = -4.99663 + 0.00442I$ $b = 0.745352 - 1.086500I$	$2.47935 - 9.02049I$	$6.50503 + 3.40743I$
$u = -0.136885 + 0.213031I$ $a = 3.51690 + 3.81197I$ $b = -0.603176 + 1.138650I$	$6.29263 - 2.85998I$	$11.50676 + 2.78422I$
$u = -0.136885 - 0.213031I$ $a = 3.51690 - 3.81197I$ $b = -0.603176 - 1.138650I$	$6.29263 + 2.85998I$	$11.50676 - 2.78422I$
$u = -0.15269 + 1.74787I$ $a = 0.009292 + 0.728608I$ $b = -0.005764 + 0.677667I$	$-1.46647 + 3.34301I$	0
$u = -0.15269 - 1.74787I$ $a = 0.009292 - 0.728608I$ $b = -0.005764 - 0.677667I$	$-1.46647 - 3.34301I$	0
$u = -0.160810 + 0.011492I$ $a = 3.27215 + 1.61623I$ $b = 1.105650 + 0.459270I$	$-1.88768 - 1.27148I$	$-12.53468 - 0.26382I$
$u = -0.160810 - 0.011492I$ $a = 3.27215 - 1.61623I$ $b = 1.105650 - 0.459270I$	$-1.88768 + 1.27148I$	$-12.53468 + 0.26382I$

II. $I_2^u =$
$\langle \mathbf{8.80\times10^{26}u^{39}-1.15\times10^{27}u^{38}+\cdots+7.83\times10^{24}b+6.82\times10^{26},\ 3.10\times10^{27}u^{39}-4.03\times10^{27}u^{38}+\cdots+1.57\times10^{25}a+2.39\times10^{27},\ u^{40}-11u^{38}+\cdots+2u+1}\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-198.161u^{39}+257.340u^{38}+\cdots-189.503u-152.592\\-112.384u^{39}+146.373u^{38}+\cdots-104.131u-87.1694\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-85.7776u^{39}+110.967u^{38}+\cdots-85.3718u-65.4224\\-112.384u^{39}+146.373u^{38}+\cdots-104.131u-87.1694\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-27.0117u^{39}+34.5709u^{38}+\cdots-15.5111u-14.9920\\366.337u^{39}-481.374u^{38}+\cdots+343.186u+280.837\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-383.226u^{39}+500.717u^{38}+\cdots-367.520u-292.885\\100.565u^{39}-132.469u^{38}+\cdots+95.7729u+75.1178\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-287.526u^{39}+388.585u^{38}+\cdots-291.596u-231.470\\672.260u^{39}-885.850u^{38}+\cdots+637.953u+508.779\end{pmatrix}$$
$$a_6 = \begin{pmatrix}368.415u^{39}-479.619u^{38}+\cdots+345.052u+279.655\\259.056u^{39}-338.430u^{38}+\cdots+241.787u+198.136\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-824.624u^{39}+1086.66u^{38}+\cdots-777.991u-623.044\\176.401u^{39}-228.868u^{38}+\cdots+159.288u+136.809\end{pmatrix}$$
$$a_9 = \begin{pmatrix}557.142u^{39}-721.095u^{38}+\cdots+495.212u+411.860\\467.817u^{39}-612.671u^{38}+\cdots+435.884u+352.534\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$$= -\frac{4498668439966063569851685466 1}{15658758159275251011365702}u^{39}+\frac{2948941021135280886363268278 2}{78293790796376255056828 51}u^{38}+\cdots-\frac{4249143059074002964555076488 7}{15658758159275251011365702}u-\frac{1698028058074941716988699801 4}{78293790796376255056828 51}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{40} - 6u^{39} + \cdots - 58u + 7$
c_2	$u^{40} - 11u^{38} + \cdots + 2u + 1$
c_3	$4(4u^{40} - 32u^{39} + \cdots - 7u + 1)$
c_4	$u^{40} + u^{39} + \cdots + 44u + 8$
c_5	$u^{40} + 14u^{38} + \cdots - 16u + 8$
c_6	$4(4u^{40} + 28u^{39} + \cdots + 244u + 29)$
c_7	$u^{40} - 11u^{38} + \cdots - 2u + 1$
c_8	$4(4u^{40} + 8u^{39} + \cdots + 4u + 1)$
c_9	$4(4u^{40} - 28u^{39} + \cdots - 244u + 29)$
c_{10}	$u^{40} - 4u^{39} + \cdots + 20u + 8$
c_{11}	$u^{40} + 6u^{39} + \cdots + 342u + 459$
c_{12}	$u^{40} + 14u^{38} + \cdots + 16u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{40} + 2y^{39} + \cdots - 270y + 49$
c_2, c_7	$y^{40} - 22y^{39} + \cdots + 4y + 1$
c_3	$16(16y^{40} - 280y^{39} + \cdots + 43y + 1)$
c_4	$y^{40} - y^{39} + \cdots + 288y + 64$
c_5, c_{12}	$y^{40} + 28y^{39} + \cdots + 1824y + 64$
c_6, c_9	$16(16y^{40} - 1192y^{39} + \cdots - 29318y + 841)$
c_8	$16(16y^{40} + 648y^{39} + \cdots + 16y + 1)$
c_{10}	$y^{40} + 22y^{39} + \cdots + 1568y + 64$
c_{11}	$y^{40} - 22y^{39} + \cdots - 4267242y + 210681$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.885821+0.261488I$ $a=\ \ 1.381710-0.092326I$ $b=-0.91396+1.59533I$	$3.18361-9.70369I$	$12.8707+9.4890I$
$u=-0.885821-0.261488I$ $a=\ \ 1.381710+0.092326I$ $b=-0.91396-1.59533I$	$3.18361+9.70369I$	$12.8707-9.4890I$
$u=-1.055710+0.304501I$ $a=-0.452103+0.593617I$ $b=\ \ 0.398254-0.522821I$	$4.26352-1.26858I$	0
$u=-1.055710-0.304501I$ $a=-0.452103-0.593617I$ $b=\ \ 0.398254+0.522821I$	$4.26352+1.26858I$	0
$u=\ \ 0.864055+0.056711I$ $a=\ \ 4.92614-0.29652I$ $b=\ \ 0.197618-0.268041I$	$3.05844-0.25163I$	$23.1978-17.4445I$
$u=\ \ 0.864055-0.056711I$ $a=\ \ 4.92614+0.29652I$ $b=\ \ 0.197618+0.268041I$	$3.05844+0.25163I$	$23.1978+17.4445I$
$u=\ \ 1.135600+0.262958I$ $a=-1.115230+0.095083I$ $b=-0.31519+1.82125I$	$7.94101+3.99745I$	0
$u=\ \ 1.135600-0.262958I$ $a=-1.115230-0.095083I$ $b=-0.31519-1.82125I$	$7.94101-3.99745I$	0
$u=-0.021446+1.242590I$ $a=\ \ 0.103787-1.134760I$ $b=\ \ 0.291129-1.081620I$	$4.11209+2.77736I$	0
$u=-0.021446-1.242590I$ $a=\ \ 0.103787+1.134760I$ $b=\ \ 0.291129+1.081620I$	$4.11209-2.77736I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.234230 + 0.350762I$ $a = 0.220618 - 0.065174I$ $b = 0.056753 - 1.393890I$	$0.37655 + 6.69384I$	0
$u = 1.234230 - 0.350762I$ $a = 0.220618 + 0.065174I$ $b = 0.056753 + 1.393890I$	$0.37655 - 6.69384I$	0
$u = -1.282100 + 0.160821I$ $a = 0.002455 + 0.577590I$ $b = -0.540239 - 0.895100I$	$1.82283 - 2.01960I$	0
$u = -1.282100 - 0.160821I$ $a = 0.002455 - 0.577590I$ $b = -0.540239 + 0.895100I$	$1.82283 + 2.01960I$	0
$u = -1.311010 + 0.009235I$ $a = 0.794975 - 0.117286I$ $b = 0.90592 + 1.21994I$	$6.38031 + 2.01596I$	0
$u = -1.311010 - 0.009235I$ $a = 0.794975 + 0.117286I$ $b = 0.90592 - 1.21994I$	$6.38031 - 2.01596I$	0
$u = -1.314430 + 0.000742I$ $a = -1.013060 - 0.219499I$ $b = -1.71966 + 0.05362I$	$5.30111 + 8.12301I$	0
$u = -1.314430 - 0.000742I$ $a = -1.013060 + 0.219499I$ $b = -1.71966 - 0.05362I$	$5.30111 - 8.12301I$	0
$u = 1.289330 + 0.294980I$ $a = -0.921582 - 0.039029I$ $b = -0.91865 + 2.08075I$	$4.34706 + 6.96401I$	0
$u = 1.289330 - 0.294980I$ $a = -0.921582 + 0.039029I$ $b = -0.91865 - 2.08075I$	$4.34706 - 6.96401I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.305940 + 0.276596I$ $a = 0.990124 - 0.245024I$ $b = 1.227810 - 0.679905I$	$8.33097 - 0.99541I$	0
$u = 1.305940 - 0.276596I$ $a = 0.990124 + 0.245024I$ $b = 1.227810 + 0.679905I$	$8.33097 + 0.99541I$	0
$u = 0.230244 + 0.622617I$ $a = 0.37498 - 1.65707I$ $b = -0.539842 - 1.179840I$	$0.78946 - 3.48348I$	$6.42936 + 4.05909I$
$u = 0.230244 - 0.622617I$ $a = 0.37498 + 1.65707I$ $b = -0.539842 + 1.179840I$	$0.78946 + 3.48348I$	$6.42936 - 4.05909I$
$u = 0.064133 + 1.361480I$ $a = -0.216705 + 0.345135I$ $b = -0.093899 + 0.348838I$	$-4.48688 - 1.96389I$	0
$u = 0.064133 - 1.361480I$ $a = -0.216705 - 0.345135I$ $b = -0.093899 - 0.348838I$	$-4.48688 + 1.96389I$	0
$u = -0.089545 + 0.593125I$ $a = 0.44927 - 1.64525I$ $b = 0.552277 + 0.234868I$	$1.323320 + 0.174545I$	$5.28001 + 2.10756I$
$u = -0.089545 - 0.593125I$ $a = 0.44927 + 1.64525I$ $b = 0.552277 - 0.234868I$	$1.323320 - 0.174545I$	$5.28001 - 2.10756I$
$u = 0.520326 + 0.208882I$ $a = 0.088072 - 0.865583I$ $b = 0.923469 + 0.741691I$	$-2.78307 - 4.17570I$	$2.65404 + 9.06688I$
$u = 0.520326 - 0.208882I$ $a = 0.088072 + 0.865583I$ $b = 0.923469 - 0.741691I$	$-2.78307 + 4.17570I$	$2.65404 - 9.06688I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.467636+0.030089I$ $a=-1.213680-0.584586I$ $b=-1.140850-0.431614I$	$-1.61725-1.29593I$	$17.6870+1.4584I$
$u=-0.467636-0.030089I$ $a=-1.213680+0.584586I$ $b=-1.140850+0.431614I$	$-1.61725+1.29593I$	$17.6870-1.4584I$
$u=-0.15909+1.53066I$ $a=0.007528+0.809600I$ $b=-0.010230+0.514414I$	$-1.77257+3.34526I$	0
$u=-0.15909-1.53066I$ $a=0.007528-0.809600I$ $b=-0.010230-0.514414I$	$-1.77257-3.34526I$	0
$u=1.46056+0.52455I$ $a=-0.890542+0.271471I$ $b=-0.517763+1.167590I$	$8.97944+3.55354I$	0
$u=1.46056-0.52455I$ $a=-0.890542-0.271471I$ $b=-0.517763-1.167590I$	$8.97944-3.55354I$	0
$u=-1.45175+0.56091I$ $a=0.978747+0.127049I$ $b=0.73549+1.46098I$	$8.72748-9.21510I$	0
$u=-1.45175-0.56091I$ $a=0.978747-0.127049I$ $b=0.73549-1.46098I$	$8.72748+9.21510I$	0
$u=-0.065876+0.286330I$ $a=-0.99550-3.73079I$ $b=-0.578451+0.270275I$	$0.94020+1.88067I$	$3.98517-9.07011I$
$u=-0.065876-0.286330I$ $a=-0.99550+3.73079I$ $b=-0.578451-0.270275I$	$0.94020-1.88067I$	$3.98517+9.07011I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{40}-6u^{39}+\cdots-58u+7)$ $\cdot(u^{158}-11u^{157}+\cdots-6874340367u+404850059)$
c_2	$(u^{40}-11u^{38}+\cdots+2u+1)(u^{158}+u^{157}+\cdots+2697u-163)$
c_3	$16(4u^{40}-32u^{39}+\cdots-7u+1)$ $\cdot(4u^{158}-12u^{157}+\cdots+3747366u+276277)$
c_4	$(u^{40}+u^{39}+\cdots+44u+8)(u^{158}+2u^{157}+\cdots-16u-16)$
c_5	$(u^{40}+14u^{38}+\cdots-16u+8)(u^{158}-3u^{157}+\cdots-68508u+5048)$
c_6	$16(4u^{40}+28u^{39}+\cdots+244u+29)$ $\cdot(4u^{158}-32u^{157}+\cdots-1649929u-86329)$
c_7	$(u^{40}-11u^{38}+\cdots-2u+1)(u^{158}+u^{157}+\cdots+2697u-163)$
c_8	$16(4u^{40}+8u^{39}+\cdots+4u+1)(4u^{158}-4u^{157}+\cdots-245u+11)$
c_9	$16(4u^{40}-28u^{39}+\cdots-244u+29)$ $\cdot(4u^{158}-32u^{157}+\cdots-1649929u-86329)$
c_{10}	$(u^{40}-4u^{39}+\cdots+20u+8)$ $\cdot(u^{158}+9u^{157}+\cdots+92598104u+15966368)$
c_{11}	$(u^{40}+6u^{39}+\cdots+342u+459)$ $\cdot(u^{158}+3u^{157}+\cdots+104047000685u+19423529740)$
c_{12}	$(u^{40}+14u^{38}+\cdots+16u+8)(u^{158}-3u^{157}+\cdots-68508u+5048)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{40}+2y^{39}+\cdots-270y+49)$ $\cdot(y^{158}+63y^{157}+\cdots+1.55\times10^{18}y+1.64\times10^{17})$
c_2, c_7	$(y^{40}-22y^{39}+\cdots+4y+1)$ $\cdot(y^{158}-113y^{157}+\cdots-2010213y+26569)$
c_3	$256(16y^{40}-280y^{39}+\cdots+43y+1)$ $\cdot(16y^{158}+824y^{157}+\cdots-4738880286642y+76328980729)$
c_4	$(y^{40}-y^{39}+\cdots+288y+64)(y^{158}-4y^{157}+\cdots-8896y+256)$
c_5, c_{12}	$(y^{40}+28y^{39}+\cdots+1824y+64)$ $\cdot(y^{158}+93y^{157}+\cdots-3359381776y+25482304)$
c_6, c_9	$256(16y^{40}-1192y^{39}+\cdots-29318y+841)$ $\cdot(16y^{158}-2328y^{157}+\cdots-344551467095y+7452696241)$
c_8	$256(16y^{40}+648y^{39}+\cdots+16y+1)$ $\cdot(16y^{158}+216y^{157}+\cdots-669y+121)$
c_{10}	$(y^{40}+22y^{39}+\cdots+1568y+64)$ $\cdot(y^{158}+79y^{157}+\cdots-33590848646406208y+254924907111424)$
c_{11}	$(y^{40}-22y^{39}+\cdots-4267242y+210681)$ $\cdot(y^{158}-85y^{157}+\cdots-3.42\times10^{22}y+3.77\times10^{20})$