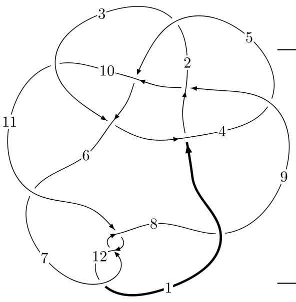
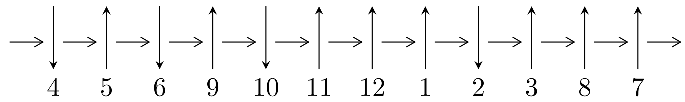
$12a_{0806}$ $(K12a_{0806})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle 17065u^{50} + 58132u^{49} + \cdots + 10949b + 696131,\\
&\quad - 681303u^{50} - 3569366u^{49} + \cdots + 120439a - 14235505,\ u^{51} + 6u^{50} + \cdots + 17u + 11\rangle\\
I^u_2 &= \langle 768u^{38}a + 2716u^{38} + \cdots - 4526a - 10377,\ -5u^{38}a + 5u^{38} + \cdots - 10a + 2,\ u^{39} - 2u^{38} + \cdots + 4u - 1\rangle\\
I^u_3 &= \langle -u^{10} - 4u^8 - 5u^6 + u^3 + 4u^2 + b + 2u + 1,\\
&\quad u^{12} + u^{11} + 5u^{10} + 4u^9 + 9u^8 + 5u^7 + 4u^6 - u^5 - 7u^4 - 7u^3 - 7u^2 + a - 3u + 1,\\
&\quad u^{15} + u^{14} + 7u^{13} + 6u^{12} + 19u^{11} + 14u^{10} + 22u^9 + 13u^8 + u^7 - 4u^6 - 22u^5 - 17u^4 - 16u^3 - 10u^2 - u - 1\rangle\\
I^u_4 &= \langle au - u^2 + b + u - 1,\ -3u^2a + a^2 - 3a - u + 1,\ u^3 - u^2 + 2u - 1\rangle
\end{aligned}$$

$$I^v_1 = \langle a,\ b - 1,\ v + 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 151 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. $\boldsymbol{I_1^u = \langle 17065u^{50} + 58132u^{49} + \cdots + 10949b + 696131,\ -6.81 \times 10^5 u^{50} - 3.57 \times 10^6 u^{49} + \cdots + 1.20 \times 10^5 a - 1.42 \times 10^7,\ u^{51} + 6u^{50} + \cdots + 17u + 11\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 5.65683u^{50} + 29.6363u^{49} + \cdots + 12.5028u + 118.197 \\ -1.55859u^{50} - 5.30934u^{49} + \cdots + 30.0563u - 63.5794 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 8.37881u^{50} + 48.7374u^{49} + \cdots + 50.8618u + 144.760 \\ -1.53548u^{50} - 10.7228u^{49} + \cdots + 2.32012u - 92.1670 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -6.19247u^{50} - 28.1472u^{49} + \cdots + 13.9193u - 64.2872 \\ 10.0141u^{50} + 55.3135u^{49} + \cdots + 59.6389u + 98.3815 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 3.63966u^{50} + 23.9159u^{49} + \cdots + 51.3463u + 6.74407 \\ -0.613389u^{50} - 7.84263u^{49} + \cdots - 28.5497u - 51.1307 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 4.64825u^{50} + 26.2761u^{49} + \cdots + 23.4246u + 101.470 \\ -1.61339u^{50} - 6.84263u^{49} + \cdots + 21.4503u - 51.1307 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{138745}{10949}u^{50} + \frac{762715}{10949}u^{49} + \cdots + \frac{578532}{10949}u + \frac{1808552}{10949}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{51} + 8u^{50} + \cdots - u + 1$
c_2	$u^{51} + 27u^{50} + \cdots - 21u - 11$
c_4, c_{10}	$u^{51} - 8u^{49} + \cdots - 7u + 3$
c_5, c_9	$u^{51} - 17u^{49} + \cdots - 3u + 1$
c_6, c_8	$u^{51} + 6u^{50} + \cdots - 13127u - 1727$
c_7, c_{11}, c_{12}	$u^{51} - 6u^{50} + \cdots + 17u - 11$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{51} - 12y^{50} + \cdots + 41y - 1$
c_2	$y^{51} - y^{50} + \cdots + 265y - 121$
c_4, c_{10}	$y^{51} - 16y^{50} + \cdots + 109y - 9$
c_5, c_9	$y^{51} - 34y^{50} + \cdots + 63y - 1$
c_6, c_8	$y^{51} - 46y^{50} + \cdots + 6018391y - 2982529$
c_7, c_{11}, c_{12}	$y^{51} + 42y^{50} + \cdots + 751y - 121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.957849 + 0.091145I$ $a = -1.008770 - 0.320069I$ $b = 0.552197 + 0.030702I$	$5.37004 - 0.21205I$	$11.7933 + 19.3332I$
$u = -0.957849 - 0.091145I$ $a = -1.008770 + 0.320069I$ $b = 0.552197 - 0.030702I$	$5.37004 + 0.21205I$	$11.7933 - 19.3332I$
$u = -0.872610 + 0.107152I$ $a = 2.73299 - 0.35546I$ $b = -1.35191 + 0.89094I$	$6.3580 - 14.4453I$	$7.77501 + 8.25655I$
$u = -0.872610 - 0.107152I$ $a = 2.73299 + 0.35546I$ $b = -1.35191 - 0.89094I$	$6.3580 + 14.4453I$	$7.77501 - 8.25655I$
$u = 0.850284$ $a = -2.37050$ $b = 1.10715$	7.35958	12.9810
$u = -0.841318 + 0.059912I$ $a = -1.61858 + 0.39625I$ $b = 0.651279 - 0.942262I$	$3.92874 - 5.39698I$	$1.33611 + 5.91219I$
$u = -0.841318 - 0.059912I$ $a = -1.61858 - 0.39625I$ $b = 0.651279 + 0.942262I$	$3.92874 + 5.39698I$	$1.33611 - 5.91219I$
$u = -0.110159 + 1.171870I$ $a = -0.653100 - 0.676264I$ $b = 0.747128 - 0.387182I$	$-2.43106 - 2.02323I$	0
$u = -0.110159 - 1.171870I$ $a = -0.653100 + 0.676264I$ $b = 0.747128 + 0.387182I$	$-2.43106 + 2.02323I$	0
$u = 0.793654$ $a = 3.77720$ $b = -1.59505$	2.43906	4.56150

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.536539 + 0.581907I$ $a = 0.286173 - 1.079810I$ $b = -0.871692 + 0.727547I$	$-0.20392 - 5.98050I$	$4.39957 + 5.96035I$
$u = 0.536539 - 0.581907I$ $a = 0.286173 + 1.079810I$ $b = -0.871692 - 0.727547I$	$-0.20392 + 5.98050I$	$4.39957 - 5.96035I$
$u = -0.437498 + 1.162750I$ $a = -0.949926 - 0.859681I$ $b = 1.31754 + 0.83680I$	$3.12029 + 9.75993I$	0
$u = -0.437498 - 1.162750I$ $a = -0.949926 + 0.859681I$ $b = 1.31754 - 0.83680I$	$3.12029 - 9.75993I$	0
$u = -0.526323 + 1.137400I$ $a = 0.714167 - 0.057776I$ $b = -0.636089 + 0.260892I$	$2.16535 - 5.04396I$	0
$u = -0.526323 - 1.137400I$ $a = 0.714167 + 0.057776I$ $b = -0.636089 - 0.260892I$	$2.16535 + 5.04396I$	0
$u = 0.586583 + 0.460125I$ $a = -1.68040 + 0.19022I$ $b = 1.039040 + 0.827520I$	$0.14422 + 10.04010I$	$4.88180 - 10.18638I$
$u = 0.586583 - 0.460125I$ $a = -1.68040 - 0.19022I$ $b = 1.039040 - 0.827520I$	$0.14422 - 10.04010I$	$4.88180 + 10.18638I$
$u = -0.735576 + 0.015230I$ $a = 0.707092 - 0.935835I$ $b = -0.540635 + 0.818076I$	$1.75267 + 0.42707I$	$5.01249 - 1.26991I$
$u = -0.735576 - 0.015230I$ $a = 0.707092 + 0.935835I$ $b = -0.540635 - 0.818076I$	$1.75267 - 0.42707I$	$5.01249 + 1.26991I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.386042 + 1.213460I$ $a = 0.305981 + 0.162011I$ $b = -0.683796 - 0.892751I$	$0.378949 + 0.984883I$	0
$u = -0.386042 - 1.213460I$ $a = 0.305981 - 0.162011I$ $b = -0.683796 + 0.892751I$	$0.378949 - 0.984883I$	0
$u = -0.010405 + 1.275500I$ $a = -0.11447 + 1.65867I$ $b = -1.197490 + 0.435739I$	$-5.65491 - 0.08091I$	0
$u = -0.010405 - 1.275500I$ $a = -0.11447 - 1.65867I$ $b = -1.197490 - 0.435739I$	$-5.65491 + 0.08091I$	0
$u = -0.315762 + 1.267550I$ $a = 0.587037 - 0.458569I$ $b = 0.734138 + 0.847727I$	$-2.14226 - 4.23397I$	0
$u = -0.315762 - 1.267550I$ $a = 0.587037 + 0.458569I$ $b = 0.734138 - 0.847727I$	$-2.14226 + 4.23397I$	0
$u = 0.346308 + 1.271350I$ $a = -2.07110 + 1.52413I$ $b = 1.60013 + 0.10545I$	$-1.50936 + 4.10568I$	0
$u = 0.346308 - 1.271350I$ $a = -2.07110 - 1.52413I$ $b = 1.60013 - 0.10545I$	$-1.50936 - 4.10568I$	0
$u = 0.140065 + 1.312000I$ $a = -1.17209 + 0.87013I$ $b = -0.102933 + 0.561947I$	$-6.73083 + 1.29013I$	0
$u = 0.140065 - 1.312000I$ $a = -1.17209 - 0.87013I$ $b = -0.102933 - 0.561947I$	$-6.73083 - 1.29013I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.390745 + 1.270750I$		
$a = 1.35281 - 0.86884I$	$3.41454 + 4.45278I$	0
$b = -1.104190 - 0.060462I$		
$u = 0.390745 - 1.270750I$		
$a = 1.35281 + 0.86884I$	$3.41454 - 4.45278I$	0
$b = -1.104190 + 0.060462I$		
$u = 0.123820 + 1.332570I$		
$a = -0.25400 + 1.64570I$	$-6.88239 + 4.78231I$	0
$b = 0.377328 + 0.848131I$		
$u = 0.123820 - 1.332570I$		
$a = -0.25400 - 1.64570I$	$-6.88239 - 4.78231I$	0
$b = 0.377328 - 0.848131I$		
$u = -0.305129 + 1.305590I$		
$a = -0.741926 - 0.203882I$	$-2.38756 - 3.30581I$	0
$b = 0.310875 - 0.893081I$		
$u = -0.305129 - 1.305590I$		
$a = -0.741926 + 0.203882I$	$-2.38756 + 3.30581I$	0
$b = 0.310875 + 0.893081I$		
$u = -0.378359 + 1.313350I$		
$a = 1.53765 + 0.97583I$	$-0.36500 - 9.78081I$	0
$b = -0.620593 + 0.977590I$		
$u = -0.378359 - 1.313350I$		
$a = 1.53765 - 0.97583I$	$-0.36500 + 9.78081I$	0
$b = -0.620593 - 0.977590I$		
$u = -0.432561 + 1.329610I$		
$a = 0.774503 + 0.554838I$	$0.95775 - 5.14865I$	0
$b = -0.519222 + 0.116435I$		
$u = -0.432561 - 1.329610I$		
$a = 0.774503 - 0.554838I$	$0.95775 + 5.14865I$	0
$b = -0.519222 - 0.116435I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.389393+1.346220I$ $a=-1.91824-1.27982I$ $b=1.36458-0.93696I$	$1.7948-18.9749I$	0
$u=-0.389393-1.346220I$ $a=-1.91824+1.27982I$ $b=1.36458+0.93696I$	$1.7948+18.9749I$	0
$u=0.160521+1.403010I$ $a=0.507609-1.238780I$ $b=-1.07228-0.98924I$	$-5.80596+12.52430I$	0
$u=0.160521-1.403010I$ $a=0.507609+1.238780I$ $b=-1.07228+0.98924I$	$-5.80596-12.52430I$	0
$u=0.08350+1.42941I$ $a=0.467107-0.186161I$ $b=0.633858-0.883697I$	$-6.78102-4.15065I$	0
$u=0.08350-1.42941I$ $a=0.467107+0.186161I$ $b=0.633858+0.883697I$	$-6.78102+4.15065I$	0
$u=0.408104+0.327214I$ $a=0.979008-0.904889I$ $b=-0.474174-0.714874I$	$-1.77054+2.97070I$	$-1.01011-9.07631I$
$u=0.408104-0.327214I$ $a=0.979008+0.904889I$ $b=-0.474174+0.714874I$	$-1.77054-2.97070I$	$-1.01011+9.07631I$
$u=-0.433649$ $a=1.37269$ $b=-0.608713$	0.899501	11.2900
$u=0.317656+0.294660I$ $a=1.068040-0.161364I$ $b=0.395222-0.470941I$	$-1.93927-0.45602I$	$-1.97537-1.16859I$

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u =$	$0.317656 - 0.294660I$		
$a =$	$1.068040 + 0.161364I$	$-1.93927 + 0.45602I$	$-1.97537 + 1.16859I$
$b =$	$0.395222 + 0.470941I$		

II. $I_2^u = \langle 768u^{38}a + 2716u^{38} + \cdots - 4526a - 10377,\ -5u^{38}a + 5u^{38} + \cdots - 10a + 2,\ u^{39} - 2u^{38} + \cdots + 4u - 1\rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -0.262924au^{38} - 0.929819u^{38} + \cdots + 1.54947a + 3.55255 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3.14755au^{38} - 3.51660u^{38} + \cdots - 0.508045a - 4.52585 \\ 1.17426au^{38} - 0.482711u^{38} + \cdots + 3.14755a + 6.51660 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.929819au^{38} + 2.43410u^{38} + \cdots - 2.55255a + 5.13968 \\ -1.41732au^{38} - 2.57480u^{38} + \cdots + 1.13386a - 2.74016 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.21773au^{38} - 3.08251u^{38} + \cdots + 0.939404a - 3.38617 \\ 0.929819au^{38} + 0.434098u^{38} + \cdots + 1.44745a + 5.13968 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.56179au^{38} + 3.78364u^{38} + \cdots - 0.0842177a + 2.92092 \\ -2.52996au^{38} - 1.93667u^{38} + \cdots - 0.845601a - 4.35502 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 11u^{38} - 16u^{37} + \cdots - 15u + 31$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{78} - 7u^{77} + \cdots - 3364u + 183$
c_2	$(u^{39} - 19u^{38} + \cdots + 28u - 8)^2$
c_4, c_{10}	$u^{78} - 8u^{76} + \cdots + 16227u + 3957$
c_5, c_9	$u^{78} + 6u^{76} + \cdots - 13u + 3$
c_6, c_8	$(u^{39} - 2u^{38} + \cdots + 2u^2 + 5)^2$
c_7, c_{11}, c_{12}	$(u^{39} + 2u^{38} + \cdots + 4u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{78} + 33y^{77} + \cdots + 910466y + 33489$
c_2	$(y^{39} - 7y^{38} + \cdots + 1296y - 64)^2$
c_4, c_{10}	$y^{78} - 16y^{77} + \cdots - 452246451y + 15657849$
c_5, c_9	$y^{78} + 12y^{77} + \cdots - 283y + 9$
c_6, c_8	$(y^{39} - 32y^{38} + \cdots - 20y - 25)^2$
c_7, c_{11}, c_{12}	$(y^{39} + 32y^{38} + \cdots + 16y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.862765 + 0.111414I$ $a = 1.52394 - 0.50769I$ $b = -0.909524 - 0.267244I$	$7.83503 + 6.29239I$	$11.47825 - 6.12903I$
$u = 0.862765 + 0.111414I$ $a = -2.71691 - 0.48168I$ $b = 1.41000 + 0.84330I$	$7.83503 + 6.29239I$	$11.47825 - 6.12903I$
$u = 0.862765 - 0.111414I$ $a = 1.52394 + 0.50769I$ $b = -0.909524 + 0.267244I$	$7.83503 - 6.29239I$	$11.47825 + 6.12903I$
$u = 0.862765 - 0.111414I$ $a = -2.71691 + 0.48168I$ $b = 1.41000 - 0.84330I$	$7.83503 - 6.29239I$	$11.47825 + 6.12903I$
$u = 0.845481$ $a = -2.29657 + 0.11006I$ $b = 1.064370 + 0.116416I$	7.33955	12.5360
$u = 0.845481$ $a = -2.29657 - 0.11006I$ $b = 1.064370 - 0.116416I$	7.33955	12.5360
$u = 0.022826 + 1.155060I$ $a = -0.299063 - 0.119240I$ $b = 1.177390 - 0.545665I$	$-1.55883 - 2.57852I$	$5.28000 + 1.21669I$
$u = 0.022826 + 1.155060I$ $a = -1.04903 - 2.13457I$ $b = 0.097150 + 0.275988I$	$-1.55883 - 2.57852I$	$5.28000 + 1.21669I$
$u = 0.022826 - 1.155060I$ $a = -0.299063 + 0.119240I$ $b = 1.177390 + 0.545665I$	$-1.55883 + 2.57852I$	$5.28000 - 1.21669I$
$u = 0.022826 - 1.155060I$ $a = -1.04903 + 2.13457I$ $b = 0.097150 - 0.275988I$	$-1.55883 + 2.57852I$	$5.28000 - 1.21669I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.824869 + 0.019258I$ $a = 1.92077 - 1.02736I$ $b = -0.655761 - 0.138542I$	$6.72772 - 4.49457I$	$11.91335 + 5.12079I$
$u = -0.824869 + 0.019258I$ $a = -2.85897 + 1.05925I$ $b = 1.45369 - 1.14548I$	$6.72772 - 4.49457I$	$11.91335 + 5.12079I$
$u = -0.824869 - 0.019258I$ $a = 1.92077 + 1.02736I$ $b = -0.655761 + 0.138542I$	$6.72772 + 4.49457I$	$11.91335 - 5.12079I$
$u = -0.824869 - 0.019258I$ $a = -2.85897 - 1.05925I$ $b = 1.45369 + 1.14548I$	$6.72772 + 4.49457I$	$11.91335 - 5.12079I$
$u = 0.796735 + 0.070027I$ $a = 2.33321 - 0.32438I$ $b = -1.024300 - 0.668662I$	$3.10138 + 5.89865I$	$3.86727 - 7.38217I$
$u = 0.796735 + 0.070027I$ $a = 0.08693 - 2.63933I$ $b = -0.18679 + 1.79967I$	$3.10138 + 5.89865I$	$3.86727 - 7.38217I$
$u = 0.796735 - 0.070027I$ $a = 2.33321 + 0.32438I$ $b = -1.024300 + 0.668662I$	$3.10138 - 5.89865I$	$3.86727 + 7.38217I$
$u = 0.796735 - 0.070027I$ $a = 0.08693 + 2.63933I$ $b = -0.18679 - 1.79967I$	$3.10138 - 5.89865I$	$3.86727 + 7.38217I$
$u = 0.425356 + 1.152970I$ $a = -0.664842 + 0.046535I$ $b = 0.940951 - 0.165473I$	$4.64181 - 1.67568I$	$8.99923 + 1.98848I$
$u = 0.425356 + 1.152970I$ $a = 0.891746 - 1.049000I$ $b = -1.34348 + 0.74421I$	$4.64181 - 1.67568I$	$8.99923 + 1.98848I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\ 0.425356-1.152970I$ $a=-0.664842-0.046535I$ $b=\ 0.940951+0.165473I$	$4.64181+1.67568I$	$8.99923-1.98848I$
$u=\ 0.425356-1.152970I$ $a=\ 0.891746+1.049000I$ $b=-1.34348-0.74421I$	$4.64181+1.67568I$	$8.99923-1.98848I$
$u=\ 0.331729+1.210260I$ $a=-0.974613+0.001886I$ $b=\ 1.044950-0.605163I$	$-0.38131-1.81925I$	$0.+3.85200I$
$u=\ 0.331729+1.210260I$ $a=-1.66523-0.77408I$ $b=-0.00527+1.71179I$	$-0.38131-1.81925I$	$0.+3.85200I$
$u=\ 0.331729-1.210260I$ $a=-0.974613-0.001886I$ $b=\ 1.044950+0.605163I$	$-0.38131+1.81925I$	$0.-3.85200I$
$u=\ 0.331729-1.210260I$ $a=-1.66523+0.77408I$ $b=-0.00527-1.71179I$	$-0.38131+1.81925I$	$0.-3.85200I$
$u=\ 0.067881+1.254700I$ $a=\ 1.95646-0.02933I$ $b=-0.887796-0.295962I$	$-2.63455+5.05675I$	$1.50570-9.56205I$
$u=\ 0.067881+1.254700I$ $a=\ 0.34613+2.03183I$ $b=\ 0.86825+1.32919I$	$-2.63455+5.05675I$	$1.50570-9.56205I$
$u=\ 0.067881-1.254700I$ $a=\ 1.95646+0.02933I$ $b=-0.887796+0.295962I$	$-2.63455-5.05675I$	$1.50570+9.56205I$
$u=\ 0.067881-1.254700I$ $a=\ 0.34613-2.03183I$ $b=\ 0.86825-1.32919I$	$-2.63455-5.05675I$	$1.50570+9.56205I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.539737+0.491474I$ $a=-0.319753-0.984087I$ $b=\ \ 0.686004+0.238628I$	$2.08119-1.94210I$	$12.17714+4.61373I$
$u=-0.539737+0.491474I$ $a=\ \ 1.117600-0.066387I$ $b=-0.817065+0.624057I$	$2.08119-1.94210I$	$12.17714+4.61373I$
$u=-0.539737-0.491474I$ $a=-0.319753+0.984087I$ $b=\ \ 0.686004-0.238628I$	$2.08119+1.94210I$	$12.17714-4.61373I$
$u=-0.539737-0.491474I$ $a=\ \ 1.117600+0.066387I$ $b=-0.817065-0.624057I$	$2.08119+1.94210I$	$12.17714-4.61373I$
$u=-0.370668+1.252870I$ $a=\ \ 0.592944+1.205510I$ $b=-1.48011-1.05361I$	$2.90973+0.19610I$	$8.26615+0.I$
$u=-0.370668+1.252870I$ $a=-1.20274-1.76224I$ $b=\ \ 0.565165-0.161917I$	$2.90973+0.19610I$	$8.26615+0.I$
$u=-0.370668-1.252870I$ $a=\ \ 0.592944-1.205510I$ $b=-1.48011+1.05361I$	$2.90973-0.19610I$	$8.26615+0.I$
$u=-0.370668-1.252870I$ $a=-1.20274+1.76224I$ $b=\ \ 0.565165+0.161917I$	$2.90973-0.19610I$	$8.26615+0.I$
$u=\ \ 0.386988+1.267600I$ $a=\ \ 1.166230-0.681178I$ $b=-1.132120+0.079081I$	$3.40613+4.42352I$	0
$u=\ \ 0.386988+1.267600I$ $a=\ \ 1.41876-1.06506I$ $b=-0.987505-0.144274I$	$3.40613+4.42352I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.386988 - 1.267600I$ $a = 1.166230 + 0.681178I$ $b = -1.132120 - 0.079081I$	$3.40613 - 4.42352I$	0
$u = 0.386988 - 1.267600I$ $a = 1.41876 + 1.06506I$ $b = -0.987505 + 0.144274I$	$3.40613 - 4.42352I$	0
$u = -0.369439 + 1.283770I$ $a = -1.313240 + 0.478217I$ $b = 0.735564 + 0.114822I$	$2.67215 - 8.78848I$	0
$u = -0.369439 + 1.283770I$ $a = 2.21858 + 1.22748I$ $b = -1.42500 + 1.23072I$	$2.67215 - 8.78848I$	0
$u = -0.369439 - 1.283770I$ $a = -1.313240 - 0.478217I$ $b = 0.735564 - 0.114822I$	$2.67215 + 8.78848I$	0
$u = -0.369439 - 1.283770I$ $a = 2.21858 - 1.22748I$ $b = -1.42500 - 1.23072I$	$2.67215 + 8.78848I$	0
$u = -0.067670 + 1.359240I$ $a = -0.474081 - 0.636837I$ $b = -0.83150 - 1.50691I$	$-6.62180 - 4.34090I$	0
$u = -0.067670 + 1.359240I$ $a = -0.41872 + 1.45730I$ $b = -0.783478 + 0.633009I$	$-6.62180 - 4.34090I$	0
$u = -0.067670 - 1.359240I$ $a = -0.474081 + 0.636837I$ $b = -0.83150 + 1.50691I$	$-6.62180 + 4.34090I$	0
$u = -0.067670 - 1.359240I$ $a = -0.41872 - 1.45730I$ $b = -0.783478 - 0.633009I$	$-6.62180 + 4.34090I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.351229 + 1.316650I$ $a = 1.37076 + 0.85246I$ $b = 0.30604 - 1.87383I$	$-1.24250 + 10.04150I$	0
$u = 0.351229 + 1.316650I$ $a = -1.51696 + 1.64909I$ $b = 1.006870 + 0.715982I$	$-1.24250 + 10.04150I$	0
$u = 0.351229 - 1.316650I$ $a = 1.37076 - 0.85246I$ $b = 0.30604 + 1.87383I$	$-1.24250 - 10.04150I$	0
$u = 0.351229 - 1.316650I$ $a = -1.51696 - 1.64909I$ $b = 1.006870 - 0.715982I$	$-1.24250 - 10.04150I$	0
$u = -0.235139 + 1.342860I$ $a = 0.735554 - 0.250002I$ $b = 0.629522 + 0.309614I$	$-4.60958 - 2.40159I$	0
$u = -0.235139 + 1.342860I$ $a = -1.48293 - 1.23073I$ $b = 1.51706 - 0.90511I$	$-4.60958 - 2.40159I$	0
$u = -0.235139 - 1.342860I$ $a = 0.735554 + 0.250002I$ $b = 0.629522 - 0.309614I$	$-4.60958 + 2.40159I$	0
$u = -0.235139 - 1.342860I$ $a = -1.48293 + 1.23073I$ $b = 1.51706 + 0.90511I$	$-4.60958 + 2.40159I$	0
$u = -0.568822 + 0.204692I$ $a = 0.376393 + 0.784643I$ $b = -0.820136 - 0.300724I$	$0.207956 + 0.558026I$	$7.50495 - 2.82454I$
$u = -0.568822 + 0.204692I$ $a = 2.96451 - 0.36761I$ $b = -1.082510 + 0.643552I$	$0.207956 + 0.558026I$	$7.50495 - 2.82454I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.568822 - 0.204692I$ $a = 0.376393 - 0.784643I$ $b = -0.820136 + 0.300724I$	$0.207956 - 0.558026I$	$7.50495 + 2.82454I$
$u = -0.568822 - 0.204692I$ $a = 2.96451 + 0.36761I$ $b = -1.082510 - 0.643552I$	$0.207956 - 0.558026I$	$7.50495 + 2.82454I$
$u = 0.383276 + 1.347030I$ $a = -0.79750 + 1.19096I$ $b = 0.869798 + 0.333740I$	$3.25410 + 10.76850I$	0
$u = 0.383276 + 1.347030I$ $a = 1.84320 - 1.14214I$ $b = -1.44239 - 0.92442I$	$3.25410 + 10.76850I$	0
$u = 0.383276 - 1.347030I$ $a = -0.79750 - 1.19096I$ $b = 0.869798 - 0.333740I$	$3.25410 - 10.76850I$	0
$u = 0.383276 - 1.347030I$ $a = 1.84320 + 1.14214I$ $b = -1.44239 + 0.92442I$	$3.25410 - 10.76850I$	0
$u = -0.13988 + 1.40875I$ $a = -0.441546 - 0.731949I$ $b = 0.802503 - 1.091540I$	$-3.98406 - 4.16220I$	0
$u = -0.13988 + 1.40875I$ $a = -0.159209 + 0.584021I$ $b = -0.445257 + 0.037599I$	$-3.98406 - 4.16220I$	0
$u = -0.13988 - 1.40875I$ $a = -0.441546 + 0.731949I$ $b = 0.802503 + 1.091540I$	$-3.98406 + 4.16220I$	0
$u = -0.13988 - 1.40875I$ $a = -0.159209 - 0.584021I$ $b = -0.445257 - 0.037599I$	$-3.98406 + 4.16220I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.235593 + 0.479135I$ $a = -0.551597 - 1.087440I$ $b = 0.582390 + 1.096000I$	$-1.03901 - 3.34829I$	$-1.06567 + 7.94658I$
$u = -0.235593 + 0.479135I$ $a = -0.327750 - 1.274330I$ $b = 0.889698 - 0.519938I$	$-1.03901 - 3.34829I$	$-1.06567 + 7.94658I$
$u = -0.235593 - 0.479135I$ $a = -0.551597 + 1.087440I$ $b = 0.582390 - 1.096000I$	$-1.03901 + 3.34829I$	$-1.06567 - 7.94658I$
$u = -0.235593 - 0.479135I$ $a = -0.327750 + 1.274330I$ $b = 0.889698 + 0.519938I$	$-1.03901 + 3.34829I$	$-1.06567 - 7.94658I$
$u = 0.300292 + 0.075872I$ $a = 2.06333 - 1.10343I$ $b = -0.963277 - 0.917710I$	$1.30386 + 3.83847I$	$14.1552 - 8.5698I$
$u = 0.300292 + 0.075872I$ $a = -3.39580 - 3.91397I$ $b = 0.575904 + 0.390307I$	$1.30386 + 3.83847I$	$14.1552 - 8.5698I$
$u = 0.300292 - 0.075872I$ $a = 2.06333 + 1.10343I$ $b = -0.963277 + 0.917710I$	$1.30386 - 3.83847I$	$14.1552 + 8.5698I$
$u = 0.300292 - 0.075872I$ $a = -3.39580 + 3.91397I$ $b = 0.575904 - 0.390307I$	$1.30386 - 3.83847I$	$14.1552 + 8.5698I$

III. $\boldsymbol{I_3^u = \langle -u^{10} - 4u^8 - 5u^6 + u^3 + 4u^2 + b + 2u + 1,\ u^{12} + u^{11} + \cdots + a + 1,\ u^{15} + u^{14} + \cdots - u - 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{12} - u^{11} + \cdots + 3u - 1 \\ u^{10} + 4u^8 + 5u^6 - u^3 - 4u^2 - 2u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{14} - 2u^{13} + \cdots + 23u^2 + 4u \\ u^{13} + u^{12} + \cdots - 2u - 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{14} + u^{13} + \cdots + u + 3 \\ -2u^{13} - u^{12} + \cdots + 4u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{14} - u^{13} + \cdots + 4u - 1 \\ u^{10} + 4u^8 + 5u^6 - 4u^2 - u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{14} - 2u^{13} + \cdots + 8u + 3 \\ -u^{14} - 5u^{12} - 8u^{10} - u^9 - 3u^7 + 12u^6 - 2u^5 + 7u^4 - 4u^2 + u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 10u^{13} + 6u^{12} + 58u^{11} + 30u^{10} + 122u^9 + 54u^8 + 87u^7 + 22u^6 - 56u^5 - 54u^4 - 106u^3 - 58u^2 - 26u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{15} - 3u^{14} + \cdots + 3u + 1$
c_2	$u^{15} + 12u^{14} + \cdots + 597u + 89$
c_4, c_{10}	$u^{15} + u^{14} + \cdots - u - 1$
c_5, c_9	$u^{15} - u^{14} + \cdots - u + 1$
c_6, c_8	$u^{15} + u^{14} + \cdots + u + 1$
c_7	$u^{15} - u^{14} + \cdots - u + 1$
c_{11}, c_{12}	$u^{15} + u^{14} + \cdots - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{15} + 15y^{14} + \cdots + 3y - 1$
c_2	$y^{15} + 6y^{14} + \cdots - 16145y - 7921$
c_4, c_{10}	$y^{15} + 3y^{14} + \cdots + 3y - 1$
c_5, c_9	$y^{15} - 3y^{14} + \cdots - 3y - 1$
c_6, c_8	$y^{15} - 15y^{14} + \cdots - 27y - 1$
c_7, c_{11}, c_{12}	$y^{15} + 13y^{14} + \cdots - 19y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.973615$ $a = -1.08086$ $b = 0.592073$	5.50540	28.3560
$u = -0.818918 + 0.057821I$ $a = -1.41235 + 0.50667I$ $b = 0.708958 - 1.012480I$	$4.93823 - 5.62153I$	$9.98189 + 7.30165I$
$u = -0.818918 - 0.057821I$ $a = -1.41235 - 0.50667I$ $b = 0.708958 + 1.012480I$	$4.93823 + 5.62153I$	$9.98189 - 7.30165I$
$u = -0.009806 + 1.193550I$ $a = -1.29640 - 1.28501I$ $b = 0.828639 - 0.705317I$	$-2.09295 - 3.71723I$	$2.32036 + 6.39169I$
$u = -0.009806 - 1.193550I$ $a = -1.29640 + 1.28501I$ $b = 0.828639 + 0.705317I$	$-2.09295 + 3.71723I$	$2.32036 - 6.39169I$
$u = -0.362178 + 1.221320I$ $a = -0.062398 + 0.147907I$ $b = -0.758360 - 0.971335I$	$1.36157 + 1.36777I$	$6.49192 - 4.04196I$
$u = -0.362178 - 1.221320I$ $a = -0.062398 - 0.147907I$ $b = -0.758360 + 0.971335I$	$1.36157 - 1.36777I$	$6.49192 + 4.04196I$
$u = 0.460271 + 1.215170I$ $a = 0.959125 - 0.101839I$ $b = -0.659569 - 0.253329I$	$1.79820 + 5.10776I$	$1.36573 - 10.27038I$
$u = 0.460271 - 1.215170I$ $a = 0.959125 + 0.101839I$ $b = -0.659569 + 0.253329I$	$1.79820 - 5.10776I$	$1.36573 + 10.27038I$
$u = -0.364476 + 1.312270I$ $a = 1.30531 + 0.94532I$ $b = -0.668358 + 1.047800I$	$0.65103 - 9.88256I$	$5.41523 + 9.50189I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.364476 - 1.312270I$ $a = 1.30531 - 0.94532I$ $b = -0.668358 - 1.047800I$	$0.65103 + 9.88256I$	$5.41523 - 9.50189I$
$u = 0.073276 + 1.378290I$ $a = 0.193473 + 0.729192I$ $b = 0.384212 + 0.853344I$	$-5.02585 + 4.30225I$	$-1.06431 - 7.73809I$
$u = 0.073276 - 1.378290I$ $a = 0.193473 - 0.729192I$ $b = 0.384212 - 0.853344I$	$-5.02585 - 4.30225I$	$-1.06431 + 7.73809I$
$u = 0.035024 + 0.330532I$ $a = -1.64633 + 0.87718I$ $b = -0.631559 - 0.715221I$	$0.55188 + 3.68810I$	$1.81099 - 6.17747I$
$u = 0.035024 - 0.330532I$ $a = -1.64633 - 0.87718I$ $b = -0.631559 + 0.715221I$	$0.55188 - 3.68810I$	$1.81099 + 6.17747I$

IV. $\boldsymbol{I_4^u = \langle au - u^2 + b + u - 1,\ -3u^2a + a^2 - 3a - u + 1,\ u^3 - u^2 + 2u - 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u^2 - u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^2 + u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -au + u^2 - u + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 - 1 \\ u^2 - u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + a - 1 \\ -au + 2u^2 - 2u + 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2u^2a + 2au - u^2 - 2a + u + 1 \\ -au + a - u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -au + u^2 + a - 2u + 1 \\ -au + 2u^2 - 2u + 2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -au + u^2 - u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^2 - 8u + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y-1)^6$
c_2	y^6
c_4, c_5, c_9 c_{10}	$y^6 - 7y^5 + 21y^4 - 31y^3 + 21y^2 - 7y + 1$
c_6, c_8	$(y^3 - y^2 + 2y - 1)^2$
c_7, c_{11}, c_{12}	$(y^3 + 3y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -0.749065 + 0.089148I$ $b = -0.599800 + 0.215099I$	$-4.66906 + 2.82812I$	$-2.70772 - 8.77029I$
$u = 0.215080 + 1.307140I$ $a = -1.23801 + 1.59769I$ $b = 1.47724 + 0.52976I$	$-4.66906 + 2.82812I$	$-2.70772 - 8.77029I$
$u = 0.215080 - 1.307140I$ $a = -0.749065 - 0.089148I$ $b = -0.599800 - 0.215099I$	$-4.66906 - 2.82812I$	$-2.70772 + 8.77029I$
$u = 0.215080 - 1.307140I$ $a = -1.23801 - 1.59769I$ $b = 1.47724 - 0.52976I$	$-4.66906 - 2.82812I$	$-2.70772 + 8.77029I$
$u = 0.569840$ $a = 0.111360$ $b = 0.691420$	-0.531480	0.415430
$u = 0.569840$ $a = 3.86279$ $b = -1.44630$	-0.531480	0.415430

V. $I_1^v = \langle a,\ b-1,\ v+1 \rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 1.00000$	-1.64493	-6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_3	$((u-1)^6)(u+1)(u^{15}-3u^{14}+\cdots+3u+1)(u^{51}+8u^{50}+\cdots-u+1)$ $\cdot(u^{78}-7u^{77}+\cdots-3364u+183)$
c_2	$u^7(u^{15}+12u^{14}+\cdots+597u+89)(u^{39}-19u^{38}+\cdots+28u-8)^2$ $\cdot(u^{51}+27u^{50}+\cdots-21u-11)$
c_4, c_{10}	$(u+1)(u^6-u^5+\cdots-u-1)(u^{15}+u^{14}+\cdots-u-1)$ $\cdot(u^{51}-8u^{49}+\cdots-7u+3)(u^{78}-8u^{76}+\cdots+16227u+3957)$
c_5, c_9	$(u+1)(u^6-u^5+\cdots-u-1)(u^{15}-u^{14}+\cdots-u+1)$ $\cdot(u^{51}-17u^{49}+\cdots-3u+1)(u^{78}+6u^{76}+\cdots-13u+3)$
c_6, c_8	$u(u^3-u^2+1)^2(u^{15}+u^{14}+\cdots+u+1)(u^{39}-2u^{38}+\cdots+2u^2+5)^2$ $\cdot(u^{51}+6u^{50}+\cdots-13127u-1727)$
c_7	$u(u^3+u^2+2u+1)^2(u^{15}-u^{14}+\cdots-u+1)$ $\cdot((u^{39}+2u^{38}+\cdots+4u+1)^2)(u^{51}-6u^{50}+\cdots+17u-11)$
c_{11}, c_{12}	$u(u^3-u^2+2u-1)^2(u^{15}+u^{14}+\cdots-u-1)$ $\cdot((u^{39}+2u^{38}+\cdots+4u+1)^2)(u^{51}-6u^{50}+\cdots+17u-11)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3	$((y-1)^7)(y^{15}+15y^{14}+\cdots+3y-1)(y^{51}-12y^{50}+\cdots+41y-1)$ $\cdot(y^{78}+33y^{77}+\cdots+910466y+33489)$
c_2	$y^7(y^{15}+6y^{14}+\cdots-16145y-7921)$ $\cdot((y^{39}-7y^{38}+\cdots+1296y-64)^2)(y^{51}-y^{50}+\cdots+265y-121)$
c_4, c_{10}	$(y-1)(y^6-7y^5+21y^4-31y^3+21y^2-7y+1)$ $\cdot(y^{15}+3y^{14}+\cdots+3y-1)(y^{51}-16y^{50}+\cdots+109y-9)$ $\cdot(y^{78}-16y^{77}+\cdots-452246451y+15657849)$
c_5, c_9	$(y-1)(y^6-7y^5+21y^4-31y^3+21y^2-7y+1)$ $\cdot(y^{15}-3y^{14}+\cdots-3y-1)(y^{51}-34y^{50}+\cdots+63y-1)$ $\cdot(y^{78}+12y^{77}+\cdots-283y+9)$
c_6, c_8	$y(y^3-y^2+2y-1)^2(y^{15}-15y^{14}+\cdots-27y-1)$ $\cdot(y^{39}-32y^{38}+\cdots-20y-25)^2$ $\cdot(y^{51}-46y^{50}+\cdots+6018391y-2982529)$
c_7, c_{11}, c_{12}	$y(y^3+3y^2+2y-1)^2(y^{15}+13y^{14}+\cdots-19y-1)$ $\cdot((y^{39}+32y^{38}+\cdots+16y-1)^2)(y^{51}+42y^{50}+\cdots+751y-121)$