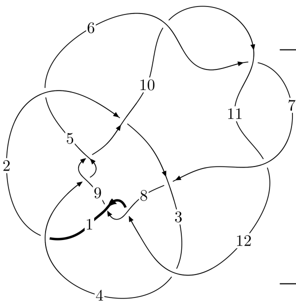
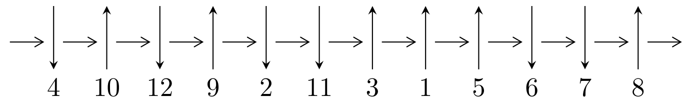
$12a_{1199}$ $(K12a_{1199})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1107u^{29} - 7807u^{28} + \cdots + 74b - 1824,\ 609u^{29} + 5328u^{28} + \cdots + 74a + 3095,\\
&u^{30} + 9u^{29} + \cdots - 18u + 4\rangle\\
I_2^u = \langle &-2.24569 \times 10^{16}u^{41} + 3.59238 \times 10^{16}u^{40} + \cdots + 1.87613 \times 10^{15}b + 8.64633 \times 10^{15},\\
&-8.64633 \times 10^{15}au^{41} + 5.57822 \times 10^{15}u^{41} + \cdots + 1.84596 \times 10^{16}a - 3.64956 \times 10^{16},\\
&u^{42} - 3u^{41} + \cdots - 3u + 1\rangle\\
I_3^u = \langle &5u^9 + 2u^8 - 24u^7 + 3u^6 + 49u^5 - 23u^4 - 46u^3 + 15u^2 + b - 4,\\
&5u^9 + u^8 - 24u^7 + 7u^6 + 47u^5 - 29u^4 - 41u^3 + 18u^2 + a - u - 1,\\
&u^{10} + 2u^9 - 4u^8 - 7u^7 + 10u^6 + 11u^5 - 15u^4 - 12u^3 + 3u^2 - u - 1\rangle\\
I_4^u = \langle &-u^2a + au + b - u + 1,\ -u^5a + u^4a - u^5 + 3u^3a - 3u^2a + 3u^3 + a^2 - au - u + 1,\\
&u^6 - u^5 - 3u^4 + 3u^3 + u^2 - u + 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 136 representations.

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[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. $\boldsymbol{I_1^u = \langle -1107u^{29} - 7807u^{28} + \cdots + 74b - 1824,\ 609u^{29} + 5328u^{28} + \cdots + 74a + 3095,\ u^{30} + 9u^{29} + \cdots - 18u + 4\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -8.22973u^{29} - 72u^{28} + \cdots + 207.662u - 41.8243 \\ 14.9595u^{29} + 105.500u^{28} + \cdots - 119.824u + 24.6486 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 23.4797u^{29} + 179.250u^{28} + \cdots - 322.412u + 67.3243 \\ 10.0405u^{29} + 78.5000u^{28} + \cdots - 180.176u + 34.3514 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -23.1892u^{29} - 177.500u^{28} + \cdots + 327.486u - 66.4730 \\ 14.9595u^{29} + 105.500u^{28} + \cdots - 119.824u + 24.6486 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.695946u^{29} - 4.25000u^{28} + \cdots + 11.6824u + 3.13514 \\ -20.2027u^{29} - 149.500u^{28} + \cdots + 275.878u - 53.7568 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 3.44595u^{29} + 25u^{28} + \cdots - 32.9324u + 14.3649 \\ -2.47297u^{29} - 15.5000u^{28} + \cdots + 19.7162u - 4.43243 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 13.4865u^{29} + 101.500u^{28} + \cdots - 177.108u + 30.7162 \\ -22.4459u^{29} - 164.500u^{28} + \cdots + 266.932u - 52.8649 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -52.9459u^{29} - 399.500u^{28} + \cdots + 713.432u - 146.365 \\ -14.0135u^{29} - 110.500u^{28} + \cdots + 252.392u - 47.7838 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{2517}{37}u^{29} - 485u^{28} + \cdots + \frac{30702}{37}u - \frac{5978}{37}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 21u^{29} + \cdots + 5664u - 576$
c_2, c_7	$u^{30} + u^{29} + \cdots + 3u + 1$
c_3, c_5	$u^{30} - 2u^{29} + \cdots - 3u - 1$
c_4, c_8, c_9 c_{12}	$u^{30} - u^{29} + \cdots - 2u - 1$
c_6, c_{10}, c_{11}	$u^{30} - 9u^{29} + \cdots + 18u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + y^{29} + \cdots + 625536y + 331776$
c_2, c_7	$y^{30} - 11y^{29} + \cdots - 35y + 1$
c_3, c_5	$y^{30} - 6y^{29} + \cdots - 35y + 1$
c_4, c_8, c_9 c_{12}	$y^{30} - 31y^{29} + \cdots - 38y + 1$
c_6, c_{10}, c_{11}	$y^{30} - 31y^{29} + \cdots - 380y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.410944 + 0.926981I$ $a = 0.213674 - 0.522235I$ $b = 0.822263 + 0.506816I$	$7.92023 + 8.26844I$	$5.79297 - 6.61407I$
$u = 0.410944 - 0.926981I$ $a = 0.213674 + 0.522235I$ $b = 0.822263 - 0.506816I$	$7.92023 - 8.26844I$	$5.79297 + 6.61407I$
$u = 0.657234 + 0.795413I$ $a = 0.286158 + 0.703110I$ $b = -1.16376 + 0.84778I$	$7.1697 - 13.8650I$	$3.50716 + 9.23776I$
$u = 0.657234 - 0.795413I$ $a = 0.286158 - 0.703110I$ $b = -1.16376 - 0.84778I$	$7.1697 + 13.8650I$	$3.50716 - 9.23776I$
$u = 0.732455 + 0.792176I$ $a = -0.171279 - 0.350284I$ $b = 0.574121 - 0.559120I$	$-2.28093 - 3.33714I$	$-4.29262 + 9.83023I$
$u = 0.732455 - 0.792176I$ $a = -0.171279 + 0.350284I$ $b = 0.574121 + 0.559120I$	$-2.28093 + 3.33714I$	$-4.29262 - 9.83023I$
$u = -1.192540 + 0.100004I$ $a = 0.823536 + 0.923814I$ $b = 0.308812 + 0.088803I$	$3.52040 + 2.10334I$	$2.60337 - 1.43319I$
$u = -1.192540 - 0.100004I$ $a = 0.823536 - 0.923814I$ $b = 0.308812 - 0.088803I$	$3.52040 - 2.10334I$	$2.60337 + 1.43319I$
$u = 0.565305 + 0.498449I$ $a = -0.152381 - 1.331500I$ $b = 1.31707 - 1.00922I$	$7.03863 - 3.47674I$	$6.16302 + 6.46879I$
$u = 0.565305 - 0.498449I$ $a = -0.152381 + 1.331500I$ $b = 1.31707 + 1.00922I$	$7.03863 + 3.47674I$	$6.16302 - 6.46879I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.39387$ $a = 0.516557$ $b = 1.72362$	3.76346	2.09680
$u = 0.285170 + 0.476222I$ $a = 0.543085 + 0.598691I$ $b = -0.371848 + 0.489775I$	$0.036666 - 1.100320I$	$0.47503 + 5.63568I$
$u = 0.285170 - 0.476222I$ $a = 0.543085 - 0.598691I$ $b = -0.371848 - 0.489775I$	$0.036666 + 1.100320I$	$0.47503 - 5.63568I$
$u = 0.258913 + 0.478977I$ $a = -0.64282 + 1.46951I$ $b = -1.130390 - 0.325482I$	$7.79400 + 0.09205I$	$8.11865 + 0.48091I$
$u = 0.258913 - 0.478977I$ $a = -0.64282 - 1.46951I$ $b = -1.130390 + 0.325482I$	$7.79400 - 0.09205I$	$8.11865 - 0.48091I$
$u = -1.46966 + 0.13793I$ $a = -0.01513 + 1.70633I$ $b = 0.446291 + 1.149380I$	$-5.80438 + 3.26443I$	0
$u = -1.46966 - 0.13793I$ $a = -0.01513 - 1.70633I$ $b = 0.446291 - 1.149380I$	$-5.80438 - 3.26443I$	0
$u = 1.51744$ $a = -0.334350$ $b = -1.27724$	-8.85903	-14.0970
$u = 1.52403$ $a = 0.187267$ $b = 0.720364$	-4.39987	0
$u = -1.31833 + 0.78111I$ $a = -0.087798 - 0.207422I$ $b = -0.248448 + 0.151750I$	$2.43027 - 2.71202I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.31833 - 0.78111I$ $a = -0.087798 + 0.207422I$ $b = -0.248448 - 0.151750I$	$2.43027 + 2.71202I$	0
$u = -1.54699 + 0.14661I$ $a = -0.77311 - 2.25751I$ $b = -1.33063 - 1.62440I$	$-0.01415 + 5.81789I$	0
$u = -1.54699 - 0.14661I$ $a = -0.77311 + 2.25751I$ $b = -1.33063 + 1.62440I$	$-0.01415 - 5.81789I$	0
$u = -0.423303$ $a = -2.12564$ $b = 0.518907$	-2.26077	-15.8440
$u = -1.58801 + 0.25775I$ $a = -0.131982 - 1.342510I$ $b = -0.867432 - 1.090380I$	$-9.82577 + 7.23018I$	0
$u = -1.58801 - 0.25775I$ $a = -0.131982 + 1.342510I$ $b = -0.867432 + 1.090380I$	$-9.82577 - 7.23018I$	0
$u = -1.58710 + 0.27028I$ $a = 0.42992 + 1.68609I$ $b = 1.36000 + 1.19527I$	$-0.2004 + 17.8372I$	0
$u = -1.58710 - 0.27028I$ $a = 0.42992 - 1.68609I$ $b = 1.36000 - 1.19527I$	$-0.2004 - 17.8372I$	0
$u = -1.65285$ $a = 1.19651$ $b = 1.29111$	0.937751	0
$u = 0.226022$ $a = -5.08409$ $b = -1.40884$	8.14855	10.8180

II. $\boldsymbol{I_2^u = \langle -2.25\times 10^{16}u^{41} + 3.59\times 10^{16}u^{40} + \cdots + 1.88\times 10^{15}b + 8.65\times 10^{15},\ -8.65\times 10^{15}au^{41} + 5.58\times 10^{15}u^{41} + \cdots + 1.85\times 10^{16}a - 3.65\times 10^{16},\ u^{42} - 3u^{41} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 11.9698u^{41} - 19.1478u^{40} + \cdots + 3.98658u - 4.60860 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 11.9698au^{41} - 1.27352u^{41} + \cdots - 4.60860a + 4.17129 \\ -8.91385u^{41} + 14.0830u^{40} + \cdots - 10.5039u + 3.92034 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -11.9698u^{41} + 19.1478u^{40} + \cdots + a + 4.60860 \\ 11.9698u^{41} - 19.1478u^{40} + \cdots + 3.98658u - 4.60860 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -7.67033au^{41} - 8.03946u^{41} + \cdots + 7.20165a + 7.93907 \\ -6.00468au^{41} + 7.46200u^{41} + \cdots + 4.95139a - 3.69228 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -4.66809au^{41} + 5.31562u^{41} + \cdots + 2.79353a - 9.59020 \\ -2.22390au^{41} + 10.2324u^{41} + \cdots + 1.44296a - 7.05505 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -17.9745u^{41} + 27.7658u^{40} + \cdots + a + 9.56000 \\ 4.08623u^{41} - 6.98101u^{40} + \cdots - 5.04797u - 0.163919 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 4.07196au^{41} + 4.18561u^{41} + \cdots - 1.15846a - 2.98736 \\ 3.99634au^{41} + 7.46200u^{41} + \cdots - 2.71991a - 4.69228 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{606866846704716694}{938063624650451}u^{41} - \frac{882133723876531 01}{938063624650451}u^{40} + \cdots + \frac{149849712719378746}{938063624650451}u - \frac{606724400543496689}{938063624650451}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{42}+15u^{41}+\cdots+185u+25)^2$
c_2, c_7	$u^{84}+2u^{83}+\cdots+7u-1$
c_3, c_5	$u^{84}-5u^{82}+\cdots+1628u-151$
c_4, c_8, c_9 c_{12}	$u^{84}+u^{83}+\cdots+13u-7$
c_6, c_{10}, c_{11}	$(u^{42}+3u^{41}+\cdots+3u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{42} + 19y^{41} + \cdots + 10575y + 625)^2$
c_2, c_7	$y^{84} + 16y^{83} + \cdots - 965y + 1$
c_3, c_5	$y^{84} - 10y^{83} + \cdots - 808486y + 22801$
c_4, c_8, c_9 c_{12}	$y^{84} - 59y^{83} + \cdots + 699y + 49$
c_6, c_{10}, c_{11}	$(y^{42} - 45y^{41} + \cdots - 37y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.863764 + 0.522671I$ $a = -1.136370 + 0.489074I$ $b = -0.753370 - 0.394863I$	$5.82176 + 1.45109I$	$2.57813 - 2.42981I$
$u = 0.863764 + 0.522671I$ $a = 0.396273 + 0.223203I$ $b = -1.251320 + 0.291856I$	$5.82176 + 1.45109I$	$2.57813 - 2.42981I$
$u = 0.863764 - 0.522671I$ $a = -1.136370 - 0.489074I$ $b = -0.753370 + 0.394863I$	$5.82176 - 1.45109I$	$2.57813 + 2.42981I$
$u = 0.863764 - 0.522671I$ $a = 0.396273 - 0.223203I$ $b = -1.251320 - 0.291856I$	$5.82176 - 1.45109I$	$2.57813 + 2.42981I$
$u = -0.607177 + 0.810150I$ $a = -0.494044 + 0.609480I$ $b = 1.002410 + 0.742946I$	$1.39005 + 8.17887I$	$0. - 9.88270I$
$u = -0.607177 + 0.810150I$ $a = 0.187223 - 0.462069I$ $b = -0.702247 - 0.821575I$	$1.39005 + 8.17887I$	$0. - 9.88270I$
$u = -0.607177 - 0.810150I$ $a = -0.494044 - 0.609480I$ $b = 1.002410 - 0.742946I$	$1.39005 - 8.17887I$	$0. + 9.88270I$
$u = -0.607177 - 0.810150I$ $a = 0.187223 + 0.462069I$ $b = -0.702247 + 0.821575I$	$1.39005 - 8.17887I$	$0. + 9.88270I$
$u = -0.566268 + 0.921130I$ $a = 0.374671 + 0.124812I$ $b = 0.174252 - 0.314893I$	$1.65272 - 2.50366I$	$-6.09925 + 11.01891I$
$u = -0.566268 + 0.921130I$ $a = -0.005360 - 0.259215I$ $b = -0.594720 + 0.416855I$	$1.65272 - 2.50366I$	$-6.09925 + 11.01891I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.566268 - 0.921130I$ $a = 0.374671 - 0.124812I$ $b = 0.174252 + 0.314893I$	$1.65272 + 2.50366I$	$-6.09925 - 11.01891I$
$u = -0.566268 - 0.921130I$ $a = -0.005360 + 0.259215I$ $b = -0.594720 - 0.416855I$	$1.65272 + 2.50366I$	$-6.09925 - 11.01891I$
$u = 0.141252 + 0.807812I$ $a = 1.122350 - 0.174833I$ $b = -0.728441 + 0.456399I$	$1.84859 - 0.65986I$	$-1.04077 - 3.49741I$
$u = 0.141252 + 0.807812I$ $a = 0.0954544 + 0.0888990I$ $b = 0.219094 + 0.847500I$	$1.84859 - 0.65986I$	$-1.04077 - 3.49741I$
$u = 0.141252 - 0.807812I$ $a = 1.122350 + 0.174833I$ $b = -0.728441 - 0.456399I$	$1.84859 + 0.65986I$	$-1.04077 + 3.49741I$
$u = 0.141252 - 0.807812I$ $a = 0.0954544 - 0.0888990I$ $b = 0.219094 - 0.847500I$	$1.84859 + 0.65986I$	$-1.04077 + 3.49741I$
$u = -0.605442 + 0.415115I$ $a = 1.045290 + 0.709146I$ $b = 0.748270 - 0.387756I$	$2.93139 - 0.78383I$	$4.56702 - 3.86421I$
$u = -0.605442 + 0.415115I$ $a = -0.212152 - 0.145332I$ $b = -1.041500 + 0.082980I$	$2.93139 - 0.78383I$	$4.56702 - 3.86421I$
$u = -0.605442 - 0.415115I$ $a = 1.045290 - 0.709146I$ $b = 0.748270 + 0.387756I$	$2.93139 + 0.78383I$	$4.56702 + 3.86421I$
$u = -0.605442 - 0.415115I$ $a = -0.212152 + 0.145332I$ $b = -1.041500 - 0.082980I$	$2.93139 + 0.78383I$	$4.56702 + 3.86421I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.258937 + 0.664390I$ $a = -0.342925 - 0.085855I$ $b = 1.16644 - 0.86498I$	$7.59159 - 5.61854I$	$7.27003 + 5.73638I$
$u = 0.258937 + 0.664390I$ $a = -0.50447 - 1.71458I$ $b = 0.747037 + 0.218239I$	$7.59159 - 5.61854I$	$7.27003 + 5.73638I$
$u = 0.258937 - 0.664390I$ $a = -0.342925 + 0.085855I$ $b = 1.16644 + 0.86498I$	$7.59159 + 5.61854I$	$7.27003 - 5.73638I$
$u = 0.258937 - 0.664390I$ $a = -0.50447 + 1.71458I$ $b = 0.747037 - 0.218239I$	$7.59159 + 5.61854I$	$7.27003 - 5.73638I$
$u = -0.411667 + 0.530873I$ $a = 0.623616 - 0.694387I$ $b = -1.105310 - 0.878796I$	$3.49440 + 4.19968I$	$4.41465 - 6.29777I$
$u = -0.411667 + 0.530873I$ $a = -0.13742 + 1.48491I$ $b = 0.776383 + 0.510140I$	$3.49440 + 4.19968I$	$4.41465 - 6.29777I$
$u = -0.411667 - 0.530873I$ $a = 0.623616 + 0.694387I$ $b = -1.105310 + 0.878796I$	$3.49440 - 4.19968I$	$4.41465 + 6.29777I$
$u = -0.411667 - 0.530873I$ $a = -0.13742 - 1.48491I$ $b = 0.776383 - 0.510140I$	$3.49440 - 4.19968I$	$4.41465 + 6.29777I$
$u = 1.325230 + 0.121163I$ $a = -0.33845 - 1.40772I$ $b = 0.0717567 - 0.0317378I$	$-1.60110 - 2.37215I$	0
$u = 1.325230 + 0.121163I$ $a = 0.32948 + 1.87790I$ $b = -0.30721 + 1.46972I$	$-1.60110 - 2.37215I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.325230 - 0.121163I$ $a = -0.33845 + 1.40772I$ $b = 0.0717567 + 0.0317378I$	$-1.60110 + 2.37215I$	0
$u = 1.325230 - 0.121163I$ $a = 0.32948 - 1.87790I$ $b = -0.30721 - 1.46972I$	$-1.60110 + 2.37215I$	0
$u = 0.565388 + 0.238251I$ $a = -0.387349 + 0.361291I$ $b = 0.316356 + 0.976830I$	$-0.30835 - 2.48253I$	$-3.85775 + 6.40077I$
$u = 0.565388 + 0.238251I$ $a = 1.39851 + 1.15497I$ $b = -0.248572 + 0.792395I$	$-0.30835 - 2.48253I$	$-3.85775 + 6.40077I$
$u = 0.565388 - 0.238251I$ $a = -0.387349 - 0.361291I$ $b = 0.316356 - 0.976830I$	$-0.30835 + 2.48253I$	$-3.85775 - 6.40077I$
$u = 0.565388 - 0.238251I$ $a = 1.39851 - 1.15497I$ $b = -0.248572 - 0.792395I$	$-0.30835 + 2.48253I$	$-3.85775 - 6.40077I$
$u = -1.41609 + 0.17675I$ $a = -0.36241 - 1.44279I$ $b = -0.160821 - 0.085750I$	$2.26163 + 8.51393I$	0
$u = -1.41609 + 0.17675I$ $a = -0.66383 - 1.90549I$ $b = -1.49610 - 1.45020I$	$2.26163 + 8.51393I$	0
$u = -1.41609 - 0.17675I$ $a = -0.36241 + 1.44279I$ $b = -0.160821 + 0.085750I$	$2.26163 - 8.51393I$	0
$u = -1.41609 - 0.17675I$ $a = -0.66383 + 1.90549I$ $b = -1.49610 + 1.45020I$	$2.26163 - 8.51393I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.45653 + 0.03615I$ $a = 0.26001 - 1.51590I$ $b = -1.025060 - 0.747723I$	$-4.04142 + 2.69160I$	0
$u = -1.45653 + 0.03615I$ $a = 1.01452 - 1.68684I$ $b = 1.64938 - 1.46587I$	$-4.04142 + 2.69160I$	0
$u = -1.45653 - 0.03615I$ $a = 0.26001 + 1.51590I$ $b = -1.025060 + 0.747723I$	$-4.04142 - 2.69160I$	0
$u = -1.45653 - 0.03615I$ $a = 1.01452 + 1.68684I$ $b = 1.64938 + 1.46587I$	$-4.04142 - 2.69160I$	0
$u = 1.49131 + 0.14297I$ $a = -0.31406 + 1.83068I$ $b = -0.379398 + 1.070490I$	$-2.77120 - 6.54818I$	0
$u = 1.49131 + 0.14297I$ $a = 0.54619 - 1.94977I$ $b = 1.30490 - 1.37833I$	$-2.77120 - 6.54818I$	0
$u = 1.49131 - 0.14297I$ $a = -0.31406 - 1.83068I$ $b = -0.379398 - 1.070490I$	$-2.77120 + 6.54818I$	0
$u = 1.49131 - 0.14297I$ $a = 0.54619 + 1.94977I$ $b = 1.30490 + 1.37833I$	$-2.77120 + 6.54818I$	0
$u = 1.49885$ $a = -0.311540 + 0.980370I$ $b = -1.166850 + 0.733030I$	-8.66282	0
$u = 1.49885$ $a = -0.311540 - 0.980370I$ $b = -1.166850 - 0.733030I$	-8.66282	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.50805 + 0.06162I$ $a = -0.15996 + 1.54499I$ $b = 0.652969 + 1.020330I$	$-7.08373 + 3.55162I$	0
$u = -1.50805 + 0.06162I$ $a = -0.55068 + 1.64664I$ $b = -0.79820 + 1.50112I$	$-7.08373 + 3.55162I$	0
$u = -1.50805 - 0.06162I$ $a = -0.15996 - 1.54499I$ $b = 0.652969 - 1.020330I$	$-7.08373 - 3.55162I$	0
$u = -1.50805 - 0.06162I$ $a = -0.55068 - 1.64664I$ $b = -0.79820 - 1.50112I$	$-7.08373 - 3.55162I$	0
$u = 1.51088$ $a = 0.184782 + 0.402102I$ $b = 0.700993 + 0.310371I$	-4.39160	0
$u = 1.51088$ $a = 0.184782 - 0.402102I$ $b = 0.700993 - 0.310371I$	-4.39160	0
$u = -0.464315 + 0.152179I$ $a = 0.826498 + 1.010610I$ $b = -0.02611 + 1.65946I$	$4.22300 + 6.38749I$	$-2.86967 - 7.52420I$
$u = -0.464315 + 0.152179I$ $a = 1.64608 - 2.86720I$ $b = -0.625983 - 1.127820I$	$4.22300 + 6.38749I$	$-2.86967 - 7.52420I$
$u = -0.464315 - 0.152179I$ $a = 0.826498 - 1.010610I$ $b = -0.02611 - 1.65946I$	$4.22300 - 6.38749I$	$-2.86967 + 7.52420I$
$u = -0.464315 - 0.152179I$ $a = 1.64608 + 2.86720I$ $b = -0.625983 + 1.127820I$	$4.22300 - 6.38749I$	$-2.86967 + 7.52420I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.51736 + 0.06881I$ $a = 0.12838 - 2.16534I$ $b = 0.93134 - 1.30155I$	$-2.46728 - 7.30353I$	0
$u = 1.51736 + 0.06881I$ $a = 0.22992 + 2.39296I$ $b = 0.37237 + 2.26942I$	$-2.46728 - 7.30353I$	0
$u = 1.51736 - 0.06881I$ $a = 0.12838 + 2.16534I$ $b = 0.93134 + 1.30155I$	$-2.46728 + 7.30353I$	0
$u = 1.51736 - 0.06881I$ $a = 0.22992 - 2.39296I$ $b = 0.37237 - 2.26942I$	$-2.46728 + 7.30353I$	0
$u = -1.48180 + 0.33629I$ $a = -0.133886 + 1.152100I$ $b = 1.104390 + 0.677706I$	$-3.51695 + 5.02150I$	0
$u = -1.48180 + 0.33629I$ $a = -0.421044 + 1.156400I$ $b = 0.086561 + 1.075800I$	$-3.51695 + 5.02150I$	0
$u = -1.48180 - 0.33629I$ $a = -0.133886 - 1.152100I$ $b = 1.104390 - 0.677706I$	$-3.51695 - 5.02150I$	0
$u = -1.48180 - 0.33629I$ $a = -0.421044 - 1.156400I$ $b = 0.086561 - 1.075800I$	$-3.51695 - 5.02150I$	0
$u = 1.56729 + 0.27366I$ $a = -0.23094 + 1.54795I$ $b = -1.23064 + 1.03994I$	$-5.72649 - 12.16830I$	0
$u = 1.56729 + 0.27366I$ $a = 0.13601 - 1.58594I$ $b = 0.89879 - 1.29737I$	$-5.72649 - 12.16830I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.56729 - 0.27366I$ $a = -0.23094 - 1.54795I$ $b = -1.23064 - 1.03994I$	$-5.72649 + 12.16830I$	0
$u = 1.56729 - 0.27366I$ $a = 0.13601 + 1.58594I$ $b = 0.89879 + 1.29737I$	$-5.72649 + 12.16830I$	0
$u = -0.407892$ $a = -2.08788 + 0.51861I$ $b = 0.504258 + 0.297819I$	-2.24512	-11.7400
$u = -0.407892$ $a = -2.08788 - 0.51861I$ $b = 0.504258 - 0.297819I$	-2.24512	-11.7400
$u = 1.61172 + 0.26088I$ $a = 0.151617 - 0.867656I$ $b = 0.853272 - 0.684710I$	$-5.78754 - 1.93458I$	0
$u = 1.61172 + 0.26088I$ $a = -0.021830 + 0.861367I$ $b = -0.308860 + 0.801667I$	$-5.78754 - 1.93458I$	0
$u = 1.61172 - 0.26088I$ $a = 0.151617 + 0.867656I$ $b = 0.853272 + 0.684710I$	$-5.78754 + 1.93458I$	0
$u = 1.61172 - 0.26088I$ $a = -0.021830 - 0.861367I$ $b = -0.308860 - 0.801667I$	$-5.78754 + 1.93458I$	0
$u = -1.63736$ $a = 1.18397$ $b = 2.01301$	-3.44170	0
$u = -1.63736$ $a = 0.709156$ $b = -0.0373655$	-3.44170	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.192853 + 0.119529I$ $a = 1.96792 - 2.44007I$ $b = -0.92266 - 1.14868I$	$1.58994 - 2.14839I$	$-5.01662 + 8.36358I$
$u = 0.192853 + 0.119529I$ $a = -6.79477 - 1.92552I$ $b = 0.604319 - 0.592713I$	$1.58994 - 2.14839I$	$-5.01662 + 8.36358I$
$u = 0.192853 - 0.119529I$ $a = 1.96792 + 2.44007I$ $b = -0.92266 + 1.14868I$	$1.58994 + 2.14839I$	$-5.01662 - 8.36358I$
$u = 0.192853 - 0.119529I$ $a = -6.79477 + 1.92552I$ $b = 0.604319 + 0.592713I$	$1.58994 + 2.14839I$	$-5.01662 - 8.36358I$

III.

$$I_3^u = \langle 5u^9 + 2u^8 + \cdots + b - 4,\ 5u^9 + u^8 + \cdots + a - 1,\ u^{10} + 2u^9 + \cdots - u - 1 \rangle$$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -5u^9 - u^8 + 24u^7 - 7u^6 - 47u^5 + 29u^4 + 41u^3 - 18u^2 + u + 1 \\ -5u^9 - 2u^8 + 24u^7 - 3u^6 - 49u^5 + 23u^4 + 46u^3 - 15u^2 + 4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9 - u^8 - 4u^7 + 6u^6 + 5u^5 - 12u^4 - u^3 + 8u^2 - 2u - 3 \\ 3u^9 + u^8 - 13u^7 + 2u^6 + 24u^5 - 11u^4 - 21u^3 + 3u^2 - 3u - 2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^8 - 4u^6 + 2u^5 + 6u^4 - 5u^3 - 3u^2 + u - 3 \\ -5u^9 - 2u^8 + 24u^7 - 3u^6 - 49u^5 + 23u^4 + 46u^3 - 15u^2 + 4 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 3u^9 + 2u^8 - 15u^7 - 2u^6 + 34u^5 - 8u^4 - 38u^3 + 7u^2 + 7u - 4 \\ 2u^9 + u^8 - 10u^7 + u^6 + 21u^5 - 11u^4 - 19u^3 + 9u^2 - 2u - 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 4u^9 + 3u^8 - 18u^7 - 4u^6 + 37u^5 - 5u^4 - 37u^3 - 2u^2 - 3u - 3 \\ 3u^9 + 2u^8 - 14u^7 - 2u^6 + 29u^5 - 6u^4 - 29u^3 + u^2 - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^9 + 10u^7 - 5u^6 - 19u^5 + 17u^4 + 14u^3 - 12u^2 + 3u - 1 \\ -u^9 + 5u^7 - 2u^6 - 10u^5 + 7u^4 + 9u^3 - 6u^2 - u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^9 - u^8 + 3u^7 + 4u^6 - 5u^5 - 10u^4 + 8u^3 + 15u^2 - 3u - 1 \\ -3u^9 - u^8 + 14u^7 - 2u^6 - 28u^5 + 12u^4 + 27u^3 - 5u^2 - 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -16u^9 - 14u^8 + 72u^7 + 28u^6 - 153u^5 - 2u^4 + 166u^3 + 18u^2 - 4u + 23$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} - 8u^9 + \cdots - 88u + 13$
c_2, c_7	$u^{10} - u^9 + 4u^8 - u^7 + 5u^6 - 9u^5 - 7u^4 - 5u^3 + u - 1$
c_3, c_5	$u^{10} + 2u^9 + 2u^8 + 5u^7 + 7u^6 + 6u^5 + 6u^4 + 6u^3 + 4u^2 + u + 1$
c_4, c_8	$u^{10} + u^9 - 4u^8 - 4u^7 + 8u^6 + 6u^5 - 9u^4 - 3u^3 + 6u^2 - 1$
c_6	$u^{10} - 2u^9 - 4u^8 + 7u^7 + 10u^6 - 11u^5 - 15u^4 + 12u^3 + 3u^2 + u - 1$
c_9, c_{12}	$u^{10} - u^9 - 4u^8 + 4u^7 + 8u^6 - 6u^5 - 9u^4 + 3u^3 + 6u^2 - 1$
c_{10}, c_{11}	$u^{10} + 2u^9 - 4u^8 - 7u^7 + 10u^6 + 11u^5 - 15u^4 - 12u^3 + 3u^2 - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} + 12y^9 + \cdots - 464y + 169$
c_2, c_7	$y^{10} + 7y^9 + 24y^8 + 7y^7 - 59y^6 - 161y^5 - 47y^4 - 17y^3 + 24y^2 - y + 1$
c_3, c_5	$y^{10} - 2y^8 - 9y^7 - 3y^6 + 2y^5 + 14y^4 + 14y^3 + 16y^2 + 7y + 1$
c_4, c_8, c_9 c_{12}	$y^{10} - 9y^9 + \cdots - 12y + 1$
c_6, c_{10}, c_{11}	$y^{10} - 12y^9 + \cdots - 7y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.123500 + 0.840732I$ $a = -0.1339860 + 0.0357723I$ $b = -0.322604 - 0.305704I$	$2.31865 + 2.84134I$	$-4.4104 - 24.6107I$
$u = 1.123500 - 0.840732I$ $a = -0.1339860 - 0.0357723I$ $b = -0.322604 + 0.305704I$	$2.31865 - 2.84134I$	$-4.4104 + 24.6107I$
$u = -1.45178 + 0.24453I$ $a = -0.156567 + 1.065310I$ $b = 0.402562 + 0.707908I$	$-4.52753 + 2.30900I$	$-1.28825 - 2.99143I$
$u = -1.45178 - 0.24453I$ $a = -0.156567 - 1.065310I$ $b = 0.402562 - 0.707908I$	$-4.52753 - 2.30900I$	$-1.28825 + 2.99143I$
$u = -1.50421 + 0.09962I$ $a = -0.36862 - 2.65968I$ $b = -0.80804 - 1.91705I$	$-0.97937 + 7.97248I$	$2.33266 - 8.09152I$
$u = -1.50421 - 0.09962I$ $a = -0.36862 + 2.65968I$ $b = -0.80804 + 1.91705I$	$-0.97937 - 7.97248I$	$2.33266 + 8.09152I$
$u = 1.51106$ $a = -0.361955$ $b = -1.37339$	-8.44475	5.79620
$u = 0.255179 + 0.355404I$ $a = -1.76332 - 1.74462I$ $b = 0.59443 - 1.28495I$	$5.13832 - 6.43552I$	$7.94486 + 8.35380I$
$u = 0.255179 - 0.355404I$ $a = -1.76332 + 1.74462I$ $b = 0.59443 + 1.28495I$	$5.13832 + 6.43552I$	$7.94486 - 8.35380I$
$u = -0.356433$ $a = -2.79306$ $b = 0.640696$	-2.03513	20.0460

IV. $\boldsymbol{I_4^u =}$
$\boldsymbol{\langle -u^2a+au+b-u+1,\ -u^5a-u^5+\cdots+a^2+1,\ u^6-u^5-3u^4+3u^3+u^2-u+1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ u^2a - au + u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} au + u^2 - a - u \\ u^4 - u^3 - 2u^2 + 2u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^2a + au + a - u + 1 \\ u^2a - au + u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^5a - u^4a - 3u^3a + u^4 + 3u^2a + au - 2u^2 - a + u - 1 \\ -u^5a + u^4a + u^5 + 2u^3a - u^4 - 2u^2a - 2u^3 + 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^5a - 2u^4a - u^5 - 2u^3a + u^4 + 5u^2a + u^3 - 2u^2 - a + 2u \\ u^3a - u^2a - au + u^2 + a - u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^5a - u^4a - u^5 - 2u^3a + u^4 + u^2a + 2u^3 + au - 2u^2 + a - u + 1 \\ -u^4a + u^3a + 2u^2a - u^3 - 2au + u^2 + 2u - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^5 - u^3a - u^4 + u^2a - 2u^3 + au + u^2 + 1 \\ -u^5 + u^2a + 3u^3 - 2au - u^2 + a - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^5 - u^4 - 3u^3 + u^2 - u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^6 - u^5 + u^4 - u^3 - u^2 + u - 1)^2$
c_2, c_7	$u^{12} + u^{11} + \cdots - 7u + 1$
c_3, c_5	$u^{12} - 5u^{11} + \cdots - 2u - 1$
c_4, c_8	$u^{12} - 5u^{10} - 2u^9 + 8u^8 + 7u^7 - 2u^6 - 5u^5 - 5u^4 - 6u^3 + 2u^2 + 7u + 1$
c_6	$(u^6 + u^5 - 3u^4 - 3u^3 + u^2 + u + 1)^2$
c_9, c_{12}	$u^{12} - 5u^{10} + 2u^9 + 8u^8 - 7u^7 - 2u^6 + 5u^5 - 5u^4 + 6u^3 + 2u^2 - 7u + 1$
c_{10}, c_{11}	$(u^6 - u^5 - 3u^4 + 3u^3 + u^2 - u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 + y^5 - 3y^4 - 3y^3 + y^2 + y + 1)^2$
c_2, c_7	$y^{12} - 3y^{11} + \cdots - 29y + 1$
c_3, c_5	$y^{12} - 5y^{11} + \cdots - 10y + 1$
c_4, c_8, c_9 c_{12}	$y^{12} - 10y^{11} + \cdots - 45y + 1$
c_6, c_{10}, c_{11}	$(y^6 - 7y^5 + 17y^4 - 15y^3 + y^2 + y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.847445$ $a = 0.235955$ $b = -1.47803$	6.86480	4.00150
$u = -0.847445$ $a = 1.94406$ $b = 1.19619$	6.86480	4.00150
$u = 0.251489 + 0.528716I$ $a = -0.311088 - 0.168531I$ $b = -0.647276 + 0.689301I$	$1.98554 + 1.63935I$	$2.25076 - 0.08848I$
$u = 0.251489 + 0.528716I$ $a = 0.57743 + 1.71093I$ $b = -0.569018 - 0.423369I$	$1.98554 + 1.63935I$	$2.25076 - 0.08848I$
$u = 0.251489 - 0.528716I$ $a = -0.311088 + 0.168531I$ $b = -0.647276 - 0.689301I$	$1.98554 - 1.63935I$	$2.25076 + 0.08848I$
$u = 0.251489 - 0.528716I$ $a = 0.57743 - 1.71093I$ $b = -0.569018 + 0.423369I$	$1.98554 - 1.63935I$	$2.25076 + 0.08848I$
$u = 1.46321 + 0.18726I$ $a = -0.06132 - 1.65441I$ $b = 1.020610 - 0.898165I$	$-2.65234 - 4.33255I$	$0.80689 + 2.76702I$
$u = 1.46321 + 0.18726I$ $a = 0.38891 + 1.74046I$ $b = 0.08531 + 1.44617I$	$-2.65234 - 4.33255I$	$0.80689 + 2.76702I$
$u = 1.46321 - 0.18726I$ $a = -0.06132 + 1.65441I$ $b = 1.020610 + 0.898165I$	$-2.65234 + 4.33255I$	$0.80689 - 2.76702I$
$u = 1.46321 - 0.18726I$ $a = 0.38891 - 1.74046I$ $b = 0.08531 - 1.44617I$	$-2.65234 + 4.33255I$	$0.80689 - 2.76702I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.58196$ $a = 1.04686$ $b = 1.69397$	-5.53118	-8.11680
$u = -1.58196$ $a = 0.585273$ $b = -0.191384$	-5.53118	-8.11680

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^6-u^5+u^4-u^3-u^2+u-1)^2)(u^{10}-8u^9+\cdots-88u+13)$ $\cdot(u^{30}-21u^{29}+\cdots+5664u-576)(u^{42}+15u^{41}+\cdots+185u+25)^2$
c_2, c_7	$(u^{10}-u^9+4u^8-u^7+5u^6-9u^5-7u^4-5u^3+u-1)$ $\cdot(u^{12}+u^{11}+\cdots-7u+1)(u^{30}+u^{29}+\cdots+3u+1)$ $\cdot(u^{84}+2u^{83}+\cdots+7u-1)$
c_3, c_5	$(u^{10}+2u^9+2u^8+5u^7+7u^6+6u^5+6u^4+6u^3+4u^2+u+1)$ $\cdot(u^{12}-5u^{11}+\cdots-2u-1)(u^{30}-2u^{29}+\cdots-3u-1)$ $\cdot(u^{84}-5u^{82}+\cdots+1628u-151)$
c_4, c_8	$(u^{10}+u^9-4u^8-4u^7+8u^6+6u^5-9u^4-3u^3+6u^2-1)$ $\cdot(u^{12}-5u^{10}-2u^9+8u^8+7u^7-2u^6-5u^5-5u^4-6u^3+2u^2+7u+1)$ $\cdot(u^{30}-u^{29}+\cdots-2u-1)(u^{84}+u^{83}+\cdots+13u-7)$
c_6	$(u^6+u^5-3u^4-3u^3+u^2+u+1)^2$ $\cdot(u^{10}-2u^9-4u^8+7u^7+10u^6-11u^5-15u^4+12u^3+3u^2+u-1)$ $\cdot(u^{30}-9u^{29}+\cdots+18u+4)(u^{42}+3u^{41}+\cdots+3u+1)^2$
c_9, c_{12}	$(u^{10}-u^9-4u^8+4u^7+8u^6-6u^5-9u^4+3u^3+6u^2-1)$ $\cdot(u^{12}-5u^{10}+2u^9+8u^8-7u^7-2u^6+5u^5-5u^4+6u^3+2u^2-7u+1)$ $\cdot(u^{30}-u^{29}+\cdots-2u-1)(u^{84}+u^{83}+\cdots+13u-7)$
c_{10}, c_{11}	$(u^6-u^5-3u^4+3u^3+u^2-u+1)^2$ $\cdot(u^{10}+2u^9-4u^8-7u^7+10u^6+11u^5-15u^4-12u^3+3u^2-u-1)$ $\cdot(u^{30}-9u^{29}+\cdots+18u+4)(u^{42}+3u^{41}+\cdots+3u+1)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^6+y^5-3y^4-3y^3+y^2+y+1)^2)(y^{10}+12y^9+\cdots-464y+169)$ $\cdot(y^{30}+y^{29}+\cdots+625536y+331776)$ $\cdot(y^{42}+19y^{41}+\cdots+10575y+625)^2$
c_2, c_7	$(y^{10}+7y^9+24y^8+7y^7-59y^6-161y^5-47y^4-17y^3+24y^2-y+1)$ $\cdot(y^{12}-3y^{11}+\cdots-29y+1)(y^{30}-11y^{29}+\cdots-35y+1)$ $\cdot(y^{84}+16y^{83}+\cdots-965y+1)$
c_3, c_5	$(y^{10}-2y^8-9y^7-3y^6+2y^5+14y^4+14y^3+16y^2+7y+1)$ $\cdot(y^{12}-5y^{11}+\cdots-10y+1)(y^{30}-6y^{29}+\cdots-35y+1)$ $\cdot(y^{84}-10y^{83}+\cdots-808486y+22801)$
c_4, c_8, c_9 c_{12}	$(y^{10}-9y^9+\cdots-12y+1)(y^{12}-10y^{11}+\cdots-45y+1)$ $\cdot(y^{30}-31y^{29}+\cdots-38y+1)(y^{84}-59y^{83}+\cdots+699y+49)$
c_6, c_{10}, c_{11}	$((y^6-7y^5+\cdots+y+1)^2)(y^{10}-12y^9+\cdots-7y+1)$ $\cdot(y^{30}-31y^{29}+\cdots-380y+16)(y^{42}-45y^{41}+\cdots-37y+1)^2$