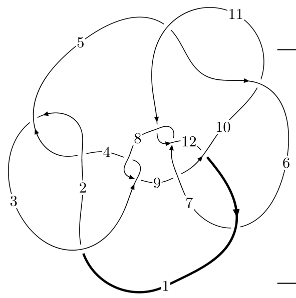
$12n_{0266}$ ($K12n_{0266}$)



A knot diagram[1]

Linearized knot diagam

$$\to \underset{3}{\downarrow} \to \underset{5}{\downarrow} \to \underset{8}{\uparrow} \to \underset{2}{\downarrow} \to \underset{11}{\downarrow} \to \underset{1}{\uparrow} \to \underset{12}{\downarrow} \to \underset{3}{\uparrow} \to \underset{7}{\uparrow} \to \underset{6}{\downarrow} \to \underset{8}{\downarrow} \to \underset{10}{\uparrow} \to$$

Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 1.30470 \times 10^{57} u^{29} - 8.04261 \times 10^{57} u^{28} + \cdots + 3.78260 \times 10^{57} b - 1.44716 \times 10^{60}, \\
& 1.67303 \times 10^{56} u^{29} - 2.36382 \times 10^{57} u^{28} + \cdots + 3.02608 \times 10^{58} a - 1.98438 \times 10^{60}, \\
& u^{30} - 7u^{29} + \cdots - 8960u + 1024 \rangle \\
I_2^u = \langle & 85a^5u^3 + 81a^4u^3 + \cdots - 914a - 116,\ 4a^5u^3 + 36a^4u^3 + \cdots + 70a - 27,\ u^4 + 3u^3 + 3u^2 + 2u + 2 \rangle \\
I_3^u = \langle & 4147258u^{15} + 7664206u^{14} + \cdots + 53503381b + 7608876, \\
& - 151936201u^{15} + 44795175u^{14} + \cdots + 53503381a - 367339747, \\
& u^{16} - 3u^{14} - 4u^{12} + 5u^{11} + 23u^{10} - 7u^9 - 13u^8 + 6u^7 - 11u^6 - 12u^5 + 13u^4 - 4u^3 + 5u^2 + u + 1 \rangle \\
I_4^u = \langle & 9.10023 \times 10^{19} a^{11} u + 1.90099 \times 10^{20} a^{10} u + \cdots + 3.63923 \times 10^{20} a + 7.09845 \times 10^{19}, \\
& - a^{11} u - 29a^{10} u + \cdots - 3954a + 1387,\ u^2 - u - 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v &= \langle a,\ 8v^3 + 12v^2 + b + 10v + 3,\ 8v^4 + 12v^3 + 12v^2 + 5v + 1 \rangle \\
I_2^v &= \langle a,\ b^6 + b^5 + 2b^4 + 2b^3 + 2b^2 + 2b + 1,\ v - 1 \rangle
\end{aligned}$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 104 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. $\boldsymbol{I^u_1 =}$
$\boldsymbol{\langle 1.30\times10^{57}u^{29}-8.04\times10^{57}u^{28}+\cdots+3.78\times10^{57}b-1.45\times10^{60},\ 1.67\times10^{56}u^{29}-2.36\times10^{57}u^{28}+\cdots+3.03\times10^{58}a-1.98\times10^{60},\ u^{30}-7u^{29}+\cdots-8960u+1024\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-0.00552871u^{29}+0.0781148u^{28}+\cdots-455.718u+65.5759\\-0.344921u^{29}+2.12621u^{28}+\cdots-3000.66u+382.582\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.0965905u^{29}+0.626567u^{28}+\cdots-1195.73u+163.169\\0.437196u^{29}-2.77353u^{28}+\cdots+5006.91u-693.942\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.199941u^{29}+1.25377u^{28}+\cdots-2078.67u+283.434\\0.126079u^{29}-0.746114u^{28}+\cdots+510.964u-30.8012\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.237653u^{29}+1.50770u^{28}+\cdots-2693.25u+371.955\\-0.0793898u^{29}+0.480636u^{28}+\cdots-898.423u+142.638\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.393468u^{29}+2.51203u^{28}+\cdots-4452.78u+601.479\\-0.252406u^{29}+1.63090u^{28}+\cdots-2955.26u+391.693\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.350450u^{29}+2.20433u^{28}+\cdots-3456.38u+448.158\\-0.344921u^{29}+2.12621u^{28}+\cdots-3000.66u+382.582\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.0528628u^{29}+0.365076u^{28}+\cdots-641.595u+69.7063\\0.184790u^{29}-1.14262u^{28}+\cdots+2051.66u-302.249\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.237653u^{29}+1.50770u^{28}+\cdots-2693.25u+371.955\\-0.184790u^{29}+1.14262u^{28}+\cdots-2051.66u+302.249\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u\\-u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.780219u^{29}+4.90701u^{28}+\cdots-10318.3u+1584.28$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} + 15u^{29} + \cdots + 5376u + 4096$
c_2, c_4	$u^{30} - 5u^{29} + \cdots - 144u + 64$
c_3, c_8	$u^{30} + 7u^{29} + \cdots + 8960u + 1024$
c_5, c_7, c_{10} c_{11}	$u^{30} + 16u^{28} + \cdots - 4u + 1$
c_6, c_9	$u^{30} + u^{29} + \cdots - 3u + 1$
c_{12}	$u^{30} + 25u^{29} + \cdots + 4224u + 256$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 5y^{29} + \cdots + 918224896y + 16777216$
c_2, c_4	$y^{30} - 15y^{29} + \cdots - 5376y + 4096$
c_3, c_8	$y^{30} - 15y^{29} + \cdots - 7667712y + 1048576$
c_5, c_7, c_{10} c_{11}	$y^{30} + 32y^{29} + \cdots - 14y + 1$
c_6, c_9	$y^{30} - 13y^{29} + \cdots + 5y + 1$
c_{12}	$y^{30} + 7y^{29} + \cdots + 180224y + 65536$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.295304 + 0.827577I$ $a = 0.432685 + 0.180516I$ $b = 0.502251 - 0.079193I$	$-1.52614 - 1.54845I$	$-7.05353 + 2.25516I$
$u = 0.295304 - 0.827577I$ $a = 0.432685 - 0.180516I$ $b = 0.502251 + 0.079193I$	$-1.52614 + 1.54845I$	$-7.05353 - 2.25516I$
$u = -1.118510 + 0.267682I$ $a = 0.344821 + 0.251878I$ $b = -0.488387 - 0.036524I$	$2.84106 - 1.32814I$	$-1.11844 - 2.01669I$
$u = -1.118510 - 0.267682I$ $a = 0.344821 - 0.251878I$ $b = -0.488387 + 0.036524I$	$2.84106 + 1.32814I$	$-1.11844 + 2.01669I$
$u = 0.790526 + 0.025536I$ $a = 0.369046 + 0.400347I$ $b = 0.758312 - 0.591430I$	$-1.67774 + 2.21849I$	$-1.35323 - 5.31460I$
$u = 0.790526 - 0.025536I$ $a = 0.369046 - 0.400347I$ $b = 0.758312 + 0.591430I$	$-1.67774 - 2.21849I$	$-1.35323 + 5.31460I$
$u = 1.150710 + 0.487372I$ $a = 0.146682 - 0.393834I$ $b = -0.578991 + 0.126474I$	$1.25283 + 6.44217I$	$-7.35418 - 5.48188I$
$u = 1.150710 - 0.487372I$ $a = 0.146682 + 0.393834I$ $b = -0.578991 - 0.126474I$	$1.25283 - 6.44217I$	$-7.35418 + 5.48188I$
$u = 0.587875 + 0.294150I$ $a = 1.49596 - 0.54450I$ $b = -0.410397 - 0.248863I$	$-2.33932 - 0.29501I$	$-4.95113 - 2.59003I$
$u = 0.587875 - 0.294150I$ $a = 1.49596 + 0.54450I$ $b = -0.410397 + 0.248863I$	$-2.33932 + 0.29501I$	$-4.95113 + 2.59003I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.281814 + 0.580917I$ $a = 0.633016 - 0.523942I$ $b = 0.265637 + 0.486839I$	$-0.114599 - 1.183600I$	$-1.52357 + 6.11116I$
$u = -0.281814 - 0.580917I$ $a = 0.633016 + 0.523942I$ $b = 0.265637 - 0.486839I$	$-0.114599 + 1.183600I$	$-1.52357 - 6.11116I$
$u = 0.581579 + 0.213573I$ $a = -0.181652 - 0.352155I$ $b = -0.562214 + 1.036190I$	$1.23856 + 8.05442I$	$5.2311 - 14.4328I$
$u = 0.581579 - 0.213573I$ $a = -0.181652 + 0.352155I$ $b = -0.562214 - 1.036190I$	$1.23856 - 8.05442I$	$5.2311 + 14.4328I$
$u = -0.21710 + 1.53848I$ $a = 0.204399 + 0.699894I$ $b = 0.241334 - 0.976861I$	$-5.66421 + 0.94543I$	$-11.8910 - 17.8120I$
$u = -0.21710 - 1.53848I$ $a = 0.204399 - 0.699894I$ $b = 0.241334 + 0.976861I$	$-5.66421 - 0.94543I$	$-11.8910 + 17.8120I$
$u = 0.05187 + 1.70653I$ $a = -0.098466 + 0.394900I$ $b = -0.28890 - 1.53476I$	$7.74868 - 8.57967I$	0
$u = 0.05187 - 1.70653I$ $a = -0.098466 - 0.394900I$ $b = -0.28890 + 1.53476I$	$7.74868 + 8.57967I$	0
$u = 1.69998 + 0.25374I$ $a = -0.298306 - 1.350070I$ $b = 0.15069 + 1.46462I$	$5.39652 - 5.08088I$	0
$u = 1.69998 - 0.25374I$ $a = -0.298306 + 1.350070I$ $b = 0.15069 - 1.46462I$	$5.39652 + 5.08088I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.61078 + 0.80572I$ $a = 0.68358 + 1.24119I$ $b = 0.61201 - 1.60557I$	$12.5033 + 17.2116I$	0
$u = 1.61078 - 0.80572I$ $a = 0.68358 - 1.24119I$ $b = 0.61201 + 1.60557I$	$12.5033 - 17.2116I$	0
$u = 0.47534 + 1.81581I$ $a = -0.048480 - 0.458166I$ $b = 0.00271 + 1.46604I$	$7.03462 + 1.24559I$	0
$u = 0.47534 - 1.81581I$ $a = -0.048480 + 0.458166I$ $b = 0.00271 - 1.46604I$	$7.03462 - 1.24559I$	0
$u = -1.87027 + 0.50681I$ $a = 0.337792 - 1.250370I$ $b = 0.45821 + 1.67495I$	$14.6658 - 9.7485I$	0
$u = -1.87027 - 0.50681I$ $a = 0.337792 + 1.250370I$ $b = 0.45821 - 1.67495I$	$14.6658 + 9.7485I$	0
$u = 1.69641 + 0.95826I$ $a = -0.604731 - 1.038330I$ $b = -0.42883 + 1.37214I$	$10.87200 + 8.65298I$	0
$u = 1.69641 - 0.95826I$ $a = -0.604731 + 1.038330I$ $b = -0.42883 - 1.37214I$	$10.87200 - 8.65298I$	0
$u = -1.95267 + 0.75510I$ $a = -0.416349 + 1.035550I$ $b = -0.23344 - 1.52553I$	$13.56600 - 0.76045I$	0
$u = -1.95267 - 0.75510I$ $a = -0.416349 - 1.035550I$ $b = -0.23344 + 1.52553I$	$13.56600 + 0.76045I$	0

II. $\boldsymbol{I_2^u = \langle 85a^5u^3 + 81a^4u^3 + \cdots - 914a - 116,\ 4a^5u^3 + 36a^4u^3 + \cdots + 70a - 27,\ u^4 + 3u^3 + 3u^2 + 2u + 2\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a \\ -0.702479a^5u^3 - 0.669421a^4u^3 + \cdots + 7.55372a + 0.958678 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.305785a^5u^3 - 0.876033a^4u^3 + \cdots + 1.58678a + 0.314050 \\ 0.834711a^5u^3 + 2.74380a^4u^3 + \cdots - 8.47934a - 1.75207 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.239669a^4u^3 - 0.909091a^3u^3 + \cdots - 0.727273a + 1.32231 \\ 1.05785a^4u^3 + 1.54545a^3u^3 + \cdots + 5.63636a + 0.595041 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{1}{2}u^3 - \frac{1}{2}u^2 - \frac{1}{2}u - 1 \\ u^3 + 2u^2 + u + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0826446a^5u^3 + 0.628099a^4u^3 + \cdots - 5.76033a - 1.30579 \\ -0.975207a^5u^3 - 0.611570a^4u^3 + \cdots - 4.62810a + 1.55372 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.702479a^5u^3 - 0.669421a^4u^3 + \cdots + 8.55372a + 0.958678 \\ -0.702479a^5u^3 - 0.669421a^4u^3 + \cdots + 7.55372a + 0.958678 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{1}{2}u^3 + \frac{1}{2}u^2 - \frac{1}{2}u \\ u^3 + u^2 + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{2}u^3 - \frac{1}{2}u^2 - \frac{1}{2}u - 1 \\ -u^3 - u^2 - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{148}{121}a^4u^3 + \frac{28}{11}a^3u^3 + \cdots - \frac{136}{11}a + \frac{68}{121}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^4+u^3+4u^2+u+1)^6$
c_2, c_4	$(u^4-u^3+u+1)^6$
c_3, c_8	$(u^4-3u^3+3u^2-2u+2)^6$
c_5, c_7, c_{10} c_{11}	$u^{24}+u^{23}+\cdots-6u+23$
c_6, c_9	$u^{24}+3u^{23}+\cdots+82u+67$
c_{12}	$(u^3-u^2+1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^4+7y^3+16y^2+7y+1)^6$
c_2, c_4	$(y^4-y^3+4y^2-y+1)^6$
c_3, c_8	$(y^4-3y^3+y^2+8y+4)^6$
c_5, c_7, c_{10} c_{11}	$y^{24}+21y^{23}+\cdots+24252y+529$
c_6, c_9	$y^{24}-7y^{23}+\cdots-56036y+4489$
c_{12}	$(y^3-y^2+2y-1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.066121 + 0.864054I$ $a = 0.847489 - 0.409743I$ $b = 0.435029 + 1.039690I$	$1.24998 - 1.37790I$	$-0.06985 - 1.74429I$
$u = 0.066121 + 0.864054I$ $a = -0.066440 + 1.227610I$ $b = 0.219486 - 1.053480I$	$1.24998 + 4.27835I$	$-0.06985 - 7.70319I$
$u = 0.066121 + 0.864054I$ $a = -0.685301 + 1.029190I$ $b = -0.34890 + 1.62773I$	$5.38756 + 1.45022I$	$6.45941 - 4.72374I$
$u = 0.066121 + 0.864054I$ $a = 1.56525 - 0.14261I$ $b = 0.026299 - 1.366270I$	$5.38756 + 1.45022I$	$6.45941 - 4.72374I$
$u = 0.066121 + 0.864054I$ $a = 1.51833 - 1.27411I$ $b = 0.042954 - 0.201002I$	$1.24998 - 1.37790I$	$-0.06985 - 1.74429I$
$u = 0.066121 + 0.864054I$ $a = -1.63512 + 1.12550I$ $b = -0.940992 + 0.412160I$	$1.24998 + 4.27835I$	$-0.06985 - 7.70319I$
$u = 0.066121 - 0.864054I$ $a = 0.847489 + 0.409743I$ $b = 0.435029 - 1.039690I$	$1.24998 + 1.37790I$	$-0.06985 + 1.74429I$
$u = 0.066121 - 0.864054I$ $a = -0.066440 - 1.227610I$ $b = 0.219486 + 1.053480I$	$1.24998 - 4.27835I$	$-0.06985 + 7.70319I$
$u = 0.066121 - 0.864054I$ $a = -0.685301 - 1.029190I$ $b = -0.34890 - 1.62773I$	$5.38756 - 1.45022I$	$6.45941 + 4.72374I$
$u = 0.066121 - 0.864054I$ $a = 1.56525 + 0.14261I$ $b = 0.026299 + 1.366270I$	$5.38756 - 1.45022I$	$6.45941 + 4.72374I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.066121 - 0.864054I$ $a = 1.51833 + 1.27411I$ $b = 0.042954 + 0.201002I$	$1.24998 + 1.37790I$	$-0.06985 + 1.74429I$
$u = 0.066121 - 0.864054I$ $a = -1.63512 - 1.12550I$ $b = -0.940992 - 0.412160I$	$1.24998 - 4.27835I$	$-0.06985 + 7.70319I$
$u = -1.56612 + 0.45882I$ $a = 0.446198 - 1.247430I$ $b = 0.95639 + 1.77228I$	$10.82130 - 6.78371I$	$7.57961 + 4.72374I$
$u = -1.56612 + 0.45882I$ $a = 0.352386 - 1.325540I$ $b = -0.05667 + 1.51321I$	$6.68371 - 3.95559I$	$1.05034 + 1.74429I$
$u = -1.56612 + 0.45882I$ $a = -1.04122 + 1.11468I$ $b = -0.348867 - 1.279900I$	$10.82130 - 6.78371I$	$7.57961 + 4.72374I$
$u = -1.56612 + 0.45882I$ $a = -0.123141 - 0.393851I$ $b = 1.61223 + 0.24522I$	$6.68371 - 9.61184I$	$1.05034 + 7.70319I$
$u = -1.56612 + 0.45882I$ $a = -0.272467 - 0.089477I$ $b = -0.843469 + 0.066206I$	$6.68371 - 3.95559I$	$1.05034 + 1.74429I$
$u = -1.56612 + 0.45882I$ $a = -0.40595 + 1.70866I$ $b = -0.25349 - 1.45295I$	$6.68371 - 9.61184I$	$1.05034 + 7.70319I$
$u = -1.56612 - 0.45882I$ $a = 0.446198 + 1.247430I$ $b = 0.95639 - 1.77228I$	$10.82130 + 6.78371I$	$7.57961 - 4.72374I$
$u = -1.56612 - 0.45882I$ $a = 0.352386 + 1.325540I$ $b = -0.05667 - 1.51321I$	$6.68371 + 3.95559I$	$1.05034 - 1.74429I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.56612-0.45882I$ $a=-1.04122-1.11468I$ $b=-0.348867+1.279900I$	$10.82130+6.78371I$	$7.57961-4.72374I$
$u=-1.56612-0.45882I$ $a=-0.123141+0.393851I$ $b=1.61223-0.24522I$	$6.68371+9.61184I$	$1.05034-7.70319I$
$u=-1.56612-0.45882I$ $a=-0.272467+0.089477I$ $b=-0.843469-0.066206I$	$6.68371+3.95559I$	$1.05034-1.74429I$
$u=-1.56612-0.45882I$ $a=-0.40595-1.70866I$ $b=-0.25349+1.45295I$	$6.68371+9.61184I$	$1.05034-7.70319I$

III.

$\boldsymbol{I_3^u = \langle 4.15\times10^6u^{15}+7.66\times10^6u^{14}+\cdots+5.35\times10^7b+7.61\times10^6,\ -1.52\times10^8u^{15}+4.48\times10^7u^{14}+\cdots+5.35\times10^7a-3.67\times10^8,\ u^{16}-3u^{14}+\cdots+u+1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}2.83975u^{15}-0.837240u^{14}+\cdots+10.0880u+6.86573\\-0.0775139u^{15}-0.143247u^{14}+\cdots+1.48032u-0.142213\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1.46611u^{15}+0.555277u^{14}+\cdots-7.60428u+7.02320\\0.342955u^{15}-0.0913471u^{14}+\cdots+0.412915u-0.146361\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2.10671u^{15}+1.02973u^{14}+\cdots+1.90799u+11.0945\\0.202635u^{15}+0.190332u^{14}+\cdots+2.50674u+0.600158\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.478951u^{15}+0.274850u^{14}+\cdots-3.19806u-1.01076\\0.134911u^{15}+0.189098u^{14}+\cdots+0.316322u+0.253088\end{pmatrix}$$
$$a_6 = \begin{pmatrix}2.43159u^{15}+0.321717u^{14}+\cdots-3.47288u+6.86583\\0.486533u^{15}+0.0412901u^{14}+\cdots+0.933338u-0.168123\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}2.76224u^{15}-0.980487u^{14}+\cdots+11.5683u+6.72352\\-0.0775139u^{15}-0.143247u^{14}+\cdots+1.48032u-0.142213\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.622529u^{15}-0.142213u^{14}+\cdots+3.71848u+0.988996\\0.143578u^{15}+0.132637u^{14}+\cdots+0.520422u-0.0217622\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.478951u^{15}+0.274850u^{14}+\cdots-3.19806u-1.01076\\0.143578u^{15}+0.132637u^{14}+\cdots+0.520422u-0.0217622\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u\\u\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{119862154}{53503381}u^{15} - \frac{50233104}{53503381}u^{14} + \cdots + \frac{2012450980}{53503381}u - \frac{93776732}{53503381}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 10u^{15} + \cdots - 7u + 1$
c_2	$u^{16} + 6u^{15} + \cdots - u + 1$
c_3	$u^{16} - 3u^{14} + \cdots - u + 1$
c_4	$u^{16} - 6u^{15} + \cdots + u + 1$
c_5, c_{11}	$u^{16} + 8u^{14} + \cdots + 3u + 1$
c_6, c_9	$u^{16} - 3u^{15} + \cdots - 6u + 1$
c_7, c_{10}	$u^{16} + 8u^{14} + \cdots - 3u + 1$
c_8	$u^{16} - 3u^{14} + \cdots + u + 1$
c_{12}	$u^{16} - 5u^{15} + \cdots - 5u^3 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 2y^{15} + \cdots + 61y + 1$
c_2, c_4	$y^{16} - 10y^{15} + \cdots - 7y + 1$
c_3, c_8	$y^{16} - 6y^{15} + \cdots + 9y + 1$
c_5, c_7, c_{10} c_{11}	$y^{16} + 16y^{15} + \cdots + 11y + 1$
c_6, c_9	$y^{16} - 5y^{15} + \cdots - 14y + 1$
c_{12}	$y^{16} + 9y^{15} + \cdots + 10y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.978949 + 0.078957I$ $a = -0.453108 - 0.320975I$ $b = 0.445295 - 0.521652I$	$3.29193 + 2.08322I$	$4.28264 - 4.24407I$
$u = 0.978949 - 0.078957I$ $a = -0.453108 + 0.320975I$ $b = 0.445295 + 0.521652I$	$3.29193 - 2.08322I$	$4.28264 + 4.24407I$
$u = -0.996285 + 0.490791I$ $a = -0.353672 - 0.270556I$ $b = 0.279505 + 0.496867I$	$1.92823 - 6.43556I$	$5.05003 + 5.97847I$
$u = -0.996285 - 0.490791I$ $a = -0.353672 + 0.270556I$ $b = 0.279505 - 0.496867I$	$1.92823 + 6.43556I$	$5.05003 - 5.97847I$
$u = 0.196535 + 0.775710I$ $a = -0.14260 + 1.75182I$ $b = 0.08961 + 1.47734I$	$4.79804 - 0.70603I$	$0.45722 - 4.37222I$
$u = 0.196535 - 0.775710I$ $a = -0.14260 - 1.75182I$ $b = 0.08961 - 1.47734I$	$4.79804 + 0.70603I$	$0.45722 + 4.37222I$
$u = 0.172282 + 0.628783I$ $a = 2.18279 - 0.75635I$ $b = 0.405160 + 0.782797I$	$1.56983 - 2.39298I$	$2.54235 + 6.16314I$
$u = 0.172282 - 0.628783I$ $a = 2.18279 + 0.75635I$ $b = 0.405160 - 0.782797I$	$1.56983 + 2.39298I$	$2.54235 - 6.16314I$
$u = -0.206080 + 0.337926I$ $a = 10.45890 + 6.32490I$ $b = -0.380479 + 0.681918I$	$0.32266 + 2.98693I$	$-4.4966 + 17.7278I$
$u = -0.206080 - 0.337926I$ $a = 10.45890 - 6.32490I$ $b = -0.380479 - 0.681918I$	$0.32266 - 2.98693I$	$-4.4966 - 17.7278I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.61349+0.06231I$ $a=-0.307309+1.257690I$ $b=-0.43055-1.58967I$	$10.48480+0.24679I$	$0.73600-1.75528I$
$u=-1.61349-0.06231I$ $a=-0.307309-1.257690I$ $b=-0.43055+1.58967I$	$10.48480-0.24679I$	$0.73600+1.75528I$
$u=-0.13825+1.62727I$ $a=\ 0.254873+0.700959I$ $b=\ 0.192282-1.004160I$	$-5.54863+0.76161I$	$8.2609+13.1613I$
$u=-0.13825-1.62727I$ $a=\ 0.254873-0.700959I$ $b=\ 0.192282+1.004160I$	$-5.54863-0.76161I$	$8.2609-13.1613I$
$u=\ 1.60635+0.50423I$ $a=-0.639909-1.085690I$ $b=-0.60082+1.36455I$	$9.47206+6.62853I$	$0.16748-3.62136I$
$u=\ 1.60635-0.50423I$ $a=-0.639909+1.085690I$ $b=-0.60082-1.36455I$	$9.47206-6.62853I$	$0.16748+3.62136I$

IV. $\boldsymbol{I^u_4 = \langle 9.10 \times 10^{19} a^{11} u + 1.90 \times 10^{20} a^{10} u + \cdots + 3.64 \times 10^{20} a + 7.10 \times 10^{19},\ -a^{11} u - 29 a^{10} u + \cdots - 3954 a + 1387,\ u^2 - u - 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u-1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a \\ -1.56829 a^{11} u - 3.27608 a^{10} u + \cdots - 6.27166 a - 1.22331 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.460239 a^{11} u - 1.23068 a^{10} u + \cdots - 5.15203 a + 1.64031 \\ 2.83175 a^{11} u + 6.50769 a^{10} u + \cdots + 17.3200 a + 1.87860 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.837001 a^{11} u - 1.69786 a^{10} u + \cdots - 2.77220 a - 2.20499 \\ -1.53854 a^{11} u - 3.00157 a^{10} u + \cdots - 9.06731 a - 1.48673 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.83049 a^{11} u + 3.69414 a^{10} u + \cdots + 10.1122 a + 0.883061 \\ -1.83049 a^{11} u - 3.69414 a^{10} u + \cdots - 10.1122 a - 1.88306 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2.59830 a^{11} u + 5.43442 a^{10} u + \cdots + 10.6594 a + 4.31367 \\ -0.401435 a^{11} u - 0.287843 a^{10} u + \cdots - 1.58392 a + 2.69916 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.56829 a^{11} u - 3.27608 a^{10} u + \cdots - 5.27166 a - 1.22331 \\ -1.56829 a^{11} u - 3.27608 a^{10} u + \cdots - 6.27166 a - 1.22331 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1.13131 a^{11} u - 2.28310 a^{10} u + \cdots - 6.25174 a - 0.296436 \\ -2.96180 a^{11} u - 5.97724 a^{10} u + \cdots - 16.3639 a - 1.17950 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.83049 a^{11} u + 3.69414 a^{10} u + \cdots + 10.1122 a + 0.883061 \\ 2.96180 a^{11} u + 5.97724 a^{10} u + \cdots + 16.3639 a + 1.17950 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{460629544778988}{234092030786251} a^{11} u + \frac{789216386414344}{234092030786251} a^{10} u + \cdots - \frac{2682835470744820}{234092030786251} a + \frac{2366946904870098}{234092030786251}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^4+u^3+2u^2+4u+1)^6$
c_2, c_4	$(u^4-u^3+2u-1)^6$
c_3, c_8	$(u^2+u-1)^{12}$
c_5, c_7, c_{10} c_{11}	$u^{24}+u^{23}+\cdots-30u+59$
c_6, c_9	$u^{24}+3u^{23}+\cdots+226u+59$
c_{12}	$(u^3-u^2+1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^4+3y^3-2y^2-12y+1)^6$
c_2, c_4	$(y^4-y^3+2y^2-4y+1)^6$
c_3, c_8	$(y^2-3y+1)^{12}$
c_5, c_7, c_{10} c_{11}	$y^{24}+21y^{23}+\cdots-1844y+3481$
c_6, c_9	$y^{24}-7y^{23}+\cdots-22992y+3481$
c_{12}	$(y^3-y^2+2y-1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = -0.150728 + 0.935298I$ $b = -0.837750 - 0.491196I$	$-0.39223 + 2.82812I$	$2.49024 - 2.97945I$
$u = -0.618034$ $a = -0.150728 - 0.935298I$ $b = -0.837750 + 0.491196I$	$-0.39223 - 2.82812I$	$2.49024 + 2.97945I$
$u = -0.618034$ $a = \quad 0.423709 + 0.723737I$ $b = \quad 0.589608 - 1.016880I$	$-0.39223 + 2.82812I$	$2.49024 - 2.97945I$
$u = -0.618034$ $a = \quad 0.423709 - 0.723737I$ $b = \quad 0.589608 + 1.016880I$	$-0.39223 - 2.82812I$	$2.49024 + 2.97945I$
$u = -0.618034$ $a = \quad 0.361623 + 0.378726I$ $b = -0.328718 + 0.941057I$	3.74535	$9.01951 + 0.I$
$u = -0.618034$ $a = \quad 0.361623 - 0.378726I$ $b = -0.328718 - 0.941057I$	3.74535	$9.01951 + 0.I$
$u = -0.618034$ $a = -2.38323 + 1.43737I$ $b = \quad 0.492907 + 0.249410I$	$-0.39223 - 2.82812I$	$2.49024 + 2.97945I$
$u = -0.618034$ $a = -2.38323 - 1.43737I$ $b = \quad 0.492907 - 0.249410I$	$-0.39223 + 2.82812I$	$2.49024 - 2.97945I$
$u = -0.618034$ $a = -1.67739 + 5.70634I$ $b = \quad 0.15263 - 1.41932I$	3.74535	$9.01951 + 0.I$
$u = -0.618034$ $a = -1.67739 - 5.70634I$ $b = \quad 0.15263 + 1.41932I$	3.74535	$9.01951 + 0.I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = \quad 1.11700 + 6.25809I$ $b = -0.377692 - 0.949629I$	$-0.39223 - 2.82812I$	0
$u = -0.618034$ $a = \quad 1.11700 - 6.25809I$ $b = -0.377692 + 0.949629I$	$-0.39223 + 2.82812I$	0
$u = \quad 1.61803$ $a = -0.047191 + 1.301750I$ $b = \quad 0.73365 - 1.98613I$	11.6410	$9.01951 + 0.I$
$u = \quad 1.61803$ $a = -0.047191 - 1.301750I$ $b = \quad 0.73365 + 1.98613I$	11.6410	$9.01951 + 0.I$
$u = \quad 1.61803$ $a = -0.07600 + 1.43046I$ $b = -0.37139 - 1.51467I$	$7.50345 - 2.82812I$	$2.49024 + 2.97945I$
$u = \quad 1.61803$ $a = -0.07600 - 1.43046I$ $b = -0.37139 + 1.51467I$	$7.50345 + 2.82812I$	$2.49024 - 2.97945I$
$u = \quad 1.61803$ $a = -0.483052 + 0.076488I$ $b = -0.737687 + 0.246052I$	$7.50345 - 2.82812I$	$2.49024 + 2.97945I$
$u = \quad 1.61803$ $a = -0.483052 - 0.076488I$ $b = -0.737687 - 0.246052I$	$7.50345 + 2.82812I$	$2.49024 - 2.97945I$
$u = \quad 1.61803$ $a = -0.63148 + 1.43380I$ $b = -0.27264 - 1.42678I$	11.6410	$9.01951 + 0.I$
$u = \quad 1.61803$ $a = -0.63148 - 1.43380I$ $b = -0.27264 + 1.42678I$	11.6410	$9.01951 + 0.I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.61803$ $a = -0.165330 + 0.160935I$ $b = 1.52448 - 0.54039I$	$7.50345 + 2.82812I$	$2.49024 - 2.97945I$
$u = 1.61803$ $a = -0.165330 - 0.160935I$ $b = 1.52448 + 0.54039I$	$7.50345 - 2.82812I$	$2.49024 + 2.97945I$
$u = 1.61803$ $a = 0.21207 + 1.76756I$ $b = -0.067397 - 1.386770I$	$7.50345 - 2.82812I$	$2.49024 + 2.97945I$
$u = 1.61803$ $a = 0.21207 - 1.76756I$ $b = -0.067397 + 1.386770I$	$7.50345 + 2.82812I$	$2.49024 - 2.97945I$

V. $I_1^v = \langle a,\ 8v^3 + 12v^2 + b + 10v + 3,\ 8v^4 + 12v^3 + 12v^2 + 5v + 1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -8v^3 - 12v^2 - 10v - 3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -8v^3 - 8v^2 - 8v - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 8v^3 + 8v^2 + 8v + 2 \\ 16v^3 + 20v^2 + 18v + 5 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 8v^3 + 12v^2 + 12v + 4 \\ 8v^3 + 12v^2 + 12v + 5 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -4v^2 - 4v - 3 \\ -4v^2 - 4v - 4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -8v^3 - 12v^2 - 10v - 3 \\ -8v^3 - 12v^2 - 10v - 3 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -8v^3 - 12v^2 - 12v - 4 \\ -8v^3 - 12v^2 - 12v - 5 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 8v^3 + 12v^2 + 13v + 4 \\ 8v^3 + 12v^2 + 12v + 5 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8v^3 - 5v^2 - 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.447562 + 0.776246I$ $a = 0$ $b = 0.547424 + 0.585652I$	$-2.62503 - 1.39709I$	$-6.74392 + 3.48426I$
$v = -0.447562 - 0.776246I$ $a = 0$ $b = 0.547424 - 0.585652I$	$-2.62503 + 1.39709I$	$-6.74392 - 3.48426I$
$v = -0.302438 + 0.253422I$ $a = 0$ $b = -0.547424 - 1.120870I$	$0.98010 - 7.64338I$	$-3.38108 + 0.34032I$
$v = -0.302438 - 0.253422I$ $a = 0$ $b = -0.547424 + 1.120870I$	$0.98010 + 7.64338I$	$-3.38108 - 0.34032I$

VI. $\boldsymbol{I_2^v = \langle a,\ b^6+b^5+2b^4+2b^3+2b^2+2b+1,\ v-1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4b^3+4b-4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = 0.498832 + 1.001300I$	$-1.37919 - 2.82812I$	$-7.50976 + 2.97945I$
$v = 1.00000$ $a = 0$ $b = 0.498832 - 1.001300I$	$-1.37919 + 2.82812I$	$-7.50976 - 2.97945I$
$v = 1.00000$ $a = 0$ $b = -0.284920 + 1.115140I$	2.75839	$-6 - 0.980489 + 0.10I$
$v = 1.00000$ $a = 0$ $b = -0.284920 - 1.115140I$	2.75839	$-6 - 0.980489 + 0.10I$
$v = 1.00000$ $a = 0$ $b = -0.713912 + 0.305839I$	$-1.37919 - 2.82812I$	$-7.50976 + 2.97945I$
$v = 1.00000$ $a = 0$ $b = -0.713912 - 0.305839I$	$-1.37919 + 2.82812I$	$-7.50976 - 2.97945I$

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^{10}(u^4+u^3+2u^2+4u+1)^6(u^4+u^3+4u^2+u+1)^6$ $\cdot(u^{16}-10u^{15}+\cdots-7u+1)(u^{30}+15u^{29}+\cdots+5376u+4096)$
c_2	$(u-1)^{10}(u^4-u^3+u+1)^6(u^4-u^3+2u-1)^6$ $\cdot(u^{16}+6u^{15}+\cdots-u+1)(u^{30}-5u^{29}+\cdots-144u+64)$
c_3	$u^{10}(u^2+u-1)^{12}(u^4-3u^3+\cdots-2u+2)^6(u^{16}-3u^{14}+\cdots-u+1)$ $\cdot(u^{30}+7u^{29}+\cdots+8960u+1024)$
c_4	$(u+1)^{10}(u^4-u^3+u+1)^6(u^4-u^3+2u-1)^6$ $\cdot(u^{16}-6u^{15}+\cdots+u+1)(u^{30}-5u^{29}+\cdots-144u+64)$
c_5	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{16}+8u^{14}+\cdots+3u+1)(u^{24}+u^{23}+\cdots-30u+59)$ $\cdot(u^{24}+u^{23}+\cdots-6u+23)(u^{30}+16u^{28}+\cdots-4u+1)$
c_6	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{16}-3u^{15}+\cdots-6u+1)(u^{24}+3u^{23}+\cdots+226u+59)$ $\cdot(u^{24}+3u^{23}+\cdots+82u+67)(u^{30}+u^{29}+\cdots-3u+1)$
c_7	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{16}+8u^{14}+\cdots-3u+1)(u^{24}+u^{23}+\cdots-30u+59)$ $\cdot(u^{24}+u^{23}+\cdots-6u+23)(u^{30}+16u^{28}+\cdots-4u+1)$
c_8	$u^{10}(u^2+u-1)^{12}(u^4-3u^3+\cdots-2u+2)^6(u^{16}-3u^{14}+\cdots+u+1)$ $\cdot(u^{30}+7u^{29}+\cdots+8960u+1024)$
c_9	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{16}-3u^{15}+\cdots-6u+1)(u^{24}+3u^{23}+\cdots+226u+59)$ $\cdot(u^{24}+3u^{23}+\cdots+82u+67)(u^{30}+u^{29}+\cdots-3u+1)$
c_{10}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{16}+8u^{14}+\cdots-3u+1)(u^{24}+u^{23}+\cdots-30u+59)$ $\cdot(u^{24}+u^{23}+\cdots-6u+23)(u^{30}+16u^{28}+\cdots-4u+1)$
c_{11}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{16}+8u^{14}+\cdots+3u+1)(u^{24}+u^{23}+\cdots-30u+59)$ $\cdot(u^{24}+u^{23}+\cdots-6u+23)(u^{30}+16u^{28}+\cdots-4u+1)$
c_{12}	$((u^3-u^2+1)^{18})(u^4+3u^3+\cdots+3u+2)(u^{16}-5u^{15}+\cdots-5u^3+1)$ $\cdot(u^{30}+25u^{29}+\cdots+4224u+256)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^{10}(y^4+3y^3-2y^2-12y+1)^6(y^4+7y^3+16y^2+7y+1)^6$ $\cdot(y^{16}-2y^{15}+\cdots+61y+1)$ $\cdot(y^{30}+5y^{29}+\cdots+918224896y+16777216)$
c_2, c_4	$(y-1)^{10}(y^4-y^3+2y^2-4y+1)^6(y^4-y^3+4y^2-y+1)^6$ $\cdot(y^{16}-10y^{15}+\cdots-7y+1)(y^{30}-15y^{29}+\cdots-5376y+4096)$
c_3, c_8	$y^{10}(y^2-3y+1)^{12}(y^4-3y^3+\cdots+8y+4)^6(y^{16}-6y^{15}+\cdots+9y+1)$ $\cdot(y^{30}-15y^{29}+\cdots-7667712y+1048576)$
c_5, c_7, c_{10} c_{11}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{16}+16y^{15}+\cdots+11y+1)(y^{24}+21y^{23}+\cdots+24252y+529)$ $\cdot(y^{24}+21y^{23}+\cdots-1844y+3481)(y^{30}+32y^{29}+\cdots-14y+1)$
c_6, c_9	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{16}-5y^{15}+\cdots-14y+1)(y^{24}-7y^{23}+\cdots-22992y+3481)$ $\cdot(y^{24}-7y^{23}+\cdots-56036y+4489)(y^{30}-13y^{29}+\cdots+5y+1)$
c_{12}	$((y^3-y^2+2y-1)^{18})(y^4-y^3+2y^2+7y+4)(y^{16}+9y^{15}+\cdots+10y^2+1)$ $\cdot(y^{30}+7y^{29}+\cdots+180224y+65536)$