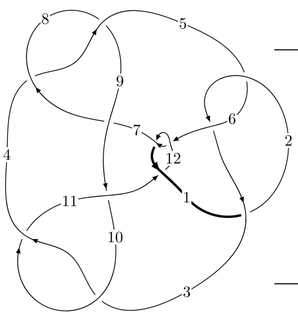
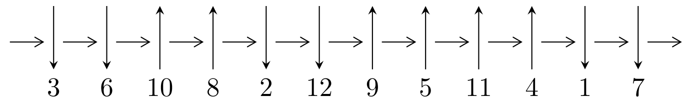
$12a_{0435}$ ($K12a_{0435}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I^u_1 &= \langle -3u^{21} - 10u^{20} + \cdots + 8b + 6,\ 6u^{21} + 21u^{20} + \cdots + 8a - 18,\ u^{22} + 3u^{21} + \cdots + 2u + 2\rangle \\
I^u_2 &= \langle -10u^{15}a - 44u^{15} + \cdots + 23a - 60,\ -6u^{15}a - 7u^{15} + \cdots - 18a - 1, \\
&\quad u^{16} - u^{15} - 3u^{14} + 4u^{13} + 6u^{12} - 9u^{11} - 5u^{10} + 12u^9 + 3u^8 - 11u^7 + u^6 + 8u^5 - u^4 - 5u^3 + 3u^2 + 2u - 1\rangle \\
I^u_3 &= \langle 2494307142u^{31} + 7215726931u^{30} + \cdots + 43288176436b - 18964617036, \\
&\quad 4190268217u^{31} + 38131442460u^{30} + \cdots + 60603447002a - 118490829071, \\
&\quad u^{32} + 3u^{31} + \cdots - 24u - 7\rangle \\
I^u_4 &= \langle -4001108u^{23}a - 234438u^{23} + \cdots + 6117289a - 712901, \\
&\quad 17866u^{23}a - 3017u^{23} + \cdots + 14683a + 59324,\ u^{24} - u^{23} + \cdots - 4u + 1\rangle \\
I^u_5 &= \langle -2a^3 + 12a^2 + 68b + 43a + 47,\ 2a^4 + 2a^3 + 9a^2 - 8a + 11,\ u + 1\rangle \\
I^u_6 &= \langle b + 1,\ u^2 + 2a + u,\ u^4 - u^2 + 2\rangle \\
I^u_7 &= \langle -2a^3 + 14a^2 + 105b + 74a + 69,\ 2a^4 + 4a^3 + 10a^2 + 9,\ u - 1\rangle \\
I^u_8 &= \langle b - 1,\ u^3 - u^2 + 2a - u - 1,\ u^4 + 1\rangle \\
I^u_9 &= \langle b,\ a + 1,\ u - 1\rangle \\
I^u_{10} &= \langle -2au + 4b - 2a + u + 5,\ 4a^2 - 4a + 17,\ u^2 + 2u + 1\rangle
\end{aligned}
$$

[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`).

$$I^u_{11} = \langle b+1,\ u+1 \rangle$$

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

* 11 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 156 representations.
* 1 irreducible components of $\dim_{\mathbb{C}} = 1$

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $I^u_1 = \langle -3u^{21}-10u^{20}+\cdots+8b+6,\ 6u^{21}+21u^{20}+\cdots+8a-18,\ u^{22}+3u^{21}+\cdots+2u+2\rangle$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{3}{4}u^{21} - \frac{21}{8}u^{20} + \cdots + \frac{15}{4}u + \frac{9}{4} \\ \frac{3}{8}u^{21} + \frac{5}{4}u^{20} + \cdots - 2u - \frac{3}{4} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{5}{4}u^{21} - \frac{33}{8}u^{20} + \cdots + \frac{19}{4}u + \frac{9}{4} \\ \frac{5}{8}u^{21} + \frac{5}{2}u^{20} + \cdots - \frac{7}{2}u - \frac{3}{4} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{5}{8}u^{21} - \frac{13}{8}u^{20} + \cdots + \frac{5}{4}u + \frac{3}{2} \\ \frac{5}{8}u^{21} + \frac{5}{2}u^{20} + \cdots - \frac{7}{2}u - \frac{3}{4} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{3}{8}u^{20} + \frac{9}{8}u^{19} + \cdots + \frac{3}{4}u - \frac{1}{4} \\ -\frac{3}{8}u^{21} - \frac{5}{4}u^{20} + \cdots + 2u + \frac{3}{4} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{4}u^{20} + \frac{3}{4}u^{19} + \cdots - \frac{1}{2}u + \frac{1}{2} \\ -\frac{1}{4}u^{20} - \frac{3}{4}u^{19} + \cdots + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -\frac{1}{4}u^{21} - \frac{3}{4}u^{20} + \cdots + \frac{1}{2}u^2 - \frac{1}{2}u \\ \frac{1}{4}u^{21} + \frac{3}{4}u^{20} + \cdots - \frac{1}{2}u^2 + \frac{1}{2}u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{4}u^{21} - \frac{3}{4}u^{20} + \cdots + \frac{1}{2}u^2 - \frac{1}{2}u \\ \frac{1}{4}u^{21} + \frac{3}{4}u^{20} + \cdots - \frac{1}{2}u^2 + \frac{1}{2}u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -\frac{5}{4}u^{21} - \frac{9}{2}u^{20} - 6u^{19} + \frac{13}{4}u^{18} + \frac{41}{2}u^{17} + \frac{61}{4}u^{16} - 38u^{15} - \frac{295}{4}u^{14} + \frac{17}{4}u^{13} + 121u^{12} + \frac{143}{2}u^{11} - \frac{449}{4}u^{10} - \frac{639}{4}u^9 + u^8 + 131u^7 + \frac{319}{4}u^6 - \frac{141}{4}u^5 - \frac{287}{4}u^4 - 36u^3 - \frac{3}{2}u^2 + 16u + \frac{21}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{22} + 9u^{21} + \cdots + 12u + 4$
c_2, c_5, c_6 c_{12}	$u^{22} + 3u^{21} + \cdots + 2u + 2$
c_3, c_4, c_8 c_{10}	$u^{22} - 3u^{21} + \cdots - 2u + 2$
c_7, c_9	$u^{22} - 9u^{21} + \cdots - 12u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9 c_{11}	$y^{22} + 15y^{21} + \cdots - 144y + 16$
c_2, c_3, c_4 c_5, c_6, c_8 c_{10}, c_{12}	$y^{22} - 9y^{21} + \cdots - 12y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.460930 + 0.893438I$ $a = 0.684435 + 0.437574I$ $b = 1.153190 - 0.551408I$	$-4.71017 + 7.32959I$	$-5.39190 - 4.27146I$
$u = -0.460930 - 0.893438I$ $a = 0.684435 - 0.437574I$ $b = 1.153190 + 0.551408I$	$-4.71017 - 7.32959I$	$-5.39190 + 4.27146I$
$u = 0.988250 + 0.370938I$ $a = -1.03648 - 1.21462I$ $b = 1.065270 + 0.737606I$	$4.11009 - 3.23667I$	$2.24331 - 1.56003I$
$u = 0.988250 - 0.370938I$ $a = -1.03648 + 1.21462I$ $b = 1.065270 - 0.737606I$	$4.11009 + 3.23667I$	$2.24331 + 1.56003I$
$u = -0.784487 + 0.839661I$ $a = -0.861171 + 0.910993I$ $b = -1.104870 - 0.465097I$	$-5.88667 - 8.79084I$	$-4.97697 + 9.61140I$
$u = -0.784487 - 0.839661I$ $a = -0.861171 - 0.910993I$ $b = -1.104870 + 0.465097I$	$-5.88667 + 8.79084I$	$-4.97697 - 9.61140I$
$u = 1.104870 + 0.465097I$ $a = -0.25047 + 1.91615I$ $b = 0.784487 - 0.839661I$	$5.88667 + 8.79084I$	$4.97697 - 9.61140I$
$u = 1.104870 - 0.465097I$ $a = -0.25047 - 1.91615I$ $b = 0.784487 + 0.839661I$	$5.88667 - 8.79084I$	$4.97697 + 9.61140I$
$u = 0.969240 + 0.733052I$ $a = -0.502789 - 0.521520I$ $b = -0.727531 + 0.091585I$	$-2.94270 + 5.73222I$	$2.37742 - 7.71227I$
$u = 0.969240 - 0.733052I$ $a = -0.502789 + 0.521520I$ $b = -0.727531 - 0.091585I$	$-2.94270 - 5.73222I$	$2.37742 + 7.71227I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.599304 + 0.453735I$ $a = 0.368330 - 0.822096I$ $b = 0.024798 + 0.642855I$	$0.42065 - 1.46148I$	$2.50513 + 4.69748I$
$u = -0.599304 - 0.453735I$ $a = 0.368330 + 0.822096I$ $b = 0.024798 - 0.642855I$	$0.42065 + 1.46148I$	$2.50513 - 4.69748I$
$u = 0.727531 + 0.091585I$ $a = 0.96246 - 1.93359I$ $b = -0.969240 + 0.733052I$	$2.94270 + 5.73222I$	$-2.37742 - 7.71227I$
$u = 0.727531 - 0.091585I$ $a = 0.96246 + 1.93359I$ $b = -0.969240 - 0.733052I$	$2.94270 - 5.73222I$	$-2.37742 + 7.71227I$
$u = -1.153190 + 0.551408I$ $a = -1.09782 + 0.94427I$ $b = 0.460930 - 0.893438I$	$4.71017 - 7.32959I$	$5.39190 + 4.27146I$
$u = -1.153190 - 0.551408I$ $a = -1.09782 - 0.94427I$ $b = 0.460930 + 0.893438I$	$4.71017 + 7.32959I$	$5.39190 - 4.27146I$
$u = -1.065270 + 0.737606I$ $a = -0.072097 + 0.382579I$ $b = -0.988250 + 0.370938I$	$-4.11009 - 3.23667I$	$-2.24331 - 1.56003I$
$u = -1.065270 - 0.737606I$ $a = -0.072097 - 0.382579I$ $b = -0.988250 - 0.370938I$	$-4.11009 + 3.23667I$	$-2.24331 + 1.56003I$
$u = -1.201910 + 0.626745I$ $a = 0.37093 - 2.17715I$ $b = 1.201910 + 0.626745I$	$-18.7771I$	$0. + 11.50649I$
$u = -1.201910 - 0.626745I$ $a = 0.37093 + 2.17715I$ $b = 1.201910 - 0.626745I$	$18.7771I$	$0. - 11.50649I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.024798 + 0.642855I$ $a = 0.434669 - 0.256752I$ $b = 0.599304 + 0.453735I$	$-0.42065 - 1.46148I$	$-2.50513 + 4.69748I$
$u = -0.024798 - 0.642855I$ $a = 0.434669 + 0.256752I$ $b = 0.599304 - 0.453735I$	$-0.42065 + 1.46148I$	$-2.50513 - 4.69748I$

II. $\boldsymbol{I_2^u = \langle -10u^{15}a - 44u^{15} + \cdots + 23a - 60,\ -6u^{15}a - 7u^{15} + \cdots - 18a - 1,\ u^{16} - u^{15} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} a \\ 0.161290au^{15} + 0.709677u^{15} + \cdots - 0.370968a + 0.967742 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.209677au^{15} + 0.822581u^{15} + \cdots + 0.967742a + 1.25806 \\ -0.145161au^{15} - 0.338710u^{15} + \cdots - 0.0161290a - 0.870968 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.0645161au^{15} + 0.483871u^{15} + \cdots + 0.951613a + 0.387097 \\ -0.145161au^{15} - 0.338710u^{15} + \cdots - 0.0161290a - 0.870968 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.709677au^{15} + 0.177419u^{15} + \cdots - 0.967742a - 0.758065 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{1}{2}u^{14} - \frac{1}{2}u^{13} + \cdots - u + \frac{3}{2} \\ -\frac{1}{2}u^{14} + \frac{1}{2}u^{13} + \cdots + u - \frac{1}{2} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{1}{2}u^{15} + \frac{1}{2}u^{14} + \cdots + u^2 - \frac{3}{2}u \\ \frac{1}{2}u^{15} - \frac{1}{2}u^{14} + \cdots - u^2 + \frac{3}{2}u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{1}{2}u^{15} + \frac{1}{2}u^{14} + \cdots + u^2 - \frac{3}{2}u \\ \frac{1}{2}u^{15} - \frac{1}{2}u^{14} + \cdots - u^2 + \frac{3}{2}u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^{15} - u^{14} - 4u^{13} + 3u^{12} + 12u^{11} - 8u^{10} - 19u^9 + 12u^8 + 22u^7 - 17u^6 - 13u^5 + 13u^4 + 6u^3 - 12u^2 - u + 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{32} + 17u^{31} + \cdots + 44u + 49$
c_2, c_5, c_6 c_{12}	$u^{32} + 3u^{31} + \cdots - 24u - 7$
c_3, c_4, c_8 c_{10}	$(u^{16} + u^{15} + \cdots - 2u - 1)^2$
c_7, c_9	$(u^{16} - 7u^{15} + \cdots - 10u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{32} - 5y^{31} + \cdots - 36432y + 2401$
c_2, c_5, c_6 c_{12}	$y^{32} - 17y^{31} + \cdots - 44y + 49$
c_3, c_4, c_8 c_{10}	$(y^{16} - 7y^{15} + \cdots - 10y + 1)^2$
c_7, c_9	$(y^{16} + 9y^{15} + \cdots - 38y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.788317 + 0.682807I$ $a = -0.595255 - 1.124710I$ $b = -1.117970 + 0.307163I$	$-3.11401 + 4.85157I$	$-1.81585 - 6.53900I$
$u = 0.788317 + 0.682807I$ $a = -0.180662 + 0.492331I$ $b = -0.017837 - 0.600078I$	$-3.11401 + 4.85157I$	$-1.81585 - 6.53900I$
$u = 0.788317 - 0.682807I$ $a = -0.595255 + 1.124710I$ $b = -1.117970 - 0.307163I$	$-3.11401 - 4.85157I$	$-1.81585 + 6.53900I$
$u = 0.788317 - 0.682807I$ $a = -0.180662 - 0.492331I$ $b = -0.017837 + 0.600078I$	$-3.11401 - 4.85157I$	$-1.81585 + 6.53900I$
$u = -0.591599 + 0.705742I$ $a = 0.585126 + 0.858286I$ $b = 1.139730 - 0.392250I$	$-6.35501 - 1.13134I$	$-7.11705 + 2.50814I$
$u = -0.591599 + 0.705742I$ $a = -1.06994 + 1.40604I$ $b = -1.212690 - 0.325469I$	$-6.35501 - 1.13134I$	$-7.11705 + 2.50814I$
$u = -0.591599 - 0.705742I$ $a = 0.585126 - 0.858286I$ $b = 1.139730 + 0.392250I$	$-6.35501 + 1.13134I$	$-7.11705 - 2.50814I$
$u = -0.591599 - 0.705742I$ $a = -1.06994 - 1.40604I$ $b = -1.212690 + 0.325469I$	$-6.35501 + 1.13134I$	$-7.11705 - 2.50814I$
$u = 0.403938 + 0.782402I$ $a = 0.537601 - 0.488130I$ $b = 1.066010 + 0.496333I$	$-2.07023 - 2.39915I$	$-2.79272 + 0.67092I$
$u = 0.403938 + 0.782402I$ $a = 0.323775 + 0.339818I$ $b = 0.239317 - 0.761969I$	$-2.07023 - 2.39915I$	$-2.79272 + 0.67092I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.403938 - 0.782402I$ $a = 0.537601 + 0.488130I$ $b = 1.066010 - 0.496333I$	$-2.07023 + 2.39915I$	$-2.79272 - 0.67092I$
$u = 0.403938 - 0.782402I$ $a = 0.323775 - 0.339818I$ $b = 0.239317 + 0.761969I$	$-2.07023 + 2.39915I$	$-2.79272 - 0.67092I$
$u = -1.043770 + 0.418403I$ $a = -1.09608 + 1.20661I$ $b = 0.907771 - 0.788035I$	$5.51711 - 2.79176I$	$4.71062 + 5.20722I$
$u = -1.043770 + 0.418403I$ $a = -0.25905 - 1.76790I$ $b = 0.598541 + 0.903808I$	$5.51711 - 2.79176I$	$4.71062 + 5.20722I$
$u = -1.043770 - 0.418403I$ $a = -1.09608 - 1.20661I$ $b = 0.907771 + 0.788035I$	$5.51711 + 2.79176I$	$4.71062 - 5.20722I$
$u = -1.043770 - 0.418403I$ $a = -0.25905 + 1.76790I$ $b = 0.598541 - 0.903808I$	$5.51711 + 2.79176I$	$4.71062 - 5.20722I$
$u = 1.034800 + 0.560504I$ $a = 0.091624 - 0.769067I$ $b = -1.296550 - 0.025732I$	$-1.65289 + 4.78532I$	$0.50670 - 3.64348I$
$u = 1.034800 + 0.560504I$ $a = -1.47191 - 1.04844I$ $b = 0.599452 + 0.525377I$	$-1.65289 + 4.78532I$	$0.50670 - 3.64348I$
$u = 1.034800 - 0.560504I$ $a = 0.091624 + 0.769067I$ $b = -1.296550 + 0.025732I$	$-1.65289 - 4.78532I$	$0.50670 + 3.64348I$
$u = 1.034800 - 0.560504I$ $a = -1.47191 + 1.04844I$ $b = 0.599452 - 0.525377I$	$-1.65289 - 4.78532I$	$0.50670 + 3.64348I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.123030 + 0.603482I$ $a = 0.144911 + 0.569988I$ $b = -1.337720 + 0.223376I$	$-2.94636 - 9.16484I$	$-1.24285 + 8.12303I$
$u = -1.123030 + 0.603482I$ $a = -0.02175 - 2.55717I$ $b = 1.013310 + 0.538962I$	$-2.94636 - 9.16484I$	$-1.24285 + 8.12303I$
$u = -1.123030 - 0.603482I$ $a = 0.144911 - 0.569988I$ $b = -1.337720 - 0.223376I$	$-2.94636 + 9.16484I$	$-1.24285 - 8.12303I$
$u = -1.123030 - 0.603482I$ $a = -0.02175 + 2.55717I$ $b = 1.013310 - 0.538962I$	$-2.94636 + 9.16484I$	$-1.24285 - 8.12303I$
$u = -0.703289$ $a = 1.00974 + 1.81316I$ $b = -0.735566 - 0.789413I$	3.64868	-0.727360
$u = -0.703289$ $a = 1.00974 - 1.81316I$ $b = -0.735566 + 0.789413I$	3.64868	-0.727360
$u = 1.184280 + 0.595800I$ $a = -1.039100 - 0.871887I$ $b = 0.316912 + 0.955765I$	$2.69734 + 13.02930I$	$2.99021 - 8.34283I$
$u = 1.184280 + 0.595800I$ $a = 0.19464 + 2.20969I$ $b = 1.122650 - 0.655206I$	$2.69734 + 13.02930I$	$2.99021 - 8.34283I$
$u = 1.184280 - 0.595800I$ $a = -1.039100 + 0.871887I$ $b = 0.316912 - 0.955765I$	$2.69734 - 13.02930I$	$2.99021 + 8.34283I$
$u = 1.184280 - 0.595800I$ $a = 0.19464 - 2.20969I$ $b = 1.122650 + 0.655206I$	$2.69734 - 13.02930I$	$2.99021 + 8.34283I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.397419$ $a = -0.242245$ $b = 1.14297$	-2.60497	2.24920
$u = 0.397419$ $a = 3.93494$ $b = -0.713658$	-2.60497	2.24920

III.
$\boldsymbol{I^u_3 = \langle 2.49\times 10^9 u^{31} + 7.22\times 10^9 u^{30} + \cdots + 4.33\times 10^9 b - 1.90\times 10^{10},\ 4.19\times 10^9 u^{31} + 3.81\times 10^{10} u^{30} + \cdots + 6.06\times 10^{10} a - 1.18\times 10^{11},\ u^{32} + 3u^{31} + \cdots - 24u - 7\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0691424u^{31} - 0.629196u^{30} + \cdots + 5.09515u + 1.95518\\ -0.576210u^{31} - 1.66690u^{30} + \cdots + 13.6541u + 4.38102\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-1.31998u^{31} - 1.85626u^{30} + \cdots + 14.2925u + 3.82399\\ 0.764257u^{31} + 1.39777u^{30} + \cdots - 11.0342u - 4.57071\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.555723u^{31} - 0.458488u^{30} + \cdots + 3.25831u - 0.746714\\ 0.764257u^{31} + 1.39777u^{30} + \cdots - 11.0342u - 4.57071\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-1.96512u^{31} - 3.38280u^{30} + \cdots + 20.7810u + 3.76820\\ -0.492623u^{31} + 0.0921529u^{30} + \cdots - 2.15098u - 3.83210\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.840372u^{31} + 2.64684u^{30} + \cdots - 26.7090u - 12.6433\\ 1.25713u^{31} + 1.93691u^{30} + \cdots - 14.6476u - 5.37793\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.642556u^{31} - 1.97944u^{30} + \cdots + 17.6946u + 9.67358\\ -1.12512u^{31} - 2.16999u^{30} + \cdots + 18.0064u + 6.60742\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-2.47704u^{31} - 5.18246u^{30} + \cdots + 43.4878u + 18.4735\\ -0.0370626u^{31} + 0.414110u^{30} + \cdots - 4.30973u - 1.05809\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{12809110840}{4328817643}u^{31} - \frac{13563282326}{4328817643}u^{30} + \cdots + \frac{52698861274}{4328817643}u + \frac{1562043686}{4328817643}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^{16} + 7u^{15} + \cdots + 10u + 1)^2$
c_2, c_5, c_6 c_{12}	$(u^{16} - u^{15} + \cdots + 2u - 1)^2$
c_3, c_4, c_8 c_{10}	$u^{32} - 3u^{31} + \cdots + 24u - 7$
c_7, c_9	$u^{32} - 17u^{31} + \cdots - 44u + 49$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^{16} + 9y^{15} + \cdots - 38y + 1)^2$
c_2, c_5, c_6 c_{12}	$(y^{16} - 7y^{15} + \cdots - 10y + 1)^2$
c_3, c_4, c_8 c_{10}	$y^{32} - 17y^{31} + \cdots - 44y + 49$
c_7, c_9	$y^{32} - 5y^{31} + \cdots - 36432y + 2401$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.316912+0.955765I$ $a=-0.594910-0.749884I$ $b=-1.184280+0.595800I$	$-2.69734+13.02930I$	$-2.99021-8.34283I$
$u=-0.316912-0.955765I$ $a=-0.594910+0.749884I$ $b=-1.184280-0.595800I$	$-2.69734-13.02930I$	$-2.99021+8.34283I$
$u=\ \ 0.735566+0.789413I$ $a=\ \ 0.610019+0.324151I$ $b=\ \ 0.703289$	-3.64868	$-\ 60.727363+0.10I$
$u=\ \ 0.735566-0.789413I$ $a=\ \ 0.610019-0.324151I$ $b=\ \ 0.703289$	-3.64868	$-\ 60.727363+0.10I$
$u=-0.598541+0.903808I$ $a=\ \ 0.806587-0.526196I$ $b=\ \ 1.043770+0.418403I$	$-5.51711-2.79176I$	$-4.71062+5.20722I$
$u=-0.598541-0.903808I$ $a=\ \ 0.806587+0.526196I$ $b=\ \ 1.043770-0.418403I$	$-5.51711+2.79176I$	$-4.71062-5.20722I$
$u=-1.14297$ $a=\ \ 0.313189$ $b=-0.397419$	2.60497	-2.24920
$u=-1.013310+0.538962I$ $a=\ \ 1.25250-2.16110I$ $b=\ \ 1.123030+0.603482I$	$2.94636-9.16484I$	$1.24285+8.12303I$
$u=-1.013310-0.538962I$ $a=\ \ 1.25250+2.16110I$ $b=\ \ 1.123030-0.603482I$	$2.94636+9.16484I$	$1.24285-8.12303I$
$u=\ \ 1.117970+0.307163I$ $a=\ \ 0.24441-1.68999I$ $b=-0.788317+0.682807I$	$3.11401+4.85157I$	$1.81585-6.53900I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.117970 - 0.307163I$ $a = 0.24441 + 1.68999I$ $b = -0.788317 - 0.682807I$	$3.11401 - 4.85157I$	$1.81585 + 6.53900I$
$u = -1.066010 + 0.496333I$ $a = 0.946001 - 0.739629I$ $b = -0.403938 + 0.782402I$	$2.07023 - 2.39915I$	$2.79272 + 0.67092I$
$u = -1.066010 - 0.496333I$ $a = 0.946001 + 0.739629I$ $b = -0.403938 - 0.782402I$	$2.07023 + 2.39915I$	$2.79272 - 0.67092I$
$u = -0.239317 + 0.761969I$ $a = -0.113323 + 0.767572I$ $b = -0.403938 - 0.782402I$	$2.07023 + 2.39915I$	$2.79272 - 0.67092I$
$u = -0.239317 - 0.761969I$ $a = -0.113323 - 0.767572I$ $b = -0.403938 + 0.782402I$	$2.07023 - 2.39915I$	$2.79272 + 0.67092I$
$u = -0.907771 + 0.788035I$ $a = 0.294677 - 0.312269I$ $b = 1.043770 - 0.418403I$	$-5.51711 + 2.79176I$	$-4.71062 - 5.20722I$
$u = -0.907771 - 0.788035I$ $a = 0.294677 + 0.312269I$ $b = 1.043770 + 0.418403I$	$-5.51711 - 2.79176I$	$-4.71062 + 5.20722I$
$u = -0.599452 + 0.525377I$ $a = -1.42712 + 0.46795I$ $b = -1.034800 + 0.560504I$	$1.65289 + 4.78532I$	$-0.50670 - 3.64348I$
$u = -0.599452 - 0.525377I$ $a = -1.42712 - 0.46795I$ $b = -1.034800 - 0.560504I$	$1.65289 - 4.78532I$	$-0.50670 + 3.64348I$
$u = -1.139730 + 0.392250I$ $a = -1.312740 + 0.374363I$ $b = 0.591599 - 0.705742I$	$6.35501 + 1.13134I$	$7.11705 - 2.50814I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.139730 - 0.392250I$ $a = -1.312740 - 0.374363I$ $b = 0.591599 + 0.705742I$	$6.35501 - 1.13134I$	$7.11705 + 2.50814I$
$u = 1.212690 + 0.325469I$ $a = 0.01241 + 1.85223I$ $b = 0.591599 - 0.705742I$	$6.35501 + 1.13134I$	$7.11705 - 2.50814I$
$u = 1.212690 - 0.325469I$ $a = 0.01241 - 1.85223I$ $b = 0.591599 + 0.705742I$	$6.35501 - 1.13134I$	$7.11705 + 2.50814I$
$u = 0.713658$ $a = -1.79386$ $b = -0.397419$	2.60497	-2.24920
$u = 1.296550 + 0.025732I$ $a = 0.640754 + 1.142520I$ $b = -1.034800 - 0.560504I$	$1.65289 - 4.78532I$	$-0.50670 + 3.64348I$
$u = 1.296550 - 0.025732I$ $a = 0.640754 - 1.142520I$ $b = -1.034800 + 0.560504I$	$1.65289 + 4.78532I$	$-0.50670 - 3.64348I$
$u = -1.122650 + 0.655206I$ $a = -0.59706 + 1.99045I$ $b = -1.184280 - 0.595800I$	$-2.69734 - 13.02930I$	$-2.99021 + 8.34283I$
$u = -1.122650 - 0.655206I$ $a = -0.59706 - 1.99045I$ $b = -1.184280 + 0.595800I$	$-2.69734 + 13.02930I$	$-2.99021 - 8.34283I$
$u = 1.337720 + 0.223376I$ $a = -0.821632 - 1.066950I$ $b = 1.123030 + 0.603482I$	$2.94636 - 9.16484I$	$1.24285 + 8.12303I$
$u = 1.337720 - 0.223376I$ $a = -0.821632 + 1.066950I$ $b = 1.123030 - 0.603482I$	$2.94636 + 9.16484I$	$1.24285 - 8.12303I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.017837 + 0.600078I$ $a = 0.371190 - 0.127131I$ $b = -0.788317 - 0.682807I$	$3.11401 - 4.85157I$	$1.81585 + 6.53900I$
$u = 0.017837 - 0.600078I$ $a = 0.371190 + 0.127131I$ $b = -0.788317 + 0.682807I$	$3.11401 + 4.85157I$	$1.81585 - 6.53900I$

IV. $\boldsymbol{I^u_4 = \langle -4.00\times 10^6 au^{23} - 2.34\times 10^5 u^{23} + \cdots + 6.12\times 10^6 a - 7.13\times 10^5,\ 17866u^{23}a - 3017u^{23} + \cdots + 14683a + 59324,\ u^{24} - u^{23} + \cdots - 4u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} a \\ 1.16226au^{23} + 0.0681008u^{23} + \cdots - 1.77698a + 0.207087 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.56327au^{23} + 0.428803u^{23} + \cdots + 0.00310035a + 2.85834 \\ 0.358934au^{23} + 1.94641u^{23} + \cdots - 0.655544a - 1.58804 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.92220au^{23} + 2.37522u^{23} + \cdots - 0.652444a + 1.27030 \\ 0.358934au^{23} + 1.94641u^{23} + \cdots - 0.655544a - 1.58804 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.0681008au^{23} - 0.726957u^{23} + \cdots - 0.207087a + 3.53863 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1.20509u^{23} - 0.359300u^{22} + \cdots - 1.96025u - 2.45787 \\ -0.633240u^{23} + 0.142840u^{22} + \cdots - 0.100893u - 1.14541 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.418980u^{23} - 0.263544u^{22} + \cdots + 0.0328972u - 3.47744 \\ -1.27357u^{23} - 0.0421915u^{22} + \cdots - 3.65599u - 0.159961 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.909380u^{23} - 0.724960u^{22} + \cdots - 2.64547u - 2.84420 \\ -1.49517u^{23} + 0.576740u^{22} + \cdots - 5.32860u + 0.203987 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{19748}{8177}u^{23} - \frac{17088}{8177}u^{22} + \cdots + \frac{29544}{8177}u + \frac{7314}{8177}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^{24} + 13u^{23} + \cdots + 4u + 1)^2$
c_2, c_5, c_6 c_{12}	$(u^{24} - u^{23} + \cdots - 4u + 1)^2$
c_3, c_4, c_8 c_{10}	$(u^{24} + u^{23} + \cdots + 4u + 1)^2$
c_7, c_9	$(u^{24} - 13u^{23} + \cdots - 4u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9 c_{11}	$(y^{24} - 5y^{23} + \cdots + 48y + 1)^2$
c_2, c_3, c_4 c_5, c_6, c_8 c_{10}, c_{12}	$(y^{24} - 13y^{23} + \cdots - 4y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.961597 + 0.331697I$ $a = -1.14496 + 1.69023I$ $b = -1.189900 + 0.171507I$	$-1.20211I$	$0. + 5.63740I$
$u = -0.961597 + 0.331697I$ $a = 0.84372 - 4.00567I$ $b = 0.961597 + 0.331697I$	$-1.20211I$	$0. + 5.63740I$
$u = -0.961597 - 0.331697I$ $a = -1.14496 - 1.69023I$ $b = -1.189900 - 0.171507I$	$1.20211I$	$0. - 5.63740I$
$u = -0.961597 - 0.331697I$ $a = 0.84372 + 4.00567I$ $b = 0.961597 - 0.331697I$	$1.20211I$	$0. - 5.63740I$
$u = 0.778724 + 0.569322I$ $a = 0.310143 + 0.528976I$ $b = 1.165410 + 0.089633I$	$-3.11509 + 0.09361I$	$-1.99088 + 0.76204I$
$u = 0.778724 + 0.569322I$ $a = 1.36485 + 0.45718I$ $b = -0.313835 - 0.336199I$	$-3.11509 + 0.09361I$	$-1.99088 + 0.76204I$
$u = 0.778724 - 0.569322I$ $a = 0.310143 - 0.528976I$ $b = 1.165410 - 0.089633I$	$-3.11509 - 0.09361I$	$-1.99088 - 0.76204I$
$u = 0.778724 - 0.569322I$ $a = 1.36485 - 0.45718I$ $b = -0.313835 + 0.336199I$	$-3.11509 - 0.09361I$	$-1.99088 - 0.76204I$
$u = 0.285725 + 0.889847I$ $a = -0.370197 + 0.791357I$ $b = -1.104540 - 0.597792I$	$-7.58818I$	$0. + 5.13539I$
$u = 0.285725 + 0.889847I$ $a = -0.047959 - 0.506195I$ $b = -0.285725 + 0.889847I$	$-7.58818I$	$0. + 5.13539I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.285725 - 0.889847I$ $a = -0.370197 - 0.791357I$ $b = -1.104540 + 0.597792I$	$7.58818I$	$0. - 5.13539I$
$u = 0.285725 - 0.889847I$ $a = -0.047959 + 0.506195I$ $b = -0.285725 - 0.889847I$	$7.58818I$	$0. - 5.13539I$
$u = -0.384175 + 0.809134I$ $a = 0.921449 - 0.770004I$ $b = 1.284660 + 0.258642I$	$-5.13898 + 3.88480I$	$-4.80561 - 4.17140I$
$u = -0.384175 + 0.809134I$ $a = -0.239861 - 1.323340I$ $b = -1.057630 + 0.470734I$	$-5.13898 + 3.88480I$	$-4.80561 - 4.17140I$
$u = -0.384175 - 0.809134I$ $a = 0.921449 + 0.770004I$ $b = 1.284660 - 0.258642I$	$-5.13898 - 3.88480I$	$-4.80561 + 4.17140I$
$u = -0.384175 - 0.809134I$ $a = -0.239861 + 1.323340I$ $b = -1.057630 - 0.470734I$	$-5.13898 - 3.88480I$	$-4.80561 + 4.17140I$
$u = 0.564477 + 0.633261I$ $a = 0.516201 + 0.752030I$ $b = 1.165410 - 0.089633I$	$-3.11509 - 0.09361I$	$-1.99088 - 0.76204I$
$u = 0.564477 + 0.633261I$ $a = 0.964141 - 0.773520I$ $b = -0.313835 + 0.336199I$	$-3.11509 - 0.09361I$	$-1.99088 - 0.76204I$
$u = 0.564477 - 0.633261I$ $a = 0.516201 - 0.752030I$ $b = 1.165410 + 0.089633I$	$-3.11509 + 0.09361I$	$-1.99088 + 0.76204I$
$u = 0.564477 - 0.633261I$ $a = 0.964141 + 0.773520I$ $b = -0.313835 - 0.336199I$	$-3.11509 + 0.09361I$	$-1.99088 + 0.76204I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.057630 + 0.470734I$ $a = -1.191510 - 0.152615I$ $b = 0.384175 + 0.809134I$	$5.13898 + 3.88480I$	$4.80561 - 4.17140I$
$u = 1.057630 + 0.470734I$ $a = 0.88866 + 2.35743I$ $b = 0.998981 - 0.600305I$	$5.13898 + 3.88480I$	$4.80561 - 4.17140I$
$u = 1.057630 - 0.470734I$ $a = -1.191510 + 0.152615I$ $b = 0.384175 - 0.809134I$	$5.13898 - 3.88480I$	$4.80561 + 4.17140I$
$u = 1.057630 - 0.470734I$ $a = 0.88866 - 2.35743I$ $b = 0.998981 + 0.600305I$	$5.13898 - 3.88480I$	$4.80561 + 4.17140I$
$u = -0.998981 + 0.600305I$ $a = 0.231465 - 0.425028I$ $b = 1.284660 - 0.258642I$	$-5.13898 - 3.88480I$	$-4.80561 + 4.17140I$
$u = -0.998981 + 0.600305I$ $a = -0.35406 + 2.53701I$ $b = -1.057630 - 0.470734I$	$-5.13898 - 3.88480I$	$-4.80561 + 4.17140I$
$u = -0.998981 - 0.600305I$ $a = 0.231465 + 0.425028I$ $b = 1.284660 + 0.258642I$	$-5.13898 + 3.88480I$	$-4.80561 - 4.17140I$
$u = -0.998981 - 0.600305I$ $a = -0.35406 - 2.53701I$ $b = -1.057630 + 0.470734I$	$-5.13898 + 3.88480I$	$-4.80561 - 4.17140I$
$u = -1.165410 + 0.089633I$ $a = 0.357503 + 1.262090I$ $b = -0.564477 - 0.633261I$	$3.11509 + 0.09361I$	$1.99088 + 0.76204I$
$u = -1.165410 + 0.089633I$ $a = 0.766457 - 1.075240I$ $b = -0.778724 + 0.569322I$	$3.11509 + 0.09361I$	$1.99088 + 0.76204I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.165410 - 0.089633I$ $a = 0.357503 - 1.262090I$ $b = -0.564477 + 0.633261I$	$3.11509 - 0.09361I$	$1.99088 - 0.76204I$
$u = -1.165410 - 0.089633I$ $a = 0.766457 + 1.075240I$ $b = -0.778724 - 0.569322I$	$3.11509 - 0.09361I$	$1.99088 - 0.76204I$
$u = 1.189900 + 0.171507I$ $a = 0.34082 - 1.84891I$ $b = -1.189900 + 0.171507I$	$-1.20211I$	$0. + 5.63740I$
$u = 1.189900 + 0.171507I$ $a = -1.64441 - 1.91838I$ $b = 0.961597 + 0.331697I$	$-1.20211I$	$0. + 5.63740I$
$u = 1.189900 - 0.171507I$ $a = 0.34082 + 1.84891I$ $b = -1.189900 - 0.171507I$	$1.20211I$	$0. - 5.63740I$
$u = 1.189900 - 0.171507I$ $a = -1.64441 + 1.91838I$ $b = 0.961597 - 0.331697I$	$1.20211I$	$0. - 5.63740I$
$u = 1.104540 + 0.597792I$ $a = 0.892047 + 0.655228I$ $b = -0.285725 - 0.889847I$	$7.58818I$	$0. - 5.13539I$
$u = 1.104540 + 0.597792I$ $a = -0.40619 - 2.06983I$ $b = -1.104540 + 0.597792I$	$7.58818I$	$0. - 5.13539I$
$u = 1.104540 - 0.597792I$ $a = 0.892047 - 0.655228I$ $b = -0.285725 + 0.889847I$	$-7.58818I$	$0. + 5.13539I$
$u = 1.104540 - 0.597792I$ $a = -0.40619 + 2.06983I$ $b = -1.104540 - 0.597792I$	$-7.58818I$	$0. + 5.13539I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.284660 + 0.258642I$ $a = -1.06597 + 1.02549I$ $b = 0.998981 - 0.600305I$	$5.13898 + 3.88480I$	$4.80561 - 4.17140I$
$u = -1.284660 + 0.258642I$ $a = -0.02606 - 1.54767I$ $b = 0.384175 + 0.809134I$	$5.13898 + 3.88480I$	$4.80561 - 4.17140I$
$u = -1.284660 - 0.258642I$ $a = -1.06597 - 1.02549I$ $b = 0.998981 + 0.600305I$	$5.13898 - 3.88480I$	$4.80561 + 4.17140I$
$u = -1.284660 - 0.258642I$ $a = -0.02606 + 1.54767I$ $b = 0.384175 - 0.809134I$	$5.13898 - 3.88480I$	$4.80561 + 4.17140I$
$u = 0.313835 + 0.336199I$ $a = -0.69335 + 1.26837I$ $b = -0.564477 + 0.633261I$	$3.11509 - 0.09361I$	$1.99088 - 0.76204I$
$u = 0.313835 + 0.336199I$ $a = -2.21293 + 0.16381I$ $b = -0.778724 - 0.569322I$	$3.11509 - 0.09361I$	$1.99088 - 0.76204I$
$u = 0.313835 - 0.336199I$ $a = -0.69335 - 1.26837I$ $b = -0.564477 - 0.633261I$	$3.11509 + 0.09361I$	$1.99088 + 0.76204I$
$u = 0.313835 - 0.336199I$ $a = -2.21293 - 0.16381I$ $b = -0.778724 + 0.569322I$	$3.11509 + 0.09361I$	$1.99088 + 0.76204I$

V. $\boldsymbol{I_5^u = \langle -2a^3 + 12a^2 + 68b + 43a + 47,\ 2a^4 + 2a^3 + 9a^2 - 8a + 11,\ u + 1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} a \\ 0.0294118a^3 - 0.176471a^2 - 0.632353a - 0.691176 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.205882a^3 + 0.764706a^2 + 0.573529a + 1.16176 \\ -0.235294a^3 - 0.588235a^2 - 0.941176a - 0.470588 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0294118a^3 + 0.176471a^2 - 0.367647a + 0.691176 \\ -0.235294a^3 - 0.588235a^2 - 0.941176a - 0.470588 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0588235a^3 + 0.352941a^2 + 0.264706a - 0.617647 \\ -0.235294a^3 - 0.588235a^2 - 0.941176a + 1.52941 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.323529a^3 - 0.0588235a^2 - 1.04412a + 0.602941 \\ 0.323529a^3 + 0.0588235a^2 + 1.04412a - 1.60294 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 0.323529a^3 + 0.0588235a^2 + 1.04412a + 0.397059 \\ -0.323529a^3 - 0.0588235a^2 - 1.04412a + 0.602941 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.323529a^3 + 0.0588235a^2 + 1.04412a - 0.602941 \\ -0.323529a^3 - 0.0588235a^2 - 1.04412a + 1.60294 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{16}{17}a^3 + \frac{40}{17}a^2 + \frac{64}{17}a + \frac{100}{17}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=\ \ 0.525702+0.830780I$ $b=-0.978318-0.676097I$	$4.11234-5.33349I$	$6.00000+5.29150I$
$u=-1.00000$ $a=\ \ 0.525702-0.830780I$ $b=-0.978318+0.676097I$	$4.11234+5.33349I$	$6.00000-5.29150I$
$u=-1.00000$ $a=-1.02570+2.15366I$ $b=\ \ 0.978318-0.676097I$	$4.11234+5.33349I$	$6.00000-5.29150I$
$u=-1.00000$ $a=-1.02570-2.15366I$ $b=\ \ 0.978318+0.676097I$	$4.11234-5.33349I$	$6.00000+5.29150I$

VI. $\boldsymbol{I_6^u = \langle b+1,\ u^2+2a+u,\ u^4-u^2+2\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{2}u^2 - \frac{1}{2}u \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^2 - \frac{1}{2}u + 1 \\ -1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -\frac{1}{2}u^2 + \frac{1}{2}u \\ -u^3 + u - 1 \end{pmatrix}$$

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

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

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

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.978318 + 0.676097I$ $a = -0.739159 - 0.999486I$ $b = -1.00000$	$-4.11234 + 5.33349I$	$-6.00000 - 5.29150I$
$u = 0.978318 - 0.676097I$ $a = -0.739159 + 0.999486I$ $b = -1.00000$	$-4.11234 - 5.33349I$	$-6.00000 + 5.29150I$
$u = -0.978318 + 0.676097I$ $a = 0.239159 + 0.323389I$ $b = -1.00000$	$-4.11234 - 5.33349I$	$-6.00000 + 5.29150I$
$u = -0.978318 - 0.676097I$ $a = 0.239159 - 0.323389I$ $b = -1.00000$	$-4.11234 + 5.33349I$	$-6.00000 - 5.29150I$

VII. $\boldsymbol{I_7^u = \langle -2a^3 + 14a^2 + 105b + 74a + 69,\ 2a^4 + 4a^3 + 10a^2 + 9,\ u - 1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} a \\ 0.0190476a^3 - 0.133333a^2 - 0.704762a - 0.657143 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} \frac{6}{35}a^3 + \frac{4}{5}a^2 + \frac{23}{35}a + \frac{38}{35} \\ -\frac{4}{21}a^3 - \frac{2}{3}a^2 - \frac{20}{21}a - \frac{3}{7} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0190476a^3 + 0.133333a^2 - 0.295238a + 0.657143 \\ -\frac{4}{21}a^3 - \frac{2}{3}a^2 - \frac{20}{21}a - \frac{3}{7} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0380952a^3 - 0.266667a^2 - 0.409524a + 0.685714 \\ -1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{4}{15}a^3 - \frac{2}{15}a^2 - \frac{2}{15}a + \frac{1}{5} \\ \frac{4}{15}a^3 + \frac{2}{15}a^2 + \frac{2}{15}a - \frac{6}{5} \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -\frac{4}{15}a^3 - \frac{2}{15}a^2 - \frac{2}{15}a - \frac{4}{5} \\ \frac{4}{15}a^3 + \frac{2}{15}a^2 + \frac{2}{15}a - \frac{1}{5} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{4}{15}a^3 - \frac{2}{15}a^2 - \frac{2}{15}a + \frac{1}{5} \\ \frac{4}{15}a^3 + \frac{2}{15}a^2 + \frac{2}{15}a - \frac{6}{5} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_7	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0.207107 + 0.914214I$ $b = -0.707107 - 0.707107I$	4.93480	8.00000
$u = 1.00000$ $a = 0.207107 - 0.914214I$ $b = -0.707107 + 0.707107I$	4.93480	8.00000
$u = 1.00000$ $a = -1.20711 + 1.91421I$ $b = 0.707107 - 0.707107I$	4.93480	8.00000
$u = 1.00000$ $a = -1.20711 - 1.91421I$ $b = 0.707107 + 0.707107I$	4.93480	8.00000

VIII. $I^u_8 = \langle b-1,\ u^3-u^2+2a-u-1,\ u^4+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_8^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.707107 + 0.707107I$ $a = 1.207110 + 0.500000I$ $b = 1.00000$	-4.93480	-8.00000
$u = 0.707107 - 0.707107I$ $a = 1.207110 - 0.500000I$ $b = 1.00000$	-4.93480	-8.00000
$u = -0.707107 + 0.707107I$ $a = -0.207107 - 0.500000I$ $b = 1.00000$	-4.93480	-8.00000
$u = -0.707107 - 0.707107I$ $a = -0.207107 + 0.500000I$ $b = 1.00000$	-4.93480	-8.00000

IX. $I_9^u = \langle b,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_9^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = 0$	3.28987	12.0000

X. $\boldsymbol{I^u_{10} = \langle -2au + 4b - 2a + u + 5,\ 4a^2 - 4a + 17,\ u^2 + 2u + 1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 2u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a \\ \frac{1}{2}au + \frac{1}{2}a - \frac{1}{4}u - \frac{5}{4} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -2u - 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{4}au + \frac{3}{4}a + \frac{17}{8}u + \frac{25}{8} \\ au + a - \frac{1}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{3}{4}au + \frac{7}{4}a + \frac{13}{8}u + \frac{13}{8} \\ au + a - \frac{1}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{5}{4}au + \frac{9}{4}a - \frac{13}{8}u - \frac{21}{8} \\ -2u - 3 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} au + a - \frac{9}{2}u - \frac{11}{2} \\ -au - a + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -au - a + \frac{5}{2}u + \frac{9}{2} \\ au + a + \frac{5}{2}u + \frac{3}{2} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -au - a + \frac{7}{2}u + \frac{9}{2} \\ au + a + \frac{3}{2}u + \frac{3}{2} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{10}	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0.50000 + 2.00000I$ $b = -1.00000$	0	0
$u = -1.00000$ $a = \quad 0.50000 + 2.00000I$ $b = -1.00000$	0	0
$u = -1.00000$ $a = \quad 0.50000 - 2.00000I$ $b = -1.00000$	0	0
$u = -1.00000$ $a = \quad 0.50000 - 2.00000I$ $b = -1.00000$	0	0

XI. $I^u_{11} = \langle b+1,\ u+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component : It cannot be defined for a positive dimension component.

(v) Riley Polynomials at the component : It cannot be defined for a positive dimension component.

(iv) Complex Volumes and Cusp Shapes

Solution to I_{11}^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \cdots$ $a = \cdots$ $b = \cdots$	0	0

XII. $\boldsymbol{I_1^v = \langle a,\ b-1,\ v+1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix}-1\\0\end{pmatrix}$$

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

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

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

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

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

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 1.00000$	-3.28987	-12.0000

XIII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u(u-1)^{13}(u^2+1)^2(u^2-u+2)^2(u^{16}+7u^{15}+\cdots+10u+1)^2$ $\cdot(u^{22}+9u^{21}+\cdots+12u+4)(u^{24}+13u^{23}+\cdots+4u+1)^2$ $\cdot(u^{32}+17u^{31}+\cdots+44u+49)$
c_2, c_6	$u(u-1)^5(u+1)^8(u^4+1)(u^4-u^2+2)(u^{16}-u^{15}+\cdots+2u-1)^2$ $\cdot(u^{22}+3u^{21}+\cdots+2u+2)(u^{24}-u^{23}+\cdots-4u+1)^2$ $\cdot(u^{32}+3u^{31}+\cdots-24u-7)$
c_3, c_8	$u(u-1)^5(u+1)^8(u^4+1)(u^4-u^2+2)(u^{16}+u^{15}+\cdots-2u-1)^2$ $\cdot(u^{22}-3u^{21}+\cdots-2u+2)(u^{24}+u^{23}+\cdots+4u+1)^2$ $\cdot(u^{32}-3u^{31}+\cdots+24u-7)$
c_4, c_{10}	$u(u-1)^8(u+1)^5(u^4+1)(u^4-u^2+2)(u^{16}+u^{15}+\cdots-2u-1)^2$ $\cdot(u^{22}-3u^{21}+\cdots-2u+2)(u^{24}+u^{23}+\cdots+4u+1)^2$ $\cdot(u^{32}-3u^{31}+\cdots+24u-7)$
c_5, c_{12}	$u(u-1)^8(u+1)^5(u^4+1)(u^4-u^2+2)(u^{16}-u^{15}+\cdots+2u-1)^2$ $\cdot(u^{22}+3u^{21}+\cdots+2u+2)(u^{24}-u^{23}+\cdots-4u+1)^2$ $\cdot(u^{32}+3u^{31}+\cdots-24u-7)$
c_7, c_9	$u(u+1)^{13}(u^2+1)^2(u^2+u+2)^2(u^{16}-7u^{15}+\cdots-10u+1)^2$ $\cdot(u^{22}-9u^{21}+\cdots-12u+4)(u^{24}-13u^{23}+\cdots-4u+1)^2$ $\cdot(u^{32}-17u^{31}+\cdots-44u+49)$

XIV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_9 c_{11}	$y(y-1)^{13}(y+1)^4(y^2+3y+4)^2(y^{16}+9y^{15}+\cdots-38y+1)^2$ $\cdot(y^{22}+15y^{21}+\cdots-144y+16)(y^{24}-5y^{23}+\cdots+48y+1)^2$ $\cdot(y^{32}-5y^{31}+\cdots-36432y+2401)$
c_2, c_3, c_4 c_5, c_6, c_8 c_{10}, c_{12}	$y(y-1)^{13}(y^2+1)^2(y^2-y+2)^2(y^{16}-7y^{15}+\cdots-10y+1)^2$ $\cdot(y^{22}-9y^{21}+\cdots-12y+4)(y^{24}-13y^{23}+\cdots-4y+1)^2$ $\cdot(y^{32}-17y^{31}+\cdots-44y+49)$