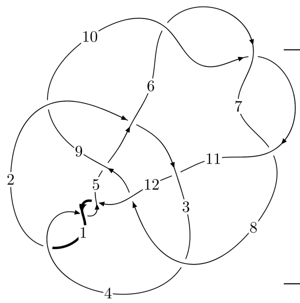
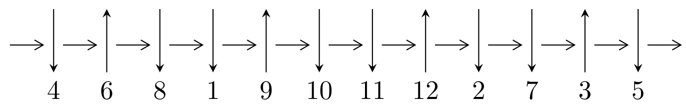
$12a_{0904}$ ($K12a_{0904}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -6.80736 \times 10^{21} u^{48} + 8.45127 \times 10^{22} u^{47} + \cdots + 9.47444 \times 10^{18} b - 6.36777 \times 10^{22}, \\ & -9.78381 \times 10^{22} u^{48} + 1.20822 \times 10^{24} u^{47} + \cdots + 1.42117 \times 10^{20} a - 8.78994 \times 10^{23}, \\ & u^{49} - 14u^{48} + \cdots + 15u - 15 \rangle \end{aligned}$$

$$I_2^u = \langle 15u^{32} + 51u^{31} + \cdots + 4b + 29,\ 29u^{32}a - 51u^{32} + \cdots + 59a - 55,\ u^{33} + 4u^{32} + \cdots + 4u + 1 \rangle$$

$$I_3^u = \langle 212u^{18} + 746u^{17} + \cdots + b - 143,\ 284u^{18} + 993u^{17} + \cdots + a - 188,\ u^{19} + 5u^{18} + \cdots + 2u - 1 \rangle$$

$$I_4^u = \langle b + 1,\ a^4 + 2a^3 - a^2 - 2a + 3,\ u - 1 \rangle$$

$$I_5^u = \langle b - 1,\ a^2 - a - 1,\ u - 1 \rangle$$

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

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 141 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. $I^u_1 = \langle -6.81\times10^{21}u^{48} + 8.45\times10^{22}u^{47} + \cdots + 9.47\times10^{18}b - 6.37\times10^{22},\ -9.78\times10^{22}u^{48} + 1.21\times10^{24}u^{47} + \cdots + 1.42\times10^{20}a - 8.79\times10^{23},\ u^{49} - 14u^{48} + \cdots + 15u - 15\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}688.436u^{48} - 8501.60u^{47} + \cdots - 2513.66u + 6185.02\\718.497u^{48} - 8920.08u^{47} + \cdots - 2579.49u + 6721.00\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}464.635u^{48} - 5815.98u^{47} + \cdots - 1526.92u + 4698.07\\105.044u^{48} - 1301.83u^{47} + \cdots - 294.460u + 1043.20\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-1047.35u^{48} + 13271.5u^{47} + \cdots + 2929.33u - 11815.0\\-455.203u^{48} + 5771.76u^{47} + \cdots + 1265.32u - 5159.50\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-30.0619u^{48} + 418.482u^{47} + \cdots + 65.8259u - 535.978\\718.497u^{48} - 8920.08u^{47} + \cdots - 2579.49u + 6721.00\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-868.372u^{48} + 10931.9u^{47} + \cdots + 2757.74u - 9184.05\\-367.877u^{48} + 4676.46u^{47} + \cdots + 980.968u - 4262.61\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1011.69u^{48} - 12824.6u^{47} + \cdots - 2762.90u + 11491.1\\790.230u^{48} - 10008.2u^{47} + \cdots - 2225.63u + 8882.16\end{pmatrix}$$
$$a_5 = \begin{pmatrix}158.515u^{48} - 2047.43u^{47} + \cdots - 269.436u + 2139.17\\1034.37u^{48} - 13113.2u^{47} + \cdots - 2833.39u + 11749.5\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1596761031765535588970 4}{9474437016710709037}u^{48} - \frac{20005005456202731939921 0}{9474437016710709037}u^{47} + \cdots - \frac{5524029583394810522500 5}{9474437016710709037}u + \frac{16005416640676826661445 2}{9474437016710709037}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{49} - 9u^{48} + \cdots - 75u + 15$
c_2, c_{11}	$u^{49} + 2u^{48} + \cdots - 12u - 3$
c_3, c_9	$u^{49} - 6u^{47} + \cdots - 35u - 11$
c_5, c_8	$u^{49} + 4u^{48} + \cdots - 3u - 1$
c_6, c_7, c_{10}	$u^{49} + 14u^{48} + \cdots + 15u + 15$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{49} + 47y^{48} + \cdots + 3495y - 225$
c_2, c_{11}	$y^{49} - 6y^{48} + \cdots + 120y - 9$
c_3, c_9	$y^{49} - 12y^{48} + \cdots + 1005y - 121$
c_5, c_8	$y^{49} - 42y^{48} + \cdots + 141y - 1$
c_6, c_7, c_{10}	$y^{49} - 54y^{48} + \cdots + 1245y - 225$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.433047 + 0.879529I$ $a = 0.291430 + 0.391337I$ $b = 0.597708 - 0.538193I$	$1.03664 - 4.43730I$	0
$u = -0.433047 - 0.879529I$ $a = 0.291430 - 0.391337I$ $b = 0.597708 + 0.538193I$	$1.03664 + 4.43730I$	0
$u = -0.615786 + 0.757323I$ $a = -0.367363 + 0.678499I$ $b = 0.991856 + 0.906798I$	$0.46282 + 9.75261I$	0
$u = -0.615786 - 0.757323I$ $a = -0.367363 - 0.678499I$ $b = 0.991856 - 0.906798I$	$0.46282 - 9.75261I$	0
$u = -0.590062 + 0.843539I$ $a = 0.443919 - 0.597588I$ $b = -0.998349 - 0.951834I$	$6.6188 + 13.7974I$	0
$u = -0.590062 - 0.843539I$ $a = 0.443919 + 0.597588I$ $b = -0.998349 + 0.951834I$	$6.6188 - 13.7974I$	0
$u = -0.584945 + 0.950148I$ $a = -0.331095 - 0.287711I$ $b = -0.601232 + 0.675624I$	$6.74131 - 7.96419I$	0
$u = -0.584945 - 0.950148I$ $a = -0.331095 + 0.287711I$ $b = -0.601232 - 0.675624I$	$6.74131 + 7.96419I$	0
$u = -0.725664 + 0.466170I$ $a = 0.696467 + 0.277718I$ $b = 1.038160 - 0.508456I$	$7.88801 + 1.77959I$	0
$u = -0.725664 - 0.466170I$ $a = 0.696467 - 0.277718I$ $b = 1.038160 + 0.508456I$	$7.88801 - 1.77959I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.570337 + 0.621546I$ $a = 0.317455 - 0.880503I$ $b = -1.009850 - 0.870823I$	$1.36125 + 4.73215I$	$0. - 6.17410I$
$u = -0.570337 - 0.621546I$ $a = 0.317455 + 0.880503I$ $b = -1.009850 + 0.870823I$	$1.36125 - 4.73215I$	$0. + 6.17410I$
$u = 0.289625 + 0.769569I$ $a = 0.291612 - 0.422229I$ $b = -0.369416 + 0.242506I$	$2.10039 - 1.64969I$	$0. + 3.17462I$
$u = 0.289625 - 0.769569I$ $a = 0.291612 + 0.422229I$ $b = -0.369416 - 0.242506I$	$2.10039 + 1.64969I$	$0. - 3.17462I$
$u = 1.242710 + 0.016595I$ $a = 1.16528 + 1.29445I$ $b = 0.319236 + 0.418793I$	$3.15210 + 0.59306I$	0
$u = 1.242710 - 0.016595I$ $a = 1.16528 - 1.29445I$ $b = 0.319236 - 0.418793I$	$3.15210 - 0.59306I$	0
$u = -0.345736 + 0.608967I$ $a = -0.681550 + 1.075440I$ $b = 1.043400 + 0.803583I$	$8.99740 + 2.00742I$	$3.69703 - 4.15633I$
$u = -0.345736 - 0.608967I$ $a = -0.681550 - 1.075440I$ $b = 1.043400 - 0.803583I$	$8.99740 - 2.00742I$	$3.69703 + 4.15633I$
$u = 1.346140 + 0.047168I$ $a = -0.443611 - 1.201140I$ $b = -0.109835 - 0.592401I$	$-2.79905 + 0.29382I$	0
$u = 1.346140 - 0.047168I$ $a = -0.443611 + 1.201140I$ $b = -0.109835 + 0.592401I$	$-2.79905 - 0.29382I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.350884+0.523383I$ $a=-0.515791-0.746507I$ $b=-0.768093+0.310045I$	$1.91939-0.70956I$	$1.318828+0.280442I$
$u=-0.350884-0.523383I$ $a=-0.515791+0.746507I$ $b=-0.768093-0.310045I$	$1.91939+0.70956I$	$1.318828-0.280442I$
$u=-1.42373$ $a=-0.459235$ $b=-1.58471$	-3.37509	0
$u=-1.43526+0.05673I$ $a=0.470759-0.012708I$ $b=1.64110-0.14774I$	$1.28248+0.95897I$	0
$u=-1.43526-0.05673I$ $a=0.470759+0.012708I$ $b=1.64110+0.14774I$	$1.28248-0.95897I$	0
$u=-1.44574+0.13037I$ $a=-0.285354-0.092403I$ $b=-1.051010-0.180394I$	$-3.51728+4.30782I$	0
$u=-1.44574-0.13037I$ $a=-0.285354+0.092403I$ $b=-1.051010+0.180394I$	$-3.51728-4.30782I$	0
$u=1.44985+0.18119I$ $a=0.29317-2.09746I$ $b=0.90354-1.19821I$	$3.18263-4.79396I$	0
$u=1.44985-0.18119I$ $a=0.29317+2.09746I$ $b=0.90354+1.19821I$	$3.18263+4.79396I$	0
$u=1.47749+0.03978I$ $a=-0.19780+2.30854I$ $b=-0.31875+1.60961I$	$-6.62186-2.92931I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47749 - 0.03978I$ $a = -0.19780 - 2.30854I$ $b = -0.31875 - 1.60961I$	$-6.62186 + 2.92931I$	0
$u = -1.49311$ $a = 0.281474$ $b = 1.04778$	-7.43487	0
$u = 0.479702$ $a = -1.05468$ $b = 0.263235$	-0.947319	-10.8700
$u = 1.54367 + 0.20987I$ $a = -0.37262 + 1.86764I$ $b = -1.11448 + 1.32193I$	$-5.62131 - 7.81657I$	0
$u = 1.54367 - 0.20987I$ $a = -0.37262 - 1.86764I$ $b = -1.11448 - 1.32193I$	$-5.62131 + 7.81657I$	0
$u = 1.56434 + 0.25553I$ $a = 0.27338 - 1.74910I$ $b = 1.17492 - 1.28124I$	$-6.6890 - 13.4975I$	0
$u = 1.56434 - 0.25553I$ $a = 0.27338 + 1.74910I$ $b = 1.17492 + 1.28124I$	$-6.6890 + 13.4975I$	0
$u = 1.56308 + 0.29110I$ $a = -0.17723 + 1.71857I$ $b = -1.20463 + 1.25726I$	$-0.3997 - 17.9676I$	0
$u = 1.56308 - 0.29110I$ $a = -0.17723 - 1.71857I$ $b = -1.20463 - 1.25726I$	$-0.3997 + 17.9676I$	0
$u = -0.359518 + 0.130940I$ $a = 0.10471 - 2.15999I$ $b = -0.436809 - 1.042280I$	$-0.50334 + 2.29820I$	$-0.41049 + 7.94845I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.359518 - 0.130940I$ $a = 0.10471 + 2.15999I$ $b = -0.436809 + 1.042280I$	$-0.50334 - 2.29820I$	$-0.41049 - 7.94845I$
$u = 1.67836 + 0.27620I$ $a = -0.010084 + 0.531761I$ $b = -0.356849 + 0.558291I$	$-5.86325 - 0.66633I$	0
$u = 1.67836 - 0.27620I$ $a = -0.010084 - 0.531761I$ $b = -0.356849 - 0.558291I$	$-5.86325 + 0.66633I$	0
$u = 1.70957 + 0.15400I$ $a = 0.077778 - 0.702600I$ $b = 0.354253 - 0.806660I$	$-1.46119 + 3.06033I$	0
$u = 1.70957 - 0.15400I$ $a = 0.077778 + 0.702600I$ $b = 0.354253 + 0.806660I$	$-1.46119 - 3.06033I$	0
$u = 1.67687 + 0.48704I$ $a = -0.069085 - 0.340576I$ $b = 0.328404 - 0.384973I$	$-2.14546 - 4.63461I$	0
$u = 1.67687 - 0.48704I$ $a = -0.069085 + 0.340576I$ $b = 0.328404 + 0.384973I$	$-2.14546 + 4.63461I$	0
$u = 0.133847 + 0.185778I$ $a = -4.35816 + 3.14536I$ $b = 1.083580 + 0.119708I$	$6.62641 - 0.11786I$	$5.86559 - 0.14016I$
$u = 0.133847 - 0.185778I$ $a = -4.35816 - 3.14536I$ $b = 1.083580 - 0.119708I$	$6.62641 + 0.11786I$	$5.86559 + 0.14016I$

II. $\boldsymbol{I_2^u = \langle 15u^{32} + 51u^{31} + \cdots + 4b + 29,\ 29u^{32}a - 51u^{32} + \cdots + 59a - 55,\ u^{33} + 4u^{32} + \cdots + 4u + 1\rangle}$

(i) Arc colorings

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} a \\ -3.75000u^{32} - 12.7500u^{31} + \cdots - 14.2500u - 7.25000 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{32} + 5u^{31} + \cdots + a + 4 \\ -5.75000u^{32} - 16.7500u^{31} + \cdots - 17.2500u - 7.25000 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{15}{4}u^{32}a + 7u^{32} + \cdots + \frac{29}{4}a + 4 \\ 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{15}{4}u^{32} + \frac{51}{4}u^{31} + \cdots + a + \frac{29}{4} \\ -3.75000u^{32} - 12.7500u^{31} + \cdots - 14.2500u - 7.25000 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{4}u^{32}a + \frac{23}{4}u^{32} + \cdots + \frac{5}{4}a + \frac{13}{4} \\ \frac{1}{4}u^{32}a + u^{32} + \cdots + \frac{1}{4}a + \frac{3}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{3}{4}u^{32}a - \frac{27}{4}u^{32} + \cdots + \frac{7}{4}a - \frac{19}{4} \\ \frac{11}{4}u^{32}a + \frac{31}{4}u^{31}a + \cdots + \frac{13}{4}a - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{2}u^{31}a + \frac{27}{4}u^{32} + \cdots - \frac{1}{2}a + \frac{15}{4} \\ -\frac{5}{4}u^{32}a + \frac{1}{4}u^{32} + \cdots - \frac{3}{4}a + \frac{5}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{183}{4}u^{32} - \frac{515}{4}u^{31} + \cdots - \frac{397}{4}u - \frac{289}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$(u^{33} + 7u^{32} + \cdots + 6u + 2)^2$
c_2, c_{11}	$u^{66} - 3u^{65} + \cdots - 422u + 59$
c_3, c_9	$u^{66} - 5u^{64} + \cdots - 7821u + 1213$
c_5, c_8	$u^{66} + 2u^{65} + \cdots - 195u - 107$
c_6, c_7, c_{10}	$(u^{33} - 4u^{32} + \cdots + 4u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y^{33} + 33y^{32} + \cdots + 84y - 4)^2$
c_2, c_{11}	$y^{66} + 29y^{65} + \cdots + 16970y + 3481$
c_3, c_9	$y^{66} - 10y^{65} + \cdots - 30663517y + 1471369$
c_5, c_8	$y^{66} - 2y^{65} + \cdots - 846945y + 11449$
c_6, c_7, c_{10}	$(y^{33} - 34y^{32} + \cdots + 20y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.688220 + 0.730433I$ $a = 0.679420 + 0.177115I$ $b = -0.390156 + 0.737285I$	$1.96145 - 1.06750I$	$-5.04121 - 0.08113I$
$u = 0.688220 + 0.730433I$ $a = 0.070121 - 0.168584I$ $b = -0.172925 - 0.537570I$	$1.96145 - 1.06750I$	$-5.04121 - 0.08113I$
$u = 0.688220 - 0.730433I$ $a = 0.679420 - 0.177115I$ $b = -0.390156 - 0.737285I$	$1.96145 + 1.06750I$	$-5.04121 + 0.08113I$
$u = 0.688220 - 0.730433I$ $a = 0.070121 + 0.168584I$ $b = -0.172925 + 0.537570I$	$1.96145 + 1.06750I$	$-5.04121 + 0.08113I$
$u = 0.480050 + 0.852324I$ $a = 0.708758 + 0.499855I$ $b = -0.697285 + 0.596564I$	$2.63544 - 4.29581I$	$-2.69433 + 7.14256I$
$u = 0.480050 + 0.852324I$ $a = -0.267358 - 0.076310I$ $b = 0.280856 - 1.024980I$	$2.63544 - 4.29581I$	$-2.69433 + 7.14256I$
$u = 0.480050 - 0.852324I$ $a = 0.708758 - 0.499855I$ $b = -0.697285 - 0.596564I$	$2.63544 + 4.29581I$	$-2.69433 - 7.14256I$
$u = 0.480050 - 0.852324I$ $a = -0.267358 + 0.076310I$ $b = 0.280856 + 1.024980I$	$2.63544 + 4.29581I$	$-2.69433 - 7.14256I$
$u = 0.554324 + 0.780221I$ $a = -0.574660 - 0.354350I$ $b = 0.531601 - 0.665036I$	$-1.79727 - 2.60552I$	$-13.6142 + 5.4970I$
$u = 0.554324 + 0.780221I$ $a = 0.202674 + 0.210448I$ $b = -0.201059 + 0.756653I$	$-1.79727 - 2.60552I$	$-13.6142 + 5.4970I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.554324 - 0.780221I$ $a = -0.574660 + 0.354350I$ $b = 0.531601 + 0.665036I$	$-1.79727 + 2.60552I$	$-13.6142 - 5.4970I$
$u = 0.554324 - 0.780221I$ $a = 0.202674 - 0.210448I$ $b = -0.201059 - 0.756653I$	$-1.79727 + 2.60552I$	$-13.6142 - 5.4970I$
$u = 1.104540 + 0.315968I$ $a = 1.345920 + 0.217380I$ $b = 0.894831 + 0.743190I$	$4.76058 + 1.84769I$	$-1.10325 - 3.83345I$
$u = 1.104540 + 0.315968I$ $a = 0.491156 + 0.257639I$ $b = -1.047590 - 0.033948I$	$4.76058 + 1.84769I$	$-1.10325 - 3.83345I$
$u = 1.104540 - 0.315968I$ $a = 1.345920 - 0.217380I$ $b = 0.894831 - 0.743190I$	$4.76058 - 1.84769I$	$-1.10325 + 3.83345I$
$u = 1.104540 - 0.315968I$ $a = 0.491156 - 0.257639I$ $b = -1.047590 + 0.033948I$	$4.76058 - 1.84769I$	$-1.10325 + 3.83345I$
$u = 0.790477 + 0.166609I$ $a = -0.492307 - 0.049240I$ $b = 1.009260 - 0.056854I$	$-0.369987 + 0.040866I$	$-12.86224 - 3.13604I$
$u = 0.790477 + 0.166609I$ $a = -1.58891 + 0.20558I$ $b = -0.621928 - 0.174825I$	$-0.369987 + 0.040866I$	$-12.86224 - 3.13604I$
$u = 0.790477 - 0.166609I$ $a = -0.492307 + 0.049240I$ $b = 1.009260 + 0.056854I$	$-0.369987 - 0.040866I$	$-12.86224 + 3.13604I$
$u = 0.790477 - 0.166609I$ $a = -1.58891 - 0.20558I$ $b = -0.621928 + 0.174825I$	$-0.369987 - 0.040866I$	$-12.86224 + 3.13604I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.369130 + 0.132853I$ $a = -0.09548 - 1.97539I$ $b = -0.224121 - 0.177252I$	$3.24445 + 7.69327I$	$0. - 7.24679I$
$u = -1.369130 + 0.132853I$ $a = 0.24344 + 2.54788I$ $b = 0.98575 + 1.95064I$	$3.24445 + 7.69327I$	$0. - 7.24679I$
$u = -1.369130 - 0.132853I$ $a = -0.09548 + 1.97539I$ $b = -0.224121 + 0.177252I$	$3.24445 - 7.69327I$	$0. + 7.24679I$
$u = -1.369130 - 0.132853I$ $a = 0.24344 - 2.54788I$ $b = 0.98575 - 1.95064I$	$3.24445 - 7.69327I$	$0. + 7.24679I$
$u = 0.091448 + 0.602007I$ $a = -0.482645 - 0.043727I$ $b = 0.96667 - 1.18249I$	$7.79919 - 5.26371I$	$6.25290 + 5.11827I$
$u = 0.091448 + 0.602007I$ $a = 1.66371 + 1.56662I$ $b = -0.743717 - 0.076925I$	$7.79919 - 5.26371I$	$6.25290 + 5.11827I$
$u = 0.091448 - 0.602007I$ $a = -0.482645 + 0.043727I$ $b = 0.96667 + 1.18249I$	$7.79919 + 5.26371I$	$6.25290 - 5.11827I$
$u = 0.091448 - 0.602007I$ $a = 1.66371 - 1.56662I$ $b = -0.743717 + 0.076925I$	$7.79919 + 5.26371I$	$6.25290 - 5.11827I$
$u = 0.295713 + 0.495961I$ $a = 0.445625 + 0.069876I$ $b = -0.983847 + 0.868746I$	$1.12370 - 2.92332I$	$1.70980 + 9.60306I$
$u = 0.295713 + 0.495961I$ $a = -0.32255 - 1.99227I$ $b = 0.538393 - 0.020450I$	$1.12370 - 2.92332I$	$1.70980 + 9.60306I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.295713 - 0.495961I$ $a = 0.445625 - 0.069876I$ $b = -0.983847 - 0.868746I$	$1.12370 + 2.92332I$	$1.70980 - 9.60306I$
$u = 0.295713 - 0.495961I$ $a = -0.32255 + 1.99227I$ $b = 0.538393 + 0.020450I$	$1.12370 + 2.92332I$	$1.70980 - 9.60306I$
$u = -1.46348 + 0.10101I$ $a = 0.44263 + 1.42953I$ $b = -0.025005 + 0.390093I$	$-4.66470 + 4.86669I$	0
$u = -1.46348 + 0.10101I$ $a = -0.82750 - 1.78327I$ $b = -1.49894 - 1.50915I$	$-4.66470 + 4.86669I$	0
$u = -1.46348 - 0.10101I$ $a = 0.44263 - 1.42953I$ $b = -0.025005 - 0.390093I$	$-4.66470 - 4.86669I$	0
$u = -1.46348 - 0.10101I$ $a = -0.82750 + 1.78327I$ $b = -1.49894 + 1.50915I$	$-4.66470 - 4.86669I$	0
$u = 1.47320 + 0.07823I$ $a = -0.53451 - 1.56310I$ $b = 0.852179 - 0.743106I$	$-0.43816 - 7.73793I$	0
$u = 1.47320 + 0.07823I$ $a = -1.21527 - 1.81095I$ $b = -1.54751 - 1.85479I$	$-0.43816 - 7.73793I$	0
$u = 1.47320 - 0.07823I$ $a = -0.53451 + 1.56310I$ $b = 0.852179 + 0.743106I$	$-0.43816 + 7.73793I$	0
$u = 1.47320 - 0.07823I$ $a = -1.21527 + 1.81095I$ $b = -1.54751 + 1.85479I$	$-0.43816 + 7.73793I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47653 + 0.02582I$ $a = 0.25574 + 2.09823I$ $b = -0.519028 + 1.042790I$	$-7.05002 - 3.03427I$	0
$u = 1.47653 + 0.02582I$ $a = 0.66250 + 2.39252I$ $b = 0.93805 + 2.16023I$	$-7.05002 - 3.03427I$	0
$u = 1.47653 - 0.02582I$ $a = 0.25574 - 2.09823I$ $b = -0.519028 - 1.042790I$	$-7.05002 + 3.03427I$	0
$u = 1.47653 - 0.02582I$ $a = 0.66250 - 2.39252I$ $b = 0.93805 - 2.16023I$	$-7.05002 + 3.03427I$	0
$u = -1.50178$ $a = 1.12928$ $b = 1.75374$	-7.38654	0
$u = -1.50178$ $a = -0.528148$ $b = 0.504772$	-7.38654	0
$u = -0.379813 + 0.219018I$ $a = 0.941104 + 0.583452I$ $b = -0.68195 + 1.37498I$	$5.69458 + 6.59044I$	$-4.79082 - 11.54571I$
$u = -0.379813 + 0.219018I$ $a = -3.39928 + 1.92428I$ $b = 0.478064 + 0.766315I$	$5.69458 + 6.59044I$	$-4.79082 - 11.54571I$
$u = -0.379813 - 0.219018I$ $a = 0.941104 - 0.583452I$ $b = -0.68195 - 1.37498I$	$5.69458 - 6.59044I$	$-4.79082 + 11.54571I$
$u = -0.379813 - 0.219018I$ $a = -3.39928 - 1.92428I$ $b = 0.478064 - 0.766315I$	$5.69458 - 6.59044I$	$-4.79082 + 11.54571I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.53334 + 0.30744I$ $a = \ \ 0.112187 - 1.334420I$ $b = -0.953189 - 0.799052I$	$-3.91413 + 8.53917I$	0
$u = -1.53334 + 0.30744I$ $a = -0.25894 + 1.45981I$ $b = \ \ 0.55378 + 1.45773I$	$-3.91413 + 8.53917I$	0
$u = -1.53334 - 0.30744I$ $a = \ \ 0.112187 + 1.334420I$ $b = -0.953189 + 0.799052I$	$-3.91413 - 8.53917I$	0
$u = -1.53334 - 0.30744I$ $a = -0.25894 - 1.45981I$ $b = \ \ 0.55378 - 1.45773I$	$-3.91413 - 8.53917I$	0
$u = -1.54739 + 0.26541I$ $a = -0.039423 + 1.371380I$ $b = \ \ 0.908815 + 1.009530I$	$-8.68011 + 6.44112I$	0
$u = -1.54739 + 0.26541I$ $a = \ \ 0.158864 - 1.400900I$ $b = -0.478500 - 1.253630I$	$-8.68011 + 6.44112I$	0
$u = -1.54739 - 0.26541I$ $a = -0.039423 - 1.371380I$ $b = \ \ 0.908815 - 1.009530I$	$-8.68011 - 6.44112I$	0
$u = -1.54739 - 0.26541I$ $a = \ \ 0.158864 + 1.400900I$ $b = -0.478500 + 1.253630I$	$-8.68011 - 6.44112I$	0
$u = -1.56285 + 0.20190I$ $a = -0.071729 + 1.298250I$ $b = \ \ 0.153519 + 1.034830I$	$-5.52357 + 4.35615I$	0
$u = -1.56285 + 0.20190I$ $a = -0.137539 - 1.379700I$ $b = -1.05103 - 1.18343I$	$-5.52357 + 4.35615I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.56285 - 0.20190I$ $a = -0.071729 - 1.298250I$ $b = 0.153519 - 1.034830I$	$-5.52357 - 4.35615I$	0
$u = -1.56285 - 0.20190I$ $a = -0.137539 + 1.379700I$ $b = -1.05103 + 1.18343I$	$-5.52357 - 4.35615I$	0
$u = -0.347602 + 0.080852I$ $a = -0.655893 - 1.111460I$ $b = 0.36827 - 1.44393I$	$-0.95777 + 2.63463I$	$-16.6257 - 9.2457I$
$u = -0.347602 + 0.080852I$ $a = 2.23956 - 3.37366I$ $b = -0.251523 - 0.844773I$	$-0.95777 + 2.63463I$	$-16.6257 - 9.2457I$
$u = -0.347602 - 0.080852I$ $a = -0.655893 + 1.111460I$ $b = 0.36827 + 1.44393I$	$-0.95777 - 2.63463I$	$-16.6257 + 9.2457I$
$u = -0.347602 - 0.080852I$ $a = 2.23956 + 3.37366I$ $b = -0.251523 + 0.844773I$	$-0.95777 - 2.63463I$	$-16.6257 + 9.2457I$

III. $I_3^u = \langle 212u^{18} + 746u^{17} + \cdots + b - 143,\ 284u^{18} + 993u^{17} + \cdots + a - 188,\ u^{19} + 5u^{18} + \cdots + 2u - 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -284u^{18} - 993u^{17} + \cdots - 507u + 188 \\ -212u^{18} - 746u^{17} + \cdots - 382u + 143 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -125u^{18} - 439u^{17} + \cdots - 231u + 84 \\ -121u^{18} - 418u^{17} + \cdots - 206u + 78 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -8u^{18} - 28u^{17} + \cdots - 9u + 2 \\ -8u^{18} - 27u^{17} + \cdots - 13u + 4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -72u^{18} - 247u^{17} + \cdots - 125u + 45 \\ -212u^{18} - 746u^{17} + \cdots - 382u + 143 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 113u^{18} + 413u^{17} + \cdots + 225u - 85 \\ 42u^{18} + 157u^{17} + \cdots + 91u - 33 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -7u^{18} - 28u^{17} + \cdots - 14u + 6 \\ -u^{18} - 4u^{17} + \cdots + 6u^2 - u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -24u^{18} - 90u^{17} + \cdots - 53u + 19 \\ -6u^{18} - 23u^{17} + \cdots - 18u + 6 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $=$
$481u^{18}+1689u^{17}-2037u^{16}-11897u^{15}+396u^{14}+29834u^{13}+893u^{12}-33357u^{11}+32607u^{10}+32616u^9-71759u^8-37583u^7+31476u^6-11450u^5-17741u^4+2407u^3-1866u^2+897u-326$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{19} - 6u^{18} + \cdots + 26u - 5$
c_2, c_{11}	$u^{19} + u^{18} + \cdots - u - 1$
c_3, c_9	$u^{19} - u^{18} + \cdots - 2u + 1$
c_4	$u^{19} + 6u^{18} + \cdots + 26u + 5$
c_5, c_8	$u^{19} - 3u^{18} + \cdots + 2u - 1$
c_6, c_7	$u^{19} + 5u^{18} + \cdots + 2u - 1$
c_{10}	$u^{19} - 5u^{18} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{19} + 18y^{18} + \cdots - 274y - 25$
c_2, c_{11}	$y^{19} + 17y^{18} + \cdots - y - 1$
c_3, c_9	$y^{19} + 3y^{18} + \cdots + 4y - 1$
c_5, c_8	$y^{19} + y^{18} + \cdots + 2y^2 - 1$
c_6, c_7, c_{10}	$y^{19} - 23y^{18} + \cdots - 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.498057 + 1.043760I$ $a = 0.283992 + 0.099100I$ $b = -0.303973 + 0.557666I$	$1.56873 - 2.00654I$	$-9.89274 + 9.93240I$
$u = 0.498057 - 1.043760I$ $a = 0.283992 - 0.099100I$ $b = -0.303973 - 0.557666I$	$1.56873 + 2.00654I$	$-9.89274 - 9.93240I$
$u = 0.451443 + 0.518954I$ $a = -0.557415 - 0.674007I$ $b = 0.450465 - 0.810572I$	$-0.60471 - 2.88406I$	$-5.24973 + 8.32085I$
$u = 0.451443 - 0.518954I$ $a = -0.557415 + 0.674007I$ $b = 0.450465 + 0.810572I$	$-0.60471 + 2.88406I$	$-5.24973 - 8.32085I$
$u = -1.401300 + 0.103496I$ $a = 0.31694 - 2.44376I$ $b = -0.28108 - 1.40718I$	$1.85698 + 7.44641I$	$-5.10787 - 5.92651I$
$u = -1.401300 - 0.103496I$ $a = 0.31694 + 2.44376I$ $b = -0.28108 + 1.40718I$	$1.85698 - 7.44641I$	$-5.10787 + 5.92651I$
$u = -1.46931 + 0.03702I$ $a = 0.02353 + 2.55490I$ $b = 0.19956 + 1.75659I$	$-6.25421 + 3.36017I$	$-1.28351 - 7.80982I$
$u = -1.46931 - 0.03702I$ $a = 0.02353 - 2.55490I$ $b = 0.19956 - 1.75659I$	$-6.25421 - 3.36017I$	$-1.28351 + 7.80982I$
$u = -1.52868 + 0.21520I$ $a = 0.01958 + 1.60043I$ $b = 0.723515 + 1.210650I$	$-7.27853 + 5.82567I$	$-6.96095 - 4.30133I$
$u = -1.52868 - 0.21520I$ $a = 0.01958 - 1.60043I$ $b = 0.723515 - 1.210650I$	$-7.27853 - 5.82567I$	$-6.96095 + 4.30133I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.55777 + 0.32580I$ $a = 0.130960 - 1.131790I$ $b = -0.680192 - 0.953517I$	$-5.16950 + 6.79128I$	$-6.65966 - 5.16941I$
$u = -1.55777 - 0.32580I$ $a = 0.130960 + 1.131790I$ $b = -0.680192 + 0.953517I$	$-5.16950 - 6.79128I$	$-6.65966 + 5.16941I$
$u = 1.59297 + 0.30534I$ $a = 0.1137980 - 0.0630215I$ $b = 0.539987 - 0.108988I$	$-1.95391 - 4.34795I$	$-1.36568 - 2.53861I$
$u = 1.59297 - 0.30534I$ $a = 0.1137980 + 0.0630215I$ $b = 0.539987 + 0.108988I$	$-1.95391 + 4.34795I$	$-1.36568 + 2.53861I$
$u = -0.141191 + 0.350131I$ $a = 1.98607 - 1.57595I$ $b = -0.088324 + 0.883311I$	$6.39041 - 5.95192I$	$2.01493 + 4.29419I$
$u = -0.141191 - 0.350131I$ $a = 1.98607 + 1.57595I$ $b = -0.088324 - 0.883311I$	$6.39041 + 5.95192I$	$2.01493 - 4.29419I$
$u = 1.62979$ $a = -0.128710$ $b = -0.551653$	-5.85643	-10.0770
$u = 0.240888 + 0.205962I$ $a = -1.75310 - 2.18070I$ $b = 0.215866 - 1.094370I$	$-0.43147 - 2.68369I$	$3.04354 + 11.76064I$
$u = 0.240888 - 0.205962I$ $a = -1.75310 + 2.18070I$ $b = 0.215866 + 1.094370I$	$-0.43147 + 2.68369I$	$3.04354 - 11.76064I$

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

(i) Arc colorings

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

(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_{12}	$(u^2+2)^2$
c_2, c_6, c_7 c_{11}	$(u-1)^4$
c_3, c_9	$u^4+2u^3-u^2-2u+3$
c_5, c_8	$u^4-2u^3-u^2+2u+3$
c_{10}	$(u+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y+2)^4$
c_2, c_6, c_7 c_{10}, c_{11}	$(y-1)^4$
c_3, c_5, c_8 c_9	$y^4 - 6y^3 + 15y^2 - 10y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0.752489 + 0.564561I$ $b = -1.00000$	4.93480	0
$u = 1.00000$ $a = 0.752489 - 0.564561I$ $b = -1.00000$	4.93480	0
$u = 1.00000$ $a = -1.75249 + 0.56456I$ $b = -1.00000$	4.93480	0
$u = 1.00000$ $a = -1.75249 - 0.56456I$ $b = -1.00000$	4.93480	0

V. $\boldsymbol{I_5^u = \langle b-1,\ a^2-a-1,\ u-1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.618034$ $b = 1.00000$	0	10.0000
$u = 1.00000$ $a = 1.61803$ $b = 1.00000$	0	10.0000

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

(i) Arc colorings

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

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

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

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

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

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

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

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

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

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

$a_9 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

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

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^3(u^2+2)^2(u^{19}-6u^{18}+\cdots+26u-5)(u^{33}+7u^{32}+\cdots+6u+2)^2$ $\cdot(u^{49}-9u^{48}+\cdots-75u+15)$
c_2, c_{11}	$((u-1)^5)(u+1)^2(u^{19}+u^{18}+\cdots-u-1)(u^{49}+2u^{48}+\cdots-12u-3)$ $\cdot(u^{66}-3u^{65}+\cdots-422u+59)$
c_3, c_9	$(u-1)(u^2-u-1)(u^4+2u^3+\cdots-2u+3)(u^{19}-u^{18}+\cdots-2u+1)$ $\cdot(u^{49}-6u^{47}+\cdots-35u-11)(u^{66}-5u^{64}+\cdots-7821u+1213)$
c_4	$u^3(u^2+2)^2(u^{19}+6u^{18}+\cdots+26u+5)(u^{33}+7u^{32}+\cdots+6u+2)^2$ $\cdot(u^{49}-9u^{48}+\cdots-75u+15)$
c_5, c_8	$(u-1)(u^2-u-1)(u^4-2u^3+\cdots+2u+3)(u^{19}-3u^{18}+\cdots+2u-1)$ $\cdot(u^{49}+4u^{48}+\cdots-3u-1)(u^{66}+2u^{65}+\cdots-195u-107)$
c_6, c_7	$u(u-1)^6(u^{19}+5u^{18}+\cdots+2u-1)(u^{33}-4u^{32}+\cdots+4u-1)^2$ $\cdot(u^{49}+14u^{48}+\cdots+15u+15)$
c_{10}	$u(u+1)^6(u^{19}-5u^{18}+\cdots+2u+1)(u^{33}-4u^{32}+\cdots+4u-1)^2$ $\cdot(u^{49}+14u^{48}+\cdots+15u+15)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^3(y+2)^4(y^{19}+18y^{18}+\cdots-274y-25)$ $\cdot((y^{33}+33y^{32}+\cdots+84y-4)^2)(y^{49}+47y^{48}+\cdots+3495y-225)$
c_2, c_{11}	$((y-1)^7)(y^{19}+17y^{18}+\cdots-y-1)(y^{49}-6y^{48}+\cdots+120y-9)$ $\cdot(y^{66}+29y^{65}+\cdots+16970y+3481)$
c_3, c_9	$(y-1)(y^2-3y+1)(y^4-6y^3+\cdots-10y+9)(y^{19}+3y^{18}+\cdots+4y-1)$ $\cdot(y^{49}-12y^{48}+\cdots+1005y-121)$ $\cdot(y^{66}-10y^{65}+\cdots-30663517y+1471369)$
c_5, c_8	$(y-1)(y^2-3y+1)(y^4-6y^3+\cdots-10y+9)(y^{19}+y^{18}+\cdots+2y^2-1)$ $\cdot(y^{49}-42y^{48}+\cdots+141y-1)(y^{66}-2y^{65}+\cdots-846945y+11449)$
c_6, c_7, c_{10}	$y(y-1)^6(y^{19}-23y^{18}+\cdots-4y-1)(y^{33}-34y^{32}+\cdots+20y-1)^2$ $\cdot(y^{49}-54y^{48}+\cdots+1245y-225)$