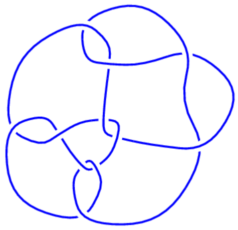
$11a_{17}$ $(K11a_{17})$



[1]

Arc Sequences

$$\to \underset{4}{\downarrow} \to \underset{1}{\downarrow} \to \underset{6}{\downarrow} \to \underset{2}{\downarrow} \to \underset{8}{\uparrow} \to \underset{3}{\downarrow} \to \underset{10}{\downarrow} \to \underset{5}{\uparrow} \to \underset{11}{\uparrow} \to \underset{7}{\downarrow} \to \underset{9}{\uparrow} \to$$

Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{2} I_i^u \bigcap I_1^v$$

$$I_1^u = \langle a^6 + 2a^5 + 3a^4 - a^2 + a + 1,\ a^5 + 2a^4 + 3a^3 + b - 2a + 1,\ -6a^5 - 9a^4 - 16a^3 + 3a^2 - 3a + 5u - 7\rangle$$

$$\begin{aligned} I_2^u = \langle &u^{71} - 3u^{70} + \cdots - 72u + 16, \\ &-3.96590 \times 10^{111}u^{70} + 1.09500 \times 10^{112}u^{69} + \cdots + 3.39389 \times 10^{112}a + 2.08337 \times 10^{113}, \\ &1.55843 \times 10^{112}u^{70} - 2.60201 \times 10^{112}u^{69} + \cdots + 6.78779 \times 10^{112}b + 5.34938 \times 10^{113}\rangle \end{aligned}$$

$$I_1^v = \langle b + v + 2,\ b^4 + 3b^3 + b^2 - 2b + 1,\ a\rangle$$

There are 3 irreducible components with 81 representations.

[1]The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I^u_1 = \langle a^6+2a^5+3a^4-a^2+a+1,\ a^5+2a^4+3a^3+b-2a+1,\ -6a^5-9a^4-16a^3+3a^2-3a+5u-7\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ \frac{6}{5}a^5+\frac{9}{5}a^4+\cdots+\frac{3}{5}a+\frac{7}{5} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} a \\ -a^5-2a^4-3a^3+2a-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{4}{5}a^5-\frac{6}{5}a^4+\cdots+\frac{3}{5}a-\frac{3}{5} \\ -\frac{4}{5}a^5-\frac{6}{5}a^4+\cdots+\frac{3}{5}a-\frac{3}{5} \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} a \\ -\frac{6}{5}a^5-\frac{9}{5}a^4+\cdots+\frac{2}{5}a-\frac{7}{5} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{6}{5}a^5+\frac{9}{5}a^4+\cdots+\frac{3}{5}a+\frac{7}{5} \\ \frac{6}{5}a^5+\frac{9}{5}a^4+\cdots+\frac{3}{5}a+\frac{7}{5} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{2}{5}a^5+\frac{3}{5}a^4+\cdots+\frac{1}{5}a-\frac{1}{5} \\ \frac{2}{5}a^5+\frac{3}{5}a^4+\cdots+\frac{1}{5}a-\frac{6}{5} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{6}{5}a^5+\frac{9}{5}a^4+\cdots+\frac{3}{5}a+\frac{7}{5} \\ \frac{6}{5}a^5+\frac{9}{5}a^4+\cdots+\frac{3}{5}a+\frac{7}{5} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{4}{5}a^5-\frac{6}{5}a^4+\cdots+\frac{3}{5}a-\frac{3}{5} \\ -\frac{4}{5}a^5-\frac{6}{5}a^4+\cdots+\frac{3}{5}a-\frac{3}{5} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ -\frac{6}{5}a^5-\frac{9}{5}a^4+\cdots-\frac{3}{5}a-\frac{7}{5} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -\frac{2}{5}a^5-\frac{3}{5}a^4+\cdots-\frac{1}{5}a+\frac{6}{5} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -\frac{2}{5}a^5-\frac{3}{5}a^4+\cdots-\frac{1}{5}a+\frac{6}{5} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{13}{5}a^5+\frac{7}{5}a^4+\frac{18}{5}a^3-\frac{19}{5}a^2+\frac{14}{5}a+\frac{16}{5}$

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.569840$ $a = -0.87744 - 1.51977I$ $b = -1.16236 - 1.02627I$	$-1.11345 - 2.02988I$	$-2.22484 + 11.58609I$
$u = 0.569840$ $a = -0.87744 + 1.51977I$ $b = -1.16236 + 1.02627I$	$-1.11345 + 2.02988I$	$-2.22484 - 11.58609I$
$u = 0.215080 - 1.307141I$ $a = -0.706350 - 0.266290I$ $b = -1.94591 + 0.20102I$	$3.02413 + 4.85801I$	$-0.92725 - 3.71146I$
$u = 0.215080 + 1.307141I$ $a = -0.706350 + 0.266290I$ $b = -1.94591 - 0.20102I$	$3.02413 - 4.85801I$	$-0.92725 + 3.71146I$
$u = 0.215080 - 1.307141I$ $a = 0.583789 - 0.478572I$ $b = 1.60827 + 0.36126I$	$3.02413 + 0.79824I$	$2.65209 - 0.57512I$
$u = 0.215080 + 1.307141I$ $a = 0.583789 + 0.478572I$ $b = 1.60827 - 0.36126I$	$3.02413 - 0.79824I$	$2.65209 + 0.57512I$

II. $\boldsymbol{I_2^u = \langle u^{71} - 3u^{70} + \cdots - 72u + 16,\ -3.97 \times 10^{111} u^{70} + 1.09 \times 10^{112} u^{69} + \cdots + 3.39 \times 10^{112} a + 2.08 \times 10^{113},\ 1.56 \times 10^{112} u^{70} - 2.60 \times 10^{112} u^{69} + \cdots + 6.79 \times 10^{112} b + 5.35 \times 10^{113} \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0.116854u^{70} - 0.322638u^{69} + \cdots + 27.6437u - 6.13860 \\ -0.229593u^{70} + 0.383337u^{69} + \cdots + 18.6675u - 7.88089 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.352237u^{70} + 0.840721u^{69} + \cdots - 14.6008u + 1.33422 \\ -0.332192u^{70} + 1.05815u^{69} + \cdots - 30.0948u + 5.06594 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0.116854u^{70} - 0.322638u^{69} + \cdots + 27.6437u - 6.13860 \\ -0.199770u^{70} + 0.267189u^{69} + \cdots + 18.8084u - 8.32769 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.217439u^{70} - 0.809829u^{69} + \cdots + 36.3452u - 10.7861 \\ -0.240175u^{70} + 0.419805u^{69} + \cdots + 11.4762u - 4.98688 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.160473u^{70} - 0.0256137u^{69} + \cdots - 14.4436u + 7.94918 \\ 0.0294757u^{70} - 0.177366u^{69} + \cdots + 17.4523u - 6.12313 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.457615u^{70} + 1.22963u^{69} + \cdots - 24.8689u + 5.79918 \\ -0.0229582u^{70} + 0.0337975u^{69} + \cdots + 8.48701u - 2.69554 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.194259u^{70} + 0.601283u^{69} + \cdots - 17.8491u + 5.87584 \\ 0.0383625u^{70} - 0.260260u^{69} + \cdots + 24.8249u - 7.04452 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.194259u^{70} + 0.601283u^{69} + \cdots - 17.8491u + 5.87584 \\ 0.0383625u^{70} - 0.260260u^{69} + \cdots + 24.8249u - 7.04452 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.32757u^{70} - 3.60410u^{69} + \cdots + 79.5051u - 10.6207$

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.108829-0.298809I$ $a=-0.405496+0.963353I$ $b=-0.464673-0.750133I$	$-4.27963+4.12596I$	$-5.64693-2.76613I$
$u=-1.108829+0.298809I$ $a=-0.405496-0.963353I$ $b=-0.464673+0.750133I$	$-4.27963-4.12596I$	$-5.64693+2.76613I$
$u=-1.044276-0.406192I$ $a=-0.905243-0.406863I$ $b=-0.882650+0.230624I$	$-4.75730-1.60644I$	$-6.56664+2.91512I$
$u=-1.044276+0.406192I$ $a=-0.905243+0.406863I$ $b=-0.882650-0.230624I$	$-4.75730+1.60644I$	$-6.56664-2.91512I$
$u=-0.869259-0.100924I$ $a=\ 0.185713+0.970127I$ $b=-0.481419-0.708766I$	$0.623561-0.155557I$	$0.0220175-0.0069970I$
$u=-0.869259+0.100924I$ $a=\ 0.185713-0.970127I$ $b=-0.481419+0.708766I$	$0.623561+0.155557I$	$0.0220175+0.0069970I$
$u=-0.770057-0.536295I$ $a=\ 0.051492-1.202999I$ $b=\ 1.000923-0.283561I$	$-2.88221+3.75765I$	$-5.98986-3.48870I$
$u=-0.770057+0.536295I$ $a=\ 0.051492+1.202999I$ $b=\ 1.000923+0.283561I$	$-2.88221-3.75765I$	$-5.98986+3.48870I$
$u=-0.672234-1.164288I$ $a=\ 0.123136+0.789149I$ $b=\ 0.234480+0.478546I$	$-2.39090-4.48377I$	$-4.20104+2.21421I$
$u=-0.672234+1.164288I$ $a=\ 0.123136-0.789149I$ $b=\ 0.234480-0.478546I$	$-2.39090+4.48377I$	$-4.20104-2.21421I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.653700 - 1.243696I$ $a = -0.889734 + 0.117703I$ $b = -2.76987 - 0.05666I$	$-1.30783 - 10.33652I$	$-2.42446 + 6.81123I$
$u = -0.653700 + 1.243696I$ $a = -0.889734 - 0.117703I$ $b = -2.76987 + 0.05666I$	$-1.30783 + 10.33652I$	$-2.42446 - 6.81123I$
$u = -0.625386 - 1.066573I$ $a = 0.984933 - 0.125851I$ $b = 2.02761 + 0.86595I$	$-1.26633 - 9.05370I$	$-4.12979 + 7.62616I$
$u = -0.625386 + 1.066573I$ $a = 0.984933 + 0.125851I$ $b = 2.02761 - 0.86595I$	$-1.26633 + 9.05370I$	$-4.12979 - 7.62616I$
$u = -0.617687 - 0.601618I$ $a = 1.242853 + 0.140951I$ $b = 2.13478 + 1.03108I$	$-3.08372 - 1.52053I$	$-6.23947 + 3.65272I$
$u = -0.617687 + 0.601618I$ $a = 1.242853 - 0.140951I$ $b = 2.13478 - 1.03108I$	$-3.08372 + 1.52053I$	$-6.23947 - 3.65272I$
$u = -0.572324 - 0.999549I$ $a = -0.233123 - 0.943124I$ $b = 0.517815 - 0.001182I$	$-1.88125 - 3.19322I$	$-5.06706 + 2.97492I$
$u = -0.572324 + 0.999549I$ $a = -0.233123 + 0.943124I$ $b = 0.517815 + 0.001182I$	$-1.88125 + 3.19322I$	$-5.06706 - 2.97492I$
$u = -0.518539$ $a = -0.121980$ $b = -0.636639$	-1.19409	-8.46118
$u = -0.426470 - 1.144807I$ $a = 0.885157 + 0.207328I$ $b = 2.68779 - 0.48799I$	$4.31628 - 4.18567I$	$2.53385 + 4.06655I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.426470 + 1.144807I$ $a = 0.885157 - 0.207328I$ $b = 2.68779 + 0.48799I$	$4.31628 + 4.18567I$	$2.53385 - 4.06655I$
$u = -0.419700 - 1.267451I$ $a = -0.690447 - 0.094402I$ $b = -2.43875 - 0.49905I$	$4.39627 - 4.60339I$	$3.32762 + 2.73353I$
$u = -0.419700 + 1.267451I$ $a = -0.690447 + 0.094402I$ $b = -2.43875 + 0.49905I$	$4.39627 + 4.60339I$	$3.32762 - 2.73353I$
$u = -0.406144 - 0.846985I$ $a = 0.568192 - 0.513398I$ $b = 0.160223 - 0.333947I$	$-0.11266 - 1.79745I$	$-3.68305 + 3.00636I$
$u = -0.406144 + 0.846985I$ $a = 0.568192 + 0.513398I$ $b = 0.160223 + 0.333947I$	$-0.11266 + 1.79745I$	$-3.68305 - 3.00636I$
$u = -0.21087 - 1.49010I$ $a = 0.492915 + 0.502061I$ $b = 1.74148 - 0.08557I$	$2.18680 - 0.67401I$	$-7.57995 - 0.70637I$
$u = -0.21087 + 1.49010I$ $a = 0.492915 - 0.502061I$ $b = 1.74148 + 0.08557I$	$2.18680 + 0.67401I$	$-7.57995 + 0.70637I$
$u = -0.176109 - 1.095201I$ $a = 0.059666 + 0.439307I$ $b = 0.036771 - 0.403240I$	$2.07880 - 2.37441I$	$-0.70861 + 4.00251I$
$u = -0.176109 + 1.095201I$ $a = 0.059666 - 0.439307I$ $b = 0.036771 + 0.403240I$	$2.07880 + 2.37441I$	$-0.70861 - 4.00251I$
$u = -0.139051 - 0.972541I$ $a = -0.982199 - 0.687863I$ $b = -1.80171 + 0.62956I$	$1.97142 + 2.68154I$	$-0.29957 - 2.31966I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.139051+0.972541I$ $a=-0.982199+0.687863I$ $b=-1.80171-0.62956I$	$1.97142-2.68154I$	$-0.29957+2.31966I$
$u=-0.08760-1.49800I$ $a=-0.628097+0.397155I$ $b=-2.19274-0.03102I$	$2.40563-5.71061I$	$-5.14402+8.04898I$
$u=-0.08760+1.49800I$ $a=-0.628097-0.397155I$ $b=-2.19274+0.03102I$	$2.40563+5.71061I$	$-5.14402-8.04898I$
$u=-0.013074-0.389178I$ $a=\ 1.72088-1.06017I$ $b=-0.011535-0.390861I$	$0.058062-1.373771I$	$0.54762+4.59641I$
$u=-0.013074+0.389178I$ $a=\ 1.72088+1.06017I$ $b=-0.011535+0.390861I$	$0.058062+1.373771I$	$0.54762-4.59641I$
$u=\ 0.149859-1.246529I$ $a=\ 0.780274-0.040190I$ $b=\ 2.55905-0.57530I$	$5.52736-0.93567I$	$4.64414+2.41235I$
$u=\ 0.149859+1.246529I$ $a=\ 0.780274+0.040190I$ $b=\ 2.55905+0.57530I$	$5.52736+0.93567I$	$4.64414-2.41235I$
$u=\ 0.223038-0.668311I$ $a=-1.332294+0.103105I$ $b=-3.14217-0.55400I$	$-1.01028+1.75385I$	$0.38756-7.39042I$
$u=\ 0.223038+0.668311I$ $a=-1.332294-0.103105I$ $b=-3.14217+0.55400I$	$-1.01028-1.75385I$	$0.38756+7.39042I$
$u=\ 0.285900-0.818152I$ $a=\ 0.478709-1.027334I$ $b=-0.323137-0.246398I$	$0.185937-1.104375I$	$-1.16040+2.40265I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.285900 + 0.818152I$ $a = 0.478709 + 1.027334I$ $b = -0.323137 + 0.246398I$	$0.185937 + 1.104375I$	$-1.16040 - 2.40265I$
$u = 0.414388 - 0.586515I$ $a = -0.40266 + 1.73808I$ $b = -0.041781 - 0.513227I$	$-8.63777 - 2.49143I$	$-6.68851 - 5.26369I$
$u = 0.414388 + 0.586515I$ $a = -0.40266 - 1.73808I$ $b = -0.041781 + 0.513227I$	$-8.63777 + 2.49143I$	$-6.68851 + 5.26369I$
$u = 0.423358 - 0.977979I$ $a = -1.092689 - 0.224936I$ $b = -2.05311 + 0.81962I$	$1.01578 + 4.23738I$	$-0.18975 - 3.40400I$
$u = 0.423358 + 0.977979I$ $a = -1.092689 + 0.224936I$ $b = -2.05311 - 0.81962I$	$1.01578 - 4.23738I$	$-0.18975 + 3.40400I$
$u = 0.440954 - 0.146276I$ $a = -1.57023 + 1.52354I$ $b = -2.75559 + 1.24867I$	$-1.31688 + 1.88106I$	$-31.3196 - 4.6871I$
$u = 0.440954 + 0.146276I$ $a = -1.57023 - 1.52354I$ $b = -2.75559 - 1.24867I$	$-1.31688 - 1.88106I$	$-31.3196 + 4.6871I$
$u = 0.474824 - 1.073276I$ $a = 1.022969 + 0.247431I$ $b = 2.85706 + 0.15996I$	$-6.97127 + 6.31431I$	$-6.68078 - 5.69078I$
$u = 0.474824 + 1.073276I$ $a = 1.022969 - 0.247431I$ $b = 2.85706 - 0.15996I$	$-6.97127 - 6.31431I$	$-6.68078 + 5.69078I$
$u = 0.474923 - 1.017331I$ $a = 0.730844 - 0.783505I$ $b = 1.55954 + 0.72445I$	$0.54346 + 1.75236I$	$-3.34630 - 2.70303I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.474923 + 1.017331I$ $a = 0.730844 + 0.783505I$ $b = 1.55954 - 0.72445I$	$0.54346 - 1.75236I$	$-3.34630 + 2.70303I$
$u = 0.503579 - 0.631395I$ $a = 1.51985 + 0.19553I$ $b = 0.569925 - 0.160071I$	$-8.93127 + 3.93572I$	$-8.19554 - 8.78480I$
$u = 0.503579 + 0.631395I$ $a = 1.51985 - 0.19553I$ $b = 0.569925 + 0.160071I$	$-8.93127 - 3.93572I$	$-8.19554 + 8.78480I$
$u = 0.555895 - 1.022587I$ $a = -0.236549 + 0.930136I$ $b = -0.553116 + 0.929745I$	$-7.65318 + 0.42476I$	$-8.26553 - 0.47633I$
$u = 0.555895 + 1.022587I$ $a = -0.236549 - 0.930136I$ $b = -0.553116 - 0.929745I$	$-7.65318 - 0.42476I$	$-8.26553 + 0.47633I$
$u = 0.613697 - 1.017340I$ $a = -0.488779 - 0.516117I$ $b = -0.363307 - 0.244616I$	$-2.42985 + 6.27823I$	$-7.32031 - 6.32359I$
$u = 0.613697 + 1.017340I$ $a = -0.488779 + 0.516117I$ $b = -0.363307 + 0.244616I$	$-2.42985 - 6.27823I$	$-7.32031 + 6.32359I$
$u = 0.628836 - 1.153550I$ $a = -0.841830 + 0.293618I$ $b = -2.63896 - 0.45159I$	$2.15092 + 9.48353I$	$-1.21644 - 8.12337I$
$u = 0.628836 + 1.153550I$ $a = -0.841830 - 0.293618I$ $b = -2.63896 + 0.45159I$	$2.15092 - 9.48353I$	$-1.21644 + 8.12337I$
$u = 0.712988 - 0.613513I$ $a = -0.466264 - 0.491310I$ $b = -0.403220 - 0.683557I$	$-3.67287 - 1.17347I$	$-10.32734 + 0.68526I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.712988 + 0.613513I$ $a = -0.466264 + 0.491310I$ $b = -0.403220 + 0.683557I$	$-3.67287 + 1.17347I$	$-10.32734 - 0.68526I$
$u = 0.776807 - 1.153329I$ $a = -0.042540 + 0.802326I$ $b = 0.022765 + 0.518909I$	$-5.27544 + 10.02073I$	$-6.86727 - 5.48093I$
$u = 0.776807 + 1.153329I$ $a = -0.042540 - 0.802326I$ $b = 0.022765 - 0.518909I$	$-5.27544 - 10.02073I$	$-6.86727 + 5.48093I$
$u = 0.77993 - 1.20298I$ $a = 0.900622 + 0.039066I$ $b = 2.81120 - 0.12349I$	$-4.0986 + 16.1013I$	$-5.05780 - 9.91459I$
$u = 0.77993 + 1.20298I$ $a = 0.900622 - 0.039066I$ $b = 2.81120 + 0.12349I$	$-4.0986 - 16.1013I$	$-5.05780 + 9.91459I$
$u = 0.903463 - 0.396432I$ $a = 0.234419 - 1.036384I$ $b = 0.912184 + 0.725719I$	$-0.16872 - 3.86400I$	$-2.80840 + 6.04330I$
$u = 0.903463 + 0.396432I$ $a = 0.234419 + 1.036384I$ $b = 0.912184 - 0.725719I$	$-0.16872 + 3.86400I$	$-2.80840 - 6.04330I$
$u = 1.075773 - 0.627927I$ $a = 0.870455 - 0.165745I$ $b = 1.003247 + 0.024923I$	$-6.99333 - 3.33145I$	$-8.40822 + 1.84297I$
$u = 1.075773 + 0.627927I$ $a = 0.870455 + 0.165745I$ $b = 1.003247 - 0.024923I$	$-6.99333 + 3.33145I$	$-8.40822 - 1.84297I$
$u = 1.133831 - 0.574421I$ $a = 0.166086 + 0.969653I$ $b = 0.299220 - 0.891462I$	$-6.13711 - 9.23592I$	$-6.69961 + 6.97434I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.133831 + 0.574421I$ $a = 0.166086 - 0.969653I$ $b = 0.299220 + 0.891462I$	$-6.13711 + 9.23592I$	$-6.69961 - 6.97434I$

III. $I_1^v = \langle b + v + 2,\ b^4 + 3b^3 + b^2 - 2b + 1,\ a\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} -b-2 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -b-2 \\ -b^3-2b^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -b^3-4b^2-4b \\ b \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -b-2 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -2b^3-7b^2-6b+1 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -2b^3-6b^2-2b+5 \\ b^2+2b-1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2b^3+7b^2+6b-1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2b^3+7b^2+6b \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2b^3+7b^2+6b \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2b^3 + 6b^2 + 7b - 7$

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.100768 + 0.400532I$ $a = 0$ $b = -1.89923 - 0.40053I$	$-1.43393 + 1.41510I$	$-11.48794 - 2.21528I$
$v = -0.100768 - 0.400532I$ $a = 0$ $b = -1.89923 + 0.40053I$	$-1.43393 - 1.41510I$	$-11.48794 + 2.21528I$
$v = -2.39923 + 0.32564I$ $a = 0$ $b = 0.399232 - 0.325640I$	$-8.43568 + 3.16396I$	$-4.01206 - 4.08190I$
$v = -2.39923 - 0.32564I$ $a = 0$ $b = 0.399232 + 0.325640I$	$-8.43568 - 3.16396I$	$-4.01206 + 4.08190I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u-1)^4(u^3+u^2-1)^2(u^{71}+7u^{70}+\cdots-19u-1)$
c_2	$(u+1)^4(1+2u+u^2+u^3)^2(u^{71}+35u^{70}+\cdots+91u+1)$
c_3	$u^4(-1+2u-u^2+u^3)^2(u^{71}+3u^{70}+\cdots-72u-16)$
c_4	$(u+1)^4(u^3-u^2+1)^2(u^{71}+7u^{70}+\cdots-19u-1)$
c_5	$u^6(u^4+u^3+\cdots+2u+1)(u^{71}+2u^{70}+\cdots+224u+64)$
c_6	$u^4(1+2u+u^2+u^3)^2(u^{71}+3u^{70}+\cdots-72u-16)$
c_7	$(u^2-u+1)^3(u^4+u^3+u^2+1)(u^{71}+5u^{70}+\cdots+16u+1)$
c_8	$u^6(u^4-u^3+\cdots-2u+1)(u^{71}+2u^{70}+\cdots+224u+64)$
c_9	$(u^2+u+1)^3(u^4+u^3+\cdots+2u+1)(u^{71}+23u^{70}+\cdots+246u-1)$
c_{10}	$(u^2+u+1)^3(u^4-u^3+u^2+1)(u^{71}+5u^{70}+\cdots+16u+1)$
c_{11}	$(u^2-u+1)^3(u^4-u^3+\cdots-2u+1)(u^{71}+23u^{70}+\cdots+246u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_4	$(y-1)^4(-1+2y-y^2+y^3)^2(y^{71}-35y^{70}+\cdots+91y-1)$
c_2	$(y-1)^4(-1+2y+3y^2+y^3)^2(y^{71}+9y^{70}+\cdots+3279y-1)$
c_3, c_6	$y^4(-1+2y+3y^2+y^3)^2(y^{71}+33y^{70}+\cdots-4800y-256)$
c_5, c_8	$y^6(y^4+5y^3+\cdots+2y+1)(y^{71}+40y^{70}+\cdots-39936y-4096)$
c_7, c_{10}	$(y^2+y+1)^3(y^4+y^3+\cdots+2y+1)(y^{71}+23y^{70}+\cdots+246y-1)$
c_9, c_{11}	$(y^2+y+1)^3(y^4+5y^3+\cdots+2y+1)(y^{71}+55y^{70}+\cdots+62490y-1)$