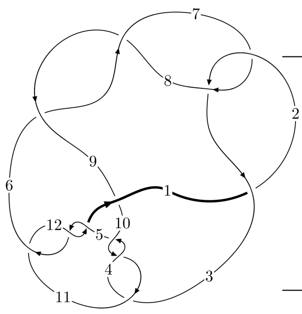
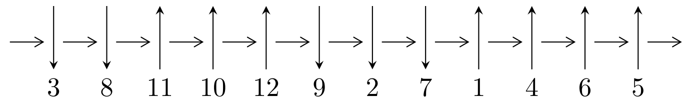
$12a_{0787}$ ($K12a_{0787}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle b-u,\ u^{27}+u^{26}+\cdots+16a+1,\ u^{28}+17u^{26}+\cdots-u+1\rangle$$
$$I_2^u = \langle -2521899524065u^{37}-1276991146481u^{36}+\cdots+13233245626882b+40729676197632,$$
$$-9138522337506u^{37}-7893613959922u^{36}+\cdots+13233245626882a+87046035891719,$$
$$u^{38}+u^{37}+\cdots-7u+2\rangle$$
$$I_3^u = \langle b+u,\ a^4+a^3+3a^2+2a+1,\ u^2+1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 74 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

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

I. $\boldsymbol{I_1^u = \langle b - u,\ u^{27} + u^{26} + \cdots + 16a + 1,\ u^{28} + 17u^{26} + \cdots - u + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + 3u - \frac{1}{16} \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + 2u - \frac{1}{16} \\ -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + u - \frac{1}{16} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{1}{8}u^{25} - \frac{1}{8}u^{24} + \cdots - \frac{87}{8}u^3 - \frac{1}{8} \\ -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + u - \frac{1}{16} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + 2u - \frac{1}{16} \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots + \frac{1}{8}u + \frac{15}{16} \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.687500u^{27} + 0.437500u^{26} + \cdots - 1.62500u + 1.56250 \\ -\frac{1}{16}u^{27} - \frac{1}{16}u^{26} + \cdots - \frac{1}{4}u + \frac{1}{16} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.187500u^{27} + 0.187500u^{26} + \cdots + 0.375000u + 1.31250 \\ \frac{1}{4}u^{27} + \frac{3}{8}u^{26} + \cdots + \frac{7}{8}u + \frac{5}{8} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{11}{4}u^{27} - \frac{1}{4}u^{26} + \cdots - \frac{9}{2}u - 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$u^{28} + 7u^{27} + \cdots + 9u + 4$
c_2, c_7	$u^{28} + 3u^{27} + \cdots - u + 2$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$u^{28} + 17u^{26} + \cdots + u + 1$
c_9	$u^{28} - 21u^{27} + \cdots - 24293u + 2642$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^{28} + 29y^{27} + \cdots + 383y + 16$
c_2, c_7	$y^{28} - 7y^{27} + \cdots - 9y + 4$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$y^{28} + 34y^{27} + \cdots + 5y + 1$
c_9	$y^{28} + y^{27} + \cdots + 72951y + 6980164$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.668490 + 0.320146I$ $a = 1.70913 + 0.46510I$ $b = 0.668490 + 0.320146I$	$6.28423 + 6.57769I$	$6.41221 - 7.42471I$
$u = 0.668490 - 0.320146I$ $a = 1.70913 - 0.46510I$ $b = 0.668490 - 0.320146I$	$6.28423 - 6.57769I$	$6.41221 + 7.42471I$
$u = -0.675753 + 0.283618I$ $a = -1.69364 + 0.41228I$ $b = -0.675753 + 0.283618I$	$6.57383 - 0.38638I$	$7.28743 + 2.11062I$
$u = -0.675753 - 0.283618I$ $a = -1.69364 - 0.41228I$ $b = -0.675753 - 0.283618I$	$6.57383 + 0.38638I$	$7.28743 - 2.11062I$
$u = 0.010002 + 1.361850I$ $a = 0.08812 - 1.82299I$ $b = 0.010002 + 1.361850I$	$0.98241 + 3.28877I$	$-2.28562 - 2.49826I$
$u = 0.010002 - 1.361850I$ $a = 0.08812 + 1.82299I$ $b = 0.010002 - 1.361850I$	$0.98241 - 3.28877I$	$-2.28562 + 2.49826I$
$u = 0.479155 + 0.323957I$ $a = 1.41870 + 0.64071I$ $b = 0.479155 + 0.323957I$	$-0.70246 + 3.29244I$	$1.36299 - 9.65780I$
$u = 0.479155 - 0.323957I$ $a = 1.41870 - 0.64071I$ $b = 0.479155 - 0.323957I$	$-0.70246 - 3.29244I$	$1.36299 + 9.65780I$
$u = 0.018495 + 0.555616I$ $a = 0.11963 + 2.15929I$ $b = 0.018495 + 0.555616I$	$5.02040 - 3.10627I$	$5.07926 + 2.30848I$
$u = 0.018495 - 0.555616I$ $a = 0.11963 - 2.15929I$ $b = 0.018495 - 0.555616I$	$5.02040 + 3.10627I$	$5.07926 - 2.30848I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.12806 + 1.49665I$ $a = 0.635356 - 0.790802I$ $b = 0.12806 + 1.49665I$	$-8.20165 + 3.12776I$	$-1.78341 - 2.86928I$
$u = 0.12806 - 1.49665I$ $a = 0.635356 + 0.790802I$ $b = 0.12806 - 1.49665I$	$-8.20165 - 3.12776I$	$-1.78341 + 2.86928I$
$u = -0.467343 + 0.123789I$ $a = -1.256740 + 0.253657I$ $b = -0.467343 + 0.123789I$	$0.942412 - 0.321823I$	$9.93783 + 1.87531I$
$u = -0.467343 - 0.123789I$ $a = -1.256740 - 0.253657I$ $b = -0.467343 - 0.123789I$	$0.942412 + 0.321823I$	$9.93783 - 1.87531I$
$u = 0.33592 + 1.48906I$ $a = 1.343430 - 0.294813I$ $b = 0.33592 + 1.48906I$	$-4.85757 + 8.12866I$	$-0.65039 - 3.19597I$
$u = 0.33592 - 1.48906I$ $a = 1.343430 + 0.294813I$ $b = 0.33592 - 1.48906I$	$-4.85757 - 8.12866I$	$-0.65039 + 3.19597I$
$u = 0.24720 + 1.51029I$ $a = 1.054950 - 0.471434I$ $b = 0.24720 + 1.51029I$	$-10.29860 + 5.81281I$	$-1.13573 - 2.99582I$
$u = 0.24720 - 1.51029I$ $a = 1.054950 + 0.471434I$ $b = 0.24720 - 1.51029I$	$-10.29860 - 5.81281I$	$-1.13573 + 2.99582I$
$u = -0.34687 + 1.50237I$ $a = -1.331920 - 0.237656I$ $b = -0.34687 + 1.50237I$	$-5.4858 - 14.4431I$	$-1.57414 + 7.85260I$
$u = -0.34687 - 1.50237I$ $a = -1.331920 + 0.237656I$ $b = -0.34687 - 1.50237I$	$-5.4858 + 14.4431I$	$-1.57414 - 7.85260I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.09545 + 1.55729I$ $a = -0.408600 - 0.576483I$ $b = -0.09545 + 1.55729I$	$-9.25929 + 2.16393I$	$-3.88367 - 2.85288I$
$u = -0.09545 - 1.55729I$ $a = -0.408600 + 0.576483I$ $b = -0.09545 - 1.55729I$	$-9.25929 - 2.16393I$	$-3.88367 + 2.85288I$
$u = -0.28719 + 1.53991I$ $a = -1.099080 - 0.292514I$ $b = -0.28719 + 1.53991I$	$-13.1202 - 9.6253I$	$-6.14913 + 7.05980I$
$u = -0.28719 - 1.53991I$ $a = -1.099080 + 0.292514I$ $b = -0.28719 - 1.53991I$	$-13.1202 + 9.6253I$	$-6.14913 - 7.05980I$
$u = -0.21010 + 1.56283I$ $a = -0.823988 - 0.384208I$ $b = -0.21010 + 1.56283I$	$-14.2962 - 3.2369I$	$-8.20460 + 0.I$
$u = -0.21010 - 1.56283I$ $a = -0.823988 + 0.384208I$ $b = -0.21010 - 1.56283I$	$-14.2962 + 3.2369I$	$-8.20460 + 0.I$
$u = 0.195378 + 0.368416I$ $a = 0.744647 + 1.097280I$ $b = 0.195378 + 0.368416I$	$-1.28464 - 0.85587I$	$-2.41301 + 0.23823I$
$u = 0.195378 - 0.368416I$ $a = 0.744647 - 1.097280I$ $b = 0.195378 - 0.368416I$	$-1.28464 + 0.85587I$	$-2.41301 - 0.23823I$

II.
$\boldsymbol{I^u_2 = \langle -2.52\times 10^{12}u^{37} - 1.28\times 10^{12}u^{36} + \cdots + 1.32\times 10^{13}b + 4.07\times 10^{13},\ -9.14\times 10^{12}u^{37} - 7.89\times 10^{12}u^{36} + \cdots + 1.32\times 10^{13}a + 8.70\times 10^{13},\ u^{38} + u^{37} + \cdots - 7u + 2\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.690573u^{37} + 0.596499u^{36} + \cdots + 27.4552u - 6.57783 \\ 0.190573u^{37} + 0.0964987u^{36} + \cdots + 7.95523u - 3.07783 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.504054u^{37} + 0.688185u^{36} + \cdots + 16.6062u - 3.16265 \\ 0.385043u^{37} + 0.407527u^{36} + \cdots + 10.1840u - 3.31197 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.06524u^{37} + 0.963635u^{36} + \cdots + 35.3708u - 9.46751 \\ 0.374672u^{37} + 0.367136u^{36} + \cdots + 8.91556u - 2.88968 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{1}{2}u^{37} + \frac{1}{2}u^{36} + \cdots + \frac{39}{2}u - \frac{7}{2} \\ 0.190573u^{37} + 0.0964987u^{36} + \cdots + 7.95523u - 3.07783 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1.53891u^{37} + 1.72949u^{36} + \cdots + 25.2431u - 1.81717 \\ -0.0940743u^{37} + 0.0900246u^{36} + \cdots - 1.74382u + 0.618854 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.540566u^{37} - 0.819412u^{36} + \cdots - 5.62383u - 4.68707 \\ -0.203220u^{37} - 0.490174u^{36} + \cdots - 4.02159u - 2.26098 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.215007u^{37} + 0.108358u^{36} + \cdots - 9.07233u + 2.38121 \\ -0.203697u^{37} - 0.475149u^{36} + \cdots - 4.71463u - 1.10982 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{2578336863836}{6616622813441}u^{37} - \frac{917470771354}{6616622813441}u^{36} + \cdots + \frac{231718964327524}{6616622813441}u - \frac{47642846027518}{6616622813441}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8	$(u^{19} + 5u^{18} + \cdots + 2u + 1)^2$
c_2, c_7	$(u^{19} - u^{18} + \cdots + u^2 - 1)^2$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$u^{38} - u^{37} + \cdots + 7u + 2$
c_9	$(u^{19} + 7u^{18} + \cdots + 2u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$(y^{19} + 19y^{18} + \cdots + 10y - 1)^2$
c_2, c_7	$(y^{19} - 5y^{18} + \cdots + 2y - 1)^2$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$y^{38} + 31y^{37} + \cdots + 107y + 4$
c_9	$(y^{19} + 11y^{18} + \cdots + 42y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.745217 + 0.660881I$ $a = 0.786897 - 0.760848I$ $b = 0.03575 - 1.42698I$	$-6.91199 + 0.16816I$	$-6.16829 - 0.91431I$
$u = -0.745217 - 0.660881I$ $a = 0.786897 + 0.760848I$ $b = 0.03575 + 1.42698I$	$-6.91199 - 0.16816I$	$-6.16829 + 0.91431I$
$u = -0.909367 + 0.387387I$ $a = 1.17340 - 1.04324I$ $b = 0.24265 - 1.43973I$	$0.60648 - 9.88550I$	$1.13872 + 7.31129I$
$u = -0.909367 - 0.387387I$ $a = 1.17340 + 1.04324I$ $b = 0.24265 + 1.43973I$	$0.60648 + 9.88550I$	$1.13872 - 7.31129I$
$u = -0.835357 + 0.509822I$ $a = 1.020060 - 0.906332I$ $b = 0.14784 - 1.43865I$	$-6.41945 - 5.52702I$	$-4.42794 + 7.00248I$
$u = -0.835357 - 0.509822I$ $a = 1.020060 + 0.906332I$ $b = 0.14784 + 1.43865I$	$-6.41945 + 5.52702I$	$-4.42794 - 7.00248I$
$u = 0.881694 + 0.365628I$ $a = -1.21257 - 1.01487I$ $b = -0.24482 - 1.41618I$	$1.12421 + 3.71612I$	$2.19900 - 2.45937I$
$u = 0.881694 - 0.365628I$ $a = -1.21257 + 1.01487I$ $b = -0.24482 + 1.41618I$	$1.12421 - 3.71612I$	$2.19900 + 2.45937I$
$u = 0.190982 + 1.053290I$ $a = 0.0243158 - 0.1341050I$ $b = 0.190982 - 1.053290I$	-4.19724	$-7.47222 + 0.I$
$u = 0.190982 - 1.053290I$ $a = 0.0243158 + 0.1341050I$ $b = 0.190982 + 1.053290I$	-4.19724	$-7.47222 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618900 + 0.885728I$ $a = -0.403494 - 0.627123I$ $b = 0.126589 - 1.385740I$	$-0.45606 + 1.53005I$	$-0.20605 - 2.54963I$
$u = 0.618900 - 0.885728I$ $a = -0.403494 + 0.627123I$ $b = 0.126589 + 1.385740I$	$-0.45606 - 1.53005I$	$-0.20605 + 2.54963I$
$u = -0.681822 + 0.866267I$ $a = 0.455615 - 0.712832I$ $b = -0.10542 - 1.42563I$	$-0.85217 + 4.39903I$	$-0.93348 - 2.80289I$
$u = -0.681822 - 0.866267I$ $a = 0.455615 + 0.712832I$ $b = -0.10542 + 1.42563I$	$-0.85217 - 4.39903I$	$-0.93348 + 2.80289I$
$u = 0.704452 + 0.498527I$ $a = -1.061700 - 0.694204I$ $b = -0.115852 - 1.363560I$	$-3.75823 + 2.32534I$	$1.72826 - 3.09456I$
$u = 0.704452 - 0.498527I$ $a = -1.061700 + 0.694204I$ $b = -0.115852 + 1.363560I$	$-3.75823 - 2.32534I$	$1.72826 + 3.09456I$
$u = -0.063360 + 1.136750I$ $a = 0.279755 + 0.579784I$ $b = 0.230874 - 0.297193I$	$-1.87881 - 1.72326I$	$3.81965 + 5.18112I$
$u = -0.063360 - 1.136750I$ $a = 0.279755 - 0.579784I$ $b = 0.230874 + 0.297193I$	$-1.87881 + 1.72326I$	$3.81965 - 5.18112I$
$u = -0.068851 + 0.792352I$ $a = 0.19917 + 1.58842I$ $b = 0.090322 + 0.335817I$	$5.01775 - 3.11880I$	$5.58624 + 2.69239I$
$u = -0.068851 - 0.792352I$ $a = 0.19917 - 1.58842I$ $b = 0.090322 - 0.335817I$	$5.01775 + 3.11880I$	$5.58624 - 2.69239I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.115852 + 1.363560I$ $a = 0.766315 + 0.229589I$ $b = 0.704452 - 0.498527I$	$-3.75823 - 2.32534I$	$2.00000 + 3.09456I$
$u = -0.115852 - 1.363560I$ $a = 0.766315 - 0.229589I$ $b = 0.704452 + 0.498527I$	$-3.75823 + 2.32534I$	$2.00000 - 3.09456I$
$u = 0.126589 + 1.385740I$ $a = 0.553523 - 0.170066I$ $b = 0.618900 - 0.885728I$	$-0.45606 - 1.53005I$	$0. + 2.54963I$
$u = 0.126589 - 1.385740I$ $a = 0.553523 + 0.170066I$ $b = 0.618900 + 0.885728I$	$-0.45606 + 1.53005I$	$0. - 2.54963I$
$u = 0.03575 + 1.42698I$ $a = -0.762764 + 0.039458I$ $b = -0.745217 - 0.660881I$	$-6.91199 - 0.16816I$	$-6.16829 + 0.I$
$u = 0.03575 - 1.42698I$ $a = -0.762764 - 0.039458I$ $b = -0.745217 + 0.660881I$	$-6.91199 + 0.16816I$	$-6.16829 + 0.I$
$u = -0.10542 + 1.42563I$ $a = -0.630237 - 0.168639I$ $b = -0.681822 - 0.866267I$	$-0.85217 - 4.39903I$	$0. + 2.80289I$
$u = -0.10542 - 1.42563I$ $a = -0.630237 + 0.168639I$ $b = -0.681822 + 0.866267I$	$-0.85217 + 4.39903I$	$0. - 2.80289I$
$u = -0.24482 + 1.41618I$ $a = 1.000220 + 0.320005I$ $b = 0.881694 - 0.365628I$	$1.12421 - 3.71612I$	0
$u = -0.24482 - 1.41618I$ $a = 1.000220 - 0.320005I$ $b = 0.881694 + 0.365628I$	$1.12421 + 3.71612I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.14784 + 1.43865I$ $a = -0.906043 + 0.178010I$ $b = -0.835357 - 0.509822I$	$-6.41945 + 5.52702I$	$-4.42794 - 7.00248I$
$u = 0.14784 - 1.43865I$ $a = -0.906043 - 0.178010I$ $b = -0.835357 + 0.509822I$	$-6.41945 - 5.52702I$	$-4.42794 + 7.00248I$
$u = 0.24265 + 1.43973I$ $a = -1.023190 + 0.288002I$ $b = -0.909367 - 0.387387I$	$0.60648 + 9.88550I$	$0. - 7.31129I$
$u = 0.24265 - 1.43973I$ $a = -1.023190 - 0.288002I$ $b = -0.909367 + 0.387387I$	$0.60648 - 9.88550I$	$0. + 7.31129I$
$u = 0.230874 + 0.297193I$ $a = -1.69352 + 0.96168I$ $b = -0.063360 - 1.136750I$	$-1.87881 + 1.72326I$	$3.81965 - 5.18112I$
$u = 0.230874 - 0.297193I$ $a = -1.69352 - 0.96168I$ $b = -0.063360 + 1.136750I$	$-1.87881 - 1.72326I$	$3.81965 + 5.18112I$
$u = 0.090322 + 0.335817I$ $a = -0.81574 + 3.56928I$ $b = -0.068851 + 0.792352I$	$5.01775 - 3.11880I$	$5.58624 + 2.69239I$
$u = 0.090322 - 0.335817I$ $a = -0.81574 - 3.56928I$ $b = -0.068851 - 0.792352I$	$5.01775 + 3.11880I$	$5.58624 - 2.69239I$

III. $\boldsymbol{I_3^u = \langle b + u,\ a^4 + a^3 + 3a^2 + 2a + 1,\ u^2 + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4a^3 - 4a^2 - 12a - 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.395123 + 0.506844I$ $b = -1.000000I$	$-3.50087 + 1.41510I$	$-3.82674 - 4.90874I$
$u = 1.000000I$ $a = -0.395123 - 0.506844I$ $b = -1.000000I$	$-3.50087 - 1.41510I$	$-3.82674 + 4.90874I$
$u = 1.000000I$ $a = -0.10488 + 1.55249I$ $b = -1.000000I$	$3.50087 + 3.16396I$	$-0.17326 - 2.56480I$
$u = 1.000000I$ $a = -0.10488 - 1.55249I$ $b = -1.000000I$	$3.50087 - 3.16396I$	$-0.17326 + 2.56480I$
$u = -1.000000I$ $a = -0.395123 + 0.506844I$ $b = 1.000000I$	$-3.50087 + 1.41510I$	$-3.82674 - 4.90874I$
$u = -1.000000I$ $a = -0.395123 - 0.506844I$ $b = 1.000000I$	$-3.50087 - 1.41510I$	$-3.82674 + 4.90874I$
$u = -1.000000I$ $a = -0.10488 + 1.55249I$ $b = 1.000000I$	$3.50087 + 3.16396I$	$-0.17326 - 2.56480I$
$u = -1.000000I$ $a = -0.10488 - 1.55249I$ $b = 1.000000I$	$3.50087 - 3.16396I$	$-0.17326 + 2.56480I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$((u^4 - u^3 + 3u^2 - 2u + 1)^2)(u^{19} + 5u^{18} + \cdots + 2u + 1)^2$ $\cdot (u^{28} + 7u^{27} + \cdots + 9u + 4)$
c_2, c_7	$(u^8 - u^6 + 3u^4 - 2u^2 + 1)(u^{19} - u^{18} + \cdots + u^2 - 1)^2$ $\cdot (u^{28} + 3u^{27} + \cdots - u + 2)$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$((u^2 + 1)^4)(u^{28} + 17u^{26} + \cdots + u + 1)(u^{38} - u^{37} + \cdots + 7u + 2)$
c_8	$((u^4 + u^3 + 3u^2 + 2u + 1)^2)(u^{19} + 5u^{18} + \cdots + 2u + 1)^2$ $\cdot (u^{28} + 7u^{27} + \cdots + 9u + 4)$
c_9	$(u^8 - 5u^6 + 7u^4 - 2u^2 + 1)(u^{19} + 7u^{18} + \cdots + 2u - 1)^2$ $\cdot (u^{28} - 21u^{27} + \cdots - 24293u + 2642)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$((y^4 + 5y^3 + 7y^2 + 2y + 1)^2)(y^{19} + 19y^{18} + \cdots + 10y - 1)^2$ $\cdot (y^{28} + 29y^{27} + \cdots + 383y + 16)$
c_2, c_7	$((y^4 - y^3 + 3y^2 - 2y + 1)^2)(y^{19} - 5y^{18} + \cdots + 2y - 1)^2$ $\cdot (y^{28} - 7y^{27} + \cdots - 9y + 4)$
c_3, c_4, c_5 c_{10}, c_{11}, c_{12}	$((y + 1)^8)(y^{28} + 34y^{27} + \cdots + 5y + 1)(y^{38} + 31y^{37} + \cdots + 107y + 4)$
c_9	$((y^4 - 5y^3 + 7y^2 - 2y + 1)^2)(y^{19} + 11y^{18} + \cdots + 42y - 1)^2$ $\cdot (y^{28} + y^{27} + \cdots + 72951y + 6980164)$