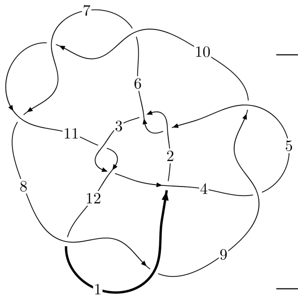
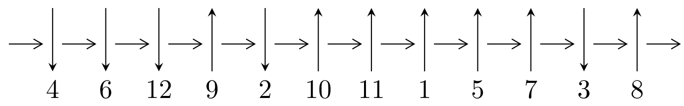
$12a_{0999}$ ($K12a_{0999}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 826872493u^{24} + 41514578887u^{23} + \cdots + 266911749 04b + 267919895192, \\
& 75775316763u^{24} - 724263180731u^{23} + \cdots + 53382349808a - 515069062880, \\
& u^{25} - 11u^{24} + \cdots - 80u + 16\rangle \\
I_2^u = \langle & -10u^{35} - 12u^{34} + \cdots + 8b + 68,\ -68u^{35}a + 508u^{35} + \cdots - 1145a + 7276,\ u^{36} + 4u^{35} + \cdots + 16u + 1\rangle \\
I_3^u = \langle & -7u^{10} + 4u^9 + 36u^8 - 34u^7 - 43u^6 + 60u^5 + 10u^4 - 31u^3 - 19u^2 + 11b + 16u + 17, \\
& -8u^{10} + 25u^9 + 38u^8 - 163u^7 + 31u^6 + 298u^5 - 262u^4 - 136u^3 + 269u^2 + 11a - 32u - 78, \\
& u^{11} - 2u^{10} - 5u^9 + 14u^8 + u^7 - 27u^6 + 18u^5 + 15u^4 - 20u^3 - u^2 + 6u + 1\rangle
\end{aligned}$$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 109 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. $I^u_1 =$
$\langle 8.27\times10^{8}u^{24}+4.15\times10^{10}u^{23}+\cdots+2.67\times10^{10}b+2.68\times10^{11},\ 7.58\times10^{10}u^{24}-7.24\times10^{11}u^{23}+\cdots+5.34\times10^{10}a-5.15\times10^{11},\ u^{25}-11u^{24}+\cdots-80u+16\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-1.41948u^{24}+13.5675u^{23}+\cdots-51.2819u+9.64868\\-0.0309792u^{24}-1.55537u^{23}+\cdots+37.1258u-10.0378\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^2+1\\u^4-2u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.167582u^{24}-3.50276u^{23}+\cdots+58.5852u-16.0667\\3.79748u^{24}-34.4987u^{23}+\cdots+133.770u-29.2311\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-1.45046u^{24}+12.0121u^{23}+\cdots-14.1561u-0.389094\\-0.0309792u^{24}-1.55537u^{23}+\cdots+37.1258u-10.0378\end{pmatrix}$$
$$a_5 = \begin{pmatrix}3.96506u^{24}-38.0015u^{23}+\cdots+190.355u-44.2978\\3.79748u^{24}-34.4987u^{23}+\cdots+132.770u-29.2311\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-1.73754u^{24}+15.9703u^{23}+\cdots-68.0866u+14.9573\\0.976986u^{24}-8.80582u^{23}+\cdots+24.7513u-4.30668\end{pmatrix}$$
$$a_4 = \begin{pmatrix}6.50025u^{24}-60.8358u^{23}+\cdots+275.705u-62.6895\\-2.16560u^{24}+22.8582u^{23}+\cdots-153.338u+36.8239\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-4.43829u^{24}+41.9516u^{23}+\cdots-195.816u+43.9195\\-1.35725u^{24}+12.5528u^{23}+\cdots-50.4134u+10.8323\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{1454121112683}{3336396863}u^{24} - \frac{1365948008373}{3336396863}u^{23} + \cdots + \frac{6268794612260}{3336396863}u - \frac{1430304974606}{3336396863}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} - 22u^{24} + \cdots + 5120u + 512$
c_2, c_3, c_5 c_{11}	$u^{25} - u^{24} + \cdots - 4u + 1$
c_4, c_8, c_9 c_{12}	$u^{25} - 11u^{23} + \cdots + u - 1$
c_6, c_7, c_{10}	$u^{25} - 11u^{24} + \cdots - 80u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} - 2y^{24} + \cdots + 76808192y - 262144$
c_2, c_3, c_5 c_{11}	$y^{25} - 15y^{24} + \cdots + 50y - 1$
c_4, c_8, c_9 c_{12}	$y^{25} - 22y^{24} + \cdots + 21y - 1$
c_6, c_7, c_{10}	$y^{25} - 23y^{24} + \cdots - 1408y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00934$ $a = -0.805015$ $b = 1.63266$	-7.20191	30.6470
$u = 0.012976 + 1.033860I$ $a = 0.633148 - 0.106162I$ $b = 0.791764 + 0.522766I$	$3.03037 - 1.54703I$	$6.68506 + 3.68219I$
$u = 0.012976 - 1.033860I$ $a = 0.633148 + 0.106162I$ $b = 0.791764 - 0.522766I$	$3.03037 + 1.54703I$	$6.68506 - 3.68219I$
$u = -0.881775 + 0.323566I$ $a = -0.378664 + 0.249573I$ $b = 0.365509 - 0.726585I$	$6.42854 - 2.68579I$	$9.83614 + 1.93428I$
$u = -0.881775 - 0.323566I$ $a = -0.378664 - 0.249573I$ $b = 0.365509 + 0.726585I$	$6.42854 + 2.68579I$	$9.83614 - 1.93428I$
$u = -0.477303 + 0.717814I$ $a = 0.009597 - 0.906421I$ $b = 1.269930 + 0.185562I$	$-7.01624 - 2.33284I$	$-5.90770 + 2.60194I$
$u = -0.477303 - 0.717814I$ $a = 0.009597 + 0.906421I$ $b = 1.269930 - 0.185562I$	$-7.01624 + 2.33284I$	$-5.90770 - 2.60194I$
$u = -0.482722 + 1.037880I$ $a = -0.369971 + 0.530061I$ $b = -1.214990 - 0.563112I$	$1.10842 - 12.71280I$	$2.59152 + 8.71606I$
$u = -0.482722 - 1.037880I$ $a = -0.369971 - 0.530061I$ $b = -1.214990 + 0.563112I$	$1.10842 + 12.71280I$	$2.59152 - 8.71606I$
$u = 1.329560 + 0.203875I$ $a = 0.28740 - 1.62065I$ $b = -0.662175 + 0.545556I$	$2.65006 + 2.55544I$	$3.11128 - 1.65198I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.329560 - 0.203875I$ $a = 0.28740 + 1.62065I$ $b = -0.662175 - 0.545556I$	$2.65006 - 2.55544I$	$3.11128 + 1.65198I$
$u = -0.98981 + 1.06101I$ $a = 0.181907 + 0.253452I$ $b = -0.954754 + 0.361220I$	$2.30832 + 5.78881I$	$2.00000 - 7.25000I$
$u = -0.98981 - 1.06101I$ $a = 0.181907 - 0.253452I$ $b = -0.954754 - 0.361220I$	$2.30832 - 5.78881I$	$2.00000 + 7.25000I$
$u = 0.516035$ $a = 0.631196$ $b = 0.157637$	0.767709	13.0610
$u = 1.49267 + 0.27371I$ $a = -0.65793 + 1.31350I$ $b = 1.148310 - 0.509995I$	$-0.65901 + 5.99024I$	$0. - 4.38665I$
$u = 1.49267 - 0.27371I$ $a = -0.65793 - 1.31350I$ $b = 1.148310 + 0.509995I$	$-0.65901 - 5.99024I$	$0. + 4.38665I$
$u = 1.47479 + 0.50270I$ $a = 0.123556 + 1.187480I$ $b = 1.108500 - 0.652505I$	$7.77371 + 7.32084I$	$7.72526 - 5.56309I$
$u = 1.47479 - 0.50270I$ $a = 0.123556 - 1.187480I$ $b = 1.108500 + 0.652505I$	$7.77371 - 7.32084I$	$7.72526 + 5.56309I$
$u = 1.58061 + 0.03704I$ $a = -0.272956 - 1.225950I$ $b = 0.151992 + 1.145230I$	$14.6920 + 3.8040I$	$11.54426 - 2.08774I$
$u = 1.58061 - 0.03704I$ $a = -0.272956 + 1.225950I$ $b = 0.151992 - 1.145230I$	$14.6920 - 3.8040I$	$11.54426 + 2.08774I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.54138 + 0.37767I$ $a = 0.30399 - 1.46629I$ $b = -1.36369 + 0.77531I$	$7.5940 + 17.7952I$	$5.80164 - 8.80793I$
$u = 1.54138 - 0.37767I$ $a = 0.30399 + 1.46629I$ $b = -1.36369 - 0.77531I$	$7.5940 - 17.7952I$	$5.80164 + 8.80793I$
$u = 0.123896 + 0.326612I$ $a = -1.67598 + 1.41797I$ $b = -0.709073 - 0.106576I$	$-1.292320 - 0.176707I$	$-7.01154 + 0.09257I$
$u = 0.123896 - 0.326612I$ $a = -1.67598 - 1.41797I$ $b = -0.709073 + 0.106576I$	$-1.292320 + 0.176707I$	$-7.01154 - 0.09257I$
$u = 2.04475$ $a = 0.305643$ $b = -0.652933$	13.8003	0

II. $\boldsymbol{I_2^u = \langle -10u^{35} - 12u^{34} + \cdots + 8b + 68,\ -68u^{35}a + 508u^{35} + \cdots - 1145a + 7276,\ u^{36} + 4u^{35} + \cdots + 16u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ \frac{5}{4}u^{35} + \frac{3}{2}u^{34} + \cdots + \frac{57}{8}u - \frac{17}{2} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{5}{4}u^{35}a - 2u^{35} + \cdots + \frac{17}{2}a - \frac{439}{8} \\ \frac{27}{8}u^{35} + \frac{59}{8}u^{34} + \cdots + \frac{123}{4}u - \frac{53}{8} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{5}{4}u^{35} + \frac{3}{2}u^{34} + \cdots + a - \frac{17}{2} \\ \frac{5}{4}u^{35} + \frac{3}{2}u^{34} + \cdots + \frac{57}{8}u - \frac{17}{2} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 2.37500au^{35} + 6.62500au^{34} + \cdots + 3.12500a - 23.5000 \\ \frac{47}{8}u^{35}a - 2u^{35} + \cdots + \frac{35}{8}a - \frac{635}{8} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{2}u^{35}a - \frac{41}{8}u^{35} + \cdots + \frac{37}{4}a - \frac{385}{8} \\ -\frac{9}{4}u^{35}a + \frac{63}{8}u^{35} + \cdots - \frac{5}{2}a + 84 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{35}a + \frac{67}{2}u^{35} + \cdots - \frac{627}{8}a + \frac{1065}{2} \\ \frac{27}{8}u^{35}a + u^{35} + \cdots + \frac{11}{4}a - \frac{15}{4} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -2u^{35}a + u^{35} + \cdots + \frac{61}{8}a - \frac{495}{8} \\ -\frac{31}{8}u^{35}a + 3u^{35} + \cdots - \frac{23}{8}a - \frac{55}{8} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 148u^{35} + \frac{1111}{2}u^{34} + \cdots + 1907u + \frac{3931}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{36} + 11u^{35} + \cdots + 12u + 1)^2$
c_2, c_3, c_5 c_{11}	$u^{72} + 5u^{71} + \cdots + 44u + 31$
c_4, c_8, c_9 c_{12}	$u^{72} + 15u^{71} + \cdots + 1022u + 149$
c_6, c_7, c_{10}	$(u^{36} + 4u^{35} + \cdots + 16u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{36} + 9y^{35} + \cdots - 78y + 1)^2$
c_2, c_3, c_5 c_{11}	$y^{72} - 109y^{71} + \cdots - 5904y + 961$
c_4, c_8, c_9 c_{12}	$y^{72} - 125y^{71} + \cdots + 239896y + 22201$
c_6, c_7, c_{10}	$(y^{36} - 36y^{35} + \cdots - 228y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.801734 + 0.696202I$ $a = 0.525131 - 0.532417I$ $b = -1.060570 - 0.298701I$	$-2.58334 - 1.89748I$	$-1.79078 + 1.73365I$
$u = 0.801734 + 0.696202I$ $a = -0.146921 + 0.381228I$ $b = 1.240490 + 0.042488I$	$-2.58334 - 1.89748I$	$-1.79078 + 1.73365I$
$u = 0.801734 - 0.696202I$ $a = 0.525131 + 0.532417I$ $b = -1.060570 + 0.298701I$	$-2.58334 + 1.89748I$	$-1.79078 - 1.73365I$
$u = 0.801734 - 0.696202I$ $a = -0.146921 - 0.381228I$ $b = 1.240490 - 0.042488I$	$-2.58334 + 1.89748I$	$-1.79078 - 1.73365I$
$u = 0.406976 + 0.842772I$ $a = 0.364285 + 0.941569I$ $b = 1.216290 - 0.277018I$	$-3.72449 + 7.15532I$	$-1.32336 - 7.08750I$
$u = 0.406976 + 0.842772I$ $a = -0.346677 - 0.608804I$ $b = -1.251710 + 0.596442I$	$-3.72449 + 7.15532I$	$-1.32336 - 7.08750I$
$u = 0.406976 - 0.842772I$ $a = 0.364285 - 0.941569I$ $b = 1.216290 + 0.277018I$	$-3.72449 - 7.15532I$	$-1.32336 + 7.08750I$
$u = 0.406976 - 0.842772I$ $a = -0.346677 + 0.608804I$ $b = -1.251710 - 0.596442I$	$-3.72449 - 7.15532I$	$-1.32336 + 7.08750I$
$u = -0.392598 + 1.003430I$ $a = -0.903413 - 0.103360I$ $b = -0.821320 - 0.340230I$	$2.79209 + 2.82464I$	$5.35953 - 2.15606I$
$u = -0.392598 + 1.003430I$ $a = 0.442073 - 0.041027I$ $b = 0.867684 - 0.552611I$	$2.79209 + 2.82464I$	$5.35953 - 2.15606I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.392598 - 1.003430I$ $a = -0.903413 + 0.103360I$ $b = -0.821320 + 0.340230I$	$2.79209 - 2.82464I$	$5.35953 + 2.15606I$
$u = -0.392598 - 1.003430I$ $a = 0.442073 + 0.041027I$ $b = 0.867684 + 0.552611I$	$2.79209 - 2.82464I$	$5.35953 + 2.15606I$
$u = 1.245720 + 0.066167I$ $a = 0.18634 - 1.49060I$ $b = 0.326160 + 0.291125I$	$2.11796 + 2.01943I$	0
$u = 1.245720 + 0.066167I$ $a = 0.60423 - 1.62536I$ $b = -0.872185 + 0.570997I$	$2.11796 + 2.01943I$	0
$u = 1.245720 - 0.066167I$ $a = 0.18634 + 1.49060I$ $b = 0.326160 - 0.291125I$	$2.11796 - 2.01943I$	0
$u = 1.245720 - 0.066167I$ $a = 0.60423 + 1.62536I$ $b = -0.872185 - 0.570997I$	$2.11796 - 2.01943I$	0
$u = -1.237270 + 0.197913I$ $a = -0.45596 + 1.50174I$ $b = 0.255758 - 0.212067I$	$5.29216 - 7.38796I$	0
$u = -1.237270 + 0.197913I$ $a = 0.03864 - 1.81341I$ $b = 1.097400 + 0.775615I$	$5.29216 - 7.38796I$	0
$u = -1.237270 - 0.197913I$ $a = -0.45596 - 1.50174I$ $b = 0.255758 + 0.212067I$	$5.29216 + 7.38796I$	0
$u = -1.237270 - 0.197913I$ $a = 0.03864 + 1.81341I$ $b = 1.097400 - 0.775615I$	$5.29216 + 7.38796I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.544706+0.473507I$ $a=-0.802270-0.233838I$ $b=-0.011900+0.907114I$	$4.45076-7.51019I$	$6.15354+7.01976I$
$u=-0.544706+0.473507I$ $a=\quad 1.38473-1.19024I$ $b=\quad 1.061310+0.548084I$	$4.45076-7.51019I$	$6.15354+7.01976I$
$u=-0.544706-0.473507I$ $a=-0.802270+0.233838I$ $b=-0.011900-0.907114I$	$4.45076+7.51019I$	$6.15354-7.01976I$
$u=-0.544706-0.473507I$ $a=\quad 1.38473+1.19024I$ $b=\quad 1.061310-0.548084I$	$4.45076+7.51019I$	$6.15354-7.01976I$
$u=\quad 0.242081+0.642003I$ $a=-0.121015-0.723872I$ $b=-0.191735+0.659845I$	$0.52756+3.89617I$	$2.77520-6.34158I$
$u=\quad 0.242081+0.642003I$ $a=\quad 1.236690+0.347854I$ $b=\quad 0.980806-0.514343I$	$0.52756+3.89617I$	$2.77520-6.34158I$
$u=\quad 0.242081-0.642003I$ $a=-0.121015+0.723872I$ $b=-0.191735-0.659845I$	$0.52756-3.89617I$	$2.77520+6.34158I$
$u=\quad 0.242081-0.642003I$ $a=\quad 1.236690-0.347854I$ $b=\quad 0.980806+0.514343I$	$0.52756-3.89617I$	$2.77520+6.34158I$
$u=-1.346270+0.118214I$ $a=-0.057599+1.129430I$ $b=-1.206250-0.403477I$	$3.10296-1.88811I$	0
$u=-1.346270+0.118214I$ $a=\quad 0.807053-1.151850I$ $b=-1.140800+0.801114I$	$3.10296-1.88811I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.346270-0.118214I$ $a=-0.057599-1.129430I$ $b=-1.206250+0.403477I$	$3.10296+1.88811I$	0
$u=-1.346270-0.118214I$ $a=0.807053+1.151850I$ $b=-1.140800-0.801114I$	$3.10296+1.88811I$	0
$u=1.360600+0.024824I$ $a=-0.59798-2.02753I$ $b=-1.092470+0.227442I$	$4.48945+0.44139I$	0
$u=1.360600+0.024824I$ $a=-1.56290-2.59175I$ $b=1.95395+2.12838I$	$4.48945+0.44139I$	0
$u=1.360600-0.024824I$ $a=-0.59798+2.02753I$ $b=-1.092470-0.227442I$	$4.48945-0.44139I$	0
$u=1.360600-0.024824I$ $a=-1.56290+2.59175I$ $b=1.95395-2.12838I$	$4.48945-0.44139I$	0
$u=0.479497+0.411115I$ $a=1.278950+0.303011I$ $b=-0.113905-0.253707I$	$1.58087-0.53277I$	$7.83505-0.25698I$
$u=0.479497+0.411115I$ $a=0.090316+0.483528I$ $b=0.673813+0.606032I$	$1.58087-0.53277I$	$7.83505-0.25698I$
$u=0.479497-0.411115I$ $a=1.278950-0.303011I$ $b=-0.113905+0.253707I$	$1.58087+0.53277I$	$7.83505+0.25698I$
$u=0.479497-0.411115I$ $a=0.090316-0.483528I$ $b=0.673813-0.606032I$	$1.58087+0.53277I$	$7.83505+0.25698I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.361950+0.320932I$ $a=-0.260335+1.373070I$ $b=-0.304737-0.598586I$	$5.50387-7.35891I$	0
$u=-1.361950+0.320932I$ $a=\ \ 0.02776-1.48728I$ $b=\ \ 1.165430+0.676249I$	$5.50387-7.35891I$	0
$u=-1.361950-0.320932I$ $a=-0.260335-1.373070I$ $b=-0.304737+0.598586I$	$5.50387+7.35891I$	0
$u=-1.361950-0.320932I$ $a=\ \ 0.02776+1.48728I$ $b=\ \ 1.165430-0.676249I$	$5.50387+7.35891I$	0
$u=-0.592608$ $a=-0.675564$ $b=-1.30375$	0.850544	11.0660
$u=-0.592608$ $a=\ \ 2.60037$ $b=-0.512864$	0.850544	11.0660
$u=-1.45678+0.15564I$ $a=-0.379396+0.929302I$ $b=\ \ 0.398711-0.870251I$	$7.76795-1.60452I$	0
$u=-1.45678+0.15564I$ $a=\ \ 0.074350-0.851116I$ $b=\ \ 0.638031+0.406509I$	$7.76795-1.60452I$	0
$u=-1.45678-0.15564I$ $a=-0.379396-0.929302I$ $b=\ \ 0.398711+0.870251I$	$7.76795+1.60452I$	0
$u=-1.45678-0.15564I$ $a=\ \ 0.074350+0.851116I$ $b=\ \ 0.638031-0.406509I$	$7.76795+1.60452I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.50323 + 0.07660I$ $a = 1.32499 + 0.82787I$ $b = -0.737498 - 0.096809I$	$5.69053 - 0.15999I$	0
$u = -1.50323 + 0.07660I$ $a = -1.56911 - 1.05381I$ $b = 1.72400 + 0.87076I$	$5.69053 - 0.15999I$	0
$u = -1.50323 - 0.07660I$ $a = 1.32499 - 0.82787I$ $b = -0.737498 + 0.096809I$	$5.69053 + 0.15999I$	0
$u = -1.50323 - 0.07660I$ $a = -1.56911 + 1.05381I$ $b = 1.72400 - 0.87076I$	$5.69053 + 0.15999I$	0
$u = 1.49462 + 0.19720I$ $a = -0.16111 + 1.41989I$ $b = 1.33487 - 0.64551I$	$11.0335 + 10.1489I$	0
$u = 1.49462 + 0.19720I$ $a = 0.30102 + 1.55009I$ $b = -0.26778 - 1.48948I$	$11.0335 + 10.1489I$	0
$u = 1.49462 - 0.19720I$ $a = -0.16111 - 1.41989I$ $b = 1.33487 + 0.64551I$	$11.0335 - 10.1489I$	0
$u = 1.49462 - 0.19720I$ $a = 0.30102 - 1.55009I$ $b = -0.26778 + 1.48948I$	$11.0335 - 10.1489I$	0
$u = -1.48828 + 0.31375I$ $a = -0.45103 - 1.50201I$ $b = 1.161310 + 0.493885I$	$2.38283 - 11.34240I$	0
$u = -1.48828 + 0.31375I$ $a = 0.46240 + 1.61868I$ $b = -1.34786 - 0.90026I$	$2.38283 - 11.34240I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.48828-0.31375I$ $a=-0.45103+1.50201I$ $b=1.161310-0.493885I$	$2.38283+11.34240I$	0
$u=-1.48828-0.31375I$ $a=0.46240-1.61868I$ $b=-1.34786+0.90026I$	$2.38283+11.34240I$	0
$u=0.062588+0.462865I$ $a=-0.745882+1.101450I$ $b=-0.761483-0.431993I$	$-1.322960-0.095597I$	$-5.44765-0.30752I$
$u=0.062588+0.462865I$ $a=-1.69151+1.21537I$ $b=-0.841856+0.077327I$	$-1.322960-0.095597I$	$-5.44765-0.30752I$
$u=0.062588-0.462865I$ $a=-0.745882-1.101450I$ $b=-0.761483+0.431993I$	$-1.322960+0.095597I$	$-5.44765+0.30752I$
$u=0.062588-0.462865I$ $a=-1.69151-1.21537I$ $b=-0.841856-0.077327I$	$-1.322960+0.095597I$	$-5.44765+0.30752I$
$u=1.56665+0.25660I$ $a=0.231175-0.827713I$ $b=-1.36349+0.49044I$	$9.69181+1.76230I$	0
$u=1.56665+0.25660I$ $a=-0.223081-0.793724I$ $b=0.469240+0.837793I$	$9.69181+1.76230I$	0
$u=1.56665-0.25660I$ $a=0.231175+0.827713I$ $b=-1.36349-0.49044I$	$9.69181-1.76230I$	0
$u=1.56665-0.25660I$ $a=-0.223081+0.793724I$ $b=0.469240-0.837793I$	$9.69181-1.76230I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.0661431$ $a = \quad 6.64617$ $b = -8.53647$	-0.00224370	1841.00
$u = -0.0661431$ $a = \quad 128.621$ $b = -1.00230$	-0.00224370	1841.00

III. $I_3^u = \langle -7u^{10}+4u^9+\cdots+11b+17,\ -8u^{10}+25u^9+\cdots+11a-78,\ u^{11}-2u^{10}+\cdots+6u+1\rangle$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} 0.727273u^{10} - 2.27273u^9 + \cdots + 2.90909u + 7.09091 \\ 0.636364u^{10} - 0.363636u^9 + \cdots - 1.45455u - 1.54545 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0.272727u^{10} - 2.72727u^9 + \cdots + 11.0909u + 9.90909 \\ 0.363636u^{10} + 0.363636u^9 + \cdots - 3.54545u - 2.45455 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.36364u^{10} - 2.63636u^9 + \cdots + 1.45455u + 5.54545 \\ 0.636364u^{10} - 0.363636u^9 + \cdots - 1.45455u - 1.54545 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.636364u^{10} - 2.36364u^9 + \cdots + 5.54545u + 8.45455 \\ 0.363636u^{10} + 0.363636u^9 + \cdots - 4.54545u - 2.45455 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.09091u^{10} - 3.90909u^9 + \cdots + 2.36364u + 9.63636 \\ -u^{10}+u^9+5u^8-8u^7-4u^6+16u^5-7u^4-10u^3+9u^2+2u-2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.363636u^{10} + 1.63636u^9 + \cdots - 6.45455u - 4.54545 \\ -0.636364u^{10} + 0.363636u^9 + \cdots + 3.45455u + 1.54545 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^{10}-3u^9-4u^8+19u^7-7u^6-31u^5+34u^4+8u^3-30u^2+7u+8 \\ 0.636364u^{10} + 0.636364u^9 + \cdots - 4.45455u - 2.54545 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -\frac{74}{11}u^{10} + \frac{113}{11}u^9 + \frac{357}{11}u^8 - \frac{746}{11}u^7 - \frac{134}{11}u^6 + \frac{1178}{11}u^5 - \frac{724}{11}u^4 - \frac{422}{11}u^3 + \frac{456}{11}u^2 + \frac{144}{11}u + \frac{10}{11}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{11} - 6u^{10} + \cdots - 11u + 1$
c_2, c_{11}	$u^{11} - 5u^9 - u^8 + 9u^7 + 3u^6 - 10u^5 - 3u^4 + 7u^3 + 3u^2 - 2u - 1$
c_3, c_5	$u^{11} - 5u^9 + u^8 + 9u^7 - 3u^6 - 10u^5 + 3u^4 + 7u^3 - 3u^2 - 2u + 1$
c_4, c_8	$u^{11} - u^{10} + \cdots - 5u + 1$
c_6, c_7	$u^{11} - 2u^{10} + \cdots + 6u + 1$
c_9, c_{12}	$u^{11} + u^{10} + \cdots - 5u - 1$
c_{10}	$u^{11} + 2u^{10} + \cdots + 6u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{11} - 2y^{10} + \cdots + 21y - 1$
c_2, c_3, c_5 c_{11}	$y^{11} - 10y^{10} + \cdots + 10y - 1$
c_4, c_8, c_9 c_{12}	$y^{11} - 13y^{10} + \cdots + 45y - 1$
c_6, c_7, c_{10}	$y^{11} - 14y^{10} + \cdots + 38y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.947758$ $a = -0.866165$ $b = 1.59894$	-7.33878	-27.9880
$u = 0.697676 + 0.834481I$ $a = 0.549586 + 0.594984I$ $b = 0.694924 + 0.358502I$	$3.09180 - 4.84097I$	$5.24884 + 3.87488I$
$u = 0.697676 - 0.834481I$ $a = 0.549586 - 0.594984I$ $b = 0.694924 - 0.358502I$	$3.09180 + 4.84097I$	$5.24884 - 3.87488I$
$u = 1.284570 + 0.369820I$ $a = 0.40416 + 1.72162I$ $b = 0.906586 - 0.628396I$	$5.41429 + 9.15643I$	$5.68722 - 10.47253I$
$u = 1.284570 - 0.369820I$ $a = 0.40416 - 1.72162I$ $b = 0.906586 + 0.628396I$	$5.41429 - 9.15643I$	$5.68722 + 10.47253I$
$u = -1.35854$ $a = 0.543106$ $b = -1.74021$	4.07888	9.27100
$u = 1.48788 + 0.09186I$ $a = 0.855967 - 1.087180I$ $b = -0.811433 + 0.624669I$	$6.02864 + 0.67022I$	$7.62823 - 2.72103I$
$u = 1.48788 - 0.09186I$ $a = 0.855967 + 1.087180I$ $b = -0.811433 - 0.624669I$	$6.02864 - 0.67022I$	$7.62823 + 2.72103I$
$u = -0.449664$ $a = 1.10365$ $b = -0.719426$	-0.265950	2.42860
$u = -0.183780$ $a = 5.68622$ $b = -1.23706$	-0.0829640	0.0440200

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -2.00050$ $a = -0.0862312$ $b = \quad 0.517601$	14.0178	25.1160

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

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

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^{11}-6u^{10}+\cdots-11u+1)(u^{25}-22u^{24}+\cdots+5120u+512)$ $\cdot\,(u^{36}+11u^{35}+\cdots+12u+1)^2$
c_2, c_{11}	$(u-1)(u^{11}-5u^9+\cdots-2u-1)$ $\cdot\,(u^{25}-u^{24}+\cdots-4u+1)(u^{72}+5u^{71}+\cdots+44u+31)$
c_3, c_5	$(u+1)(u^{11}-5u^9+\cdots-2u+1)$ $\cdot\,(u^{25}-u^{24}+\cdots-4u+1)(u^{72}+5u^{71}+\cdots+44u+31)$
c_4, c_8	$(u+1)(u^{11}-u^{10}+\cdots-5u+1)(u^{25}-11u^{23}+\cdots+u-1)$ $\cdot\,(u^{72}+15u^{71}+\cdots+1022u+149)$
c_6, c_7	$u(u^{11}-2u^{10}+\cdots+6u+1)(u^{25}-11u^{24}+\cdots-80u+16)$ $\cdot\,(u^{36}+4u^{35}+\cdots+16u+1)^2$
c_9, c_{12}	$(u-1)(u^{11}+u^{10}+\cdots-5u-1)(u^{25}-11u^{23}+\cdots+u-1)$ $\cdot\,(u^{72}+15u^{71}+\cdots+1022u+149)$
c_{10}	$u(u^{11}+2u^{10}+\cdots+6u-1)(u^{25}-11u^{24}+\cdots-80u+16)$ $\cdot\,(u^{36}+4u^{35}+\cdots+16u+1)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^{11}-2y^{10}+\cdots+21y-1)$ $\cdot\,(y^{25}-2y^{24}+\cdots+76808192y-262144)$ $\cdot\,(y^{36}+9y^{35}+\cdots-78y+1)^2$
c_2, c_3, c_5 c_{11}	$(y-1)(y^{11}-10y^{10}+\cdots+10y-1)(y^{25}-15y^{24}+\cdots+50y-1)$ $\cdot\,(y^{72}-109y^{71}+\cdots-5904y+961)$
c_4, c_8, c_9 c_{12}	$(y-1)(y^{11}-13y^{10}+\cdots+45y-1)(y^{25}-22y^{24}+\cdots+21y-1)$ $\cdot\,(y^{72}-125y^{71}+\cdots+239896y+22201)$
c_6, c_7, c_{10}	$y(y^{11}-14y^{10}+\cdots+38y-1)(y^{25}-23y^{24}+\cdots-1408y-256)$ $\cdot\,(y^{36}-36y^{35}+\cdots-228y+1)^2$