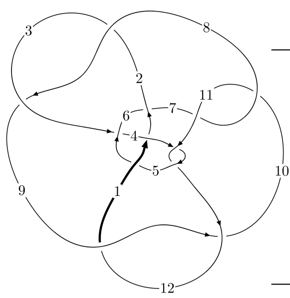
$12n_{0874}$ ($K12n_{0874}$)



A knot diagram[1]

Linearized knot diagam

$\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow$

4 8 6 11 1 2 11 3 12 8 5 9

Solving Sequence

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

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

$$\begin{aligned}
I^u_1 = \langle & 3.88703 \times 10^{531} u^{97} + 2.37179 \times 10^{532} u^{96} + \cdots + 7.13036 \times 10^{532} b + 1.66917 \times 10^{536}, \\
& - 5.17946 \times 10^{536} u^{97} - 3.44558 \times 10^{537} u^{96} + \cdots + 1.04681 \times 10^{537} a - 6.30093 \times 10^{541}, \\
& u^{98} + 7u^{97} + \cdots + 485513u + 44043 \rangle \\
I^u_2 = \langle & -3.11544 \times 10^{51} u^{35} - 1.76100 \times 10^{52} u^{34} + \cdots + 5.72391 \times 10^{50} b - 4.79348 \times 10^{51}, \\
& - 8.61463 \times 10^{50} u^{35} - 4.68417 \times 10^{51} u^{34} + \cdots + 5.72391 \times 10^{50} a - 8.17523 \times 10^{50},\ u^{36} + 5u^{35} + \cdots + 5u - \\
I^u_3 = \langle & b + a - 1,\ a^2 - a + 1,\ u - 1 \rangle \\
I^u_4 = \langle & b + 2,\ a + 1,\ u + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 137 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. $\boldsymbol{I_1^u = \langle 3.89 \times 10^{531} u^{97} + 2.37 \times 10^{532} u^{96} + \cdots + 7.13 \times 10^{532} b + 1.67 \times 10^{536},\ -5.18 \times 10^{536} u^{97} - 3.45 \times 10^{537} u^{96} + \cdots + 1.05 \times 10^{537} a - 6.30 \times 10^{541},\ u^{98} + 7u^{97} + \cdots + 485513u + 44043 \rangle}$

(i) Arc colorings

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

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

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

$$a_{11} = \begin{pmatrix} 0.494786u^{97} + 3.29152u^{96} + \cdots + 498696.u + 60191.9 \\ -0.0545138u^{97} - 0.332633u^{96} + \cdots - 23823.2u - 2340.93 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.290645u^{97} + 1.90277u^{96} + \cdots + 246755.u + 28003.6 \\ 0.0713382u^{97} + 0.477526u^{96} + \cdots + 70483.3u + 8186.59 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.219307u^{97} + 1.42524u^{96} + \cdots + 176271.u + 19817.0 \\ 0.0713382u^{97} + 0.477526u^{96} + \cdots + 70483.3u + 8186.59 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.234515u^{97} + 1.53885u^{96} + \cdots + 203052.u + 23162.9 \\ 0.0576709u^{97} + 0.395768u^{96} + \cdots + 66339.8u + 7871.48 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.663198u^{97} + 4.31867u^{96} + \cdots + 548562.u + 62433.4 \\ 0.187423u^{97} + 1.21229u^{96} + \cdots + 146315.u + 16359.9 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.452513u^{97} - 2.97505u^{96} + \cdots - 412430.u - 48480.8 \\ -0.0874361u^{97} - 0.577292u^{96} + \cdots - 82676.3u - 9809.37 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.258820u^{97} + 1.64422u^{96} + \cdots + 157464.u + 15829.2 \\ 0.134219u^{97} + 0.851277u^{96} + \cdots + 80780.0u + 7907.17 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.60879u^{97} + 10.6591u^{96} + \cdots + 1.59375 \times 10^{6}u + 192950. \\ 0.0194880u^{97} + 0.128613u^{96} + \cdots + 19715.0u + 2307.08 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.815945u^{97} + 5.34673u^{96} + \cdots + 737122.u + 86857.8 \\ 0.186275u^{97} + 1.16701u^{96} + \cdots + 108090.u + 11163.4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.36407u^{97} + 8.16421u^{96} + \cdots + 290793.u + 4941.92$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{98} - 7u^{97} + \cdots - 485513u + 44043$
c_2, c_8	$u^{98} - 21u^{96} + \cdots + 16624u + 2701$
c_3	$u^{98} + 5u^{97} + \cdots - 60u - 3$
c_4, c_{11}	$u^{98} - 3u^{97} + \cdots - 1324u - 193$
c_5	$u^{98} + 4u^{97} + \cdots + 9488u + 1852$
c_6	$u^{98} + 28u^{96} + \cdots + 1451470765u - 470778887$
c_7, c_{10}	$u^{98} - 5u^{97} + \cdots + 7560885u - 625281$
c_9, c_{12}	$u^{98} - 6u^{97} + \cdots - 11140u + 837$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{98} - 51y^{97} + \cdots - 123544471309y + 1939785849$
c_2, c_8	$y^{98} - 42y^{97} + \cdots - 258320098y + 7295401$
c_3	$y^{98} - 5y^{97} + \cdots - 822y + 9$
c_4, c_{11}	$y^{98} - 73y^{97} + \cdots - 1306760y + 37249$
c_5	$y^{98} - 24y^{97} + \cdots - 12001088y + 3429904$
c_6	$y^{98} + 56y^{97} + \cdots + 1.14 \times 10^{19}y + 2.22 \times 10^{17}$
c_7, c_{10}	$y^{98} - 89y^{97} + \cdots - 6238806215403y + 390976328961$
c_9, c_{12}	$y^{98} + 28y^{97} + \cdots + 524678y + 700569$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.968126 + 0.222153I$ $a = -0.49504 - 1.35651I$ $b = 0.081167 + 0.136365I$	$-2.30647 - 3.35687I$	0
$u = 0.968126 - 0.222153I$ $a = -0.49504 + 1.35651I$ $b = 0.081167 - 0.136365I$	$-2.30647 + 3.35687I$	0
$u = 0.946901 + 0.283855I$ $a = 0.833414 + 1.130270I$ $b = 0.151296 - 0.072870I$	$-2.46721 + 1.31247I$	0
$u = 0.946901 - 0.283855I$ $a = 0.833414 - 1.130270I$ $b = 0.151296 + 0.072870I$	$-2.46721 - 1.31247I$	0
$u = -0.920116 + 0.440938I$ $a = -1.47718 - 0.39312I$ $b = -1.67990 + 0.45771I$	$-1.08524 + 3.10232I$	0
$u = -0.920116 - 0.440938I$ $a = -1.47718 + 0.39312I$ $b = -1.67990 - 0.45771I$	$-1.08524 - 3.10232I$	0
$u = 0.801784 + 0.518175I$ $a = 1.105210 - 0.820593I$ $b = 1.50280 - 1.10221I$	$-5.09430 + 4.73289I$	0
$u = 0.801784 - 0.518175I$ $a = 1.105210 + 0.820593I$ $b = 1.50280 + 1.10221I$	$-5.09430 - 4.73289I$	0
$u = 0.897499 + 0.319102I$ $a = -0.772552 + 0.279139I$ $b = -1.94191 - 1.28646I$	$-3.55756 - 2.03098I$	0
$u = 0.897499 - 0.319102I$ $a = -0.772552 - 0.279139I$ $b = -1.94191 + 1.28646I$	$-3.55756 + 2.03098I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.930790 + 0.500586I$ $a = 1.177720 + 0.296086I$ $b = 1.27067 + 0.69461I$	$-8.59494 + 1.86844I$	0
$u = -0.930790 - 0.500586I$ $a = 1.177720 - 0.296086I$ $b = 1.27067 - 0.69461I$	$-8.59494 - 1.86844I$	0
$u = 0.032690 + 1.075740I$ $a = -0.146955 + 0.681838I$ $b = 0.780704 + 0.134721I$	$2.45073 - 4.36839I$	0
$u = 0.032690 - 1.075740I$ $a = -0.146955 - 0.681838I$ $b = 0.780704 - 0.134721I$	$2.45073 + 4.36839I$	0
$u = 0.933459 + 0.540835I$ $a = 0.030560 - 0.426960I$ $b = 0.115481 + 1.261990I$	$-1.93431 + 1.15400I$	0
$u = 0.933459 - 0.540835I$ $a = 0.030560 + 0.426960I$ $b = 0.115481 - 1.261990I$	$-1.93431 - 1.15400I$	0
$u = -0.996957 + 0.439724I$ $a = 1.41379 + 0.09061I$ $b = 1.271260 + 0.256458I$	$-8.93133 + 2.06464I$	0
$u = -0.996957 - 0.439724I$ $a = 1.41379 - 0.09061I$ $b = 1.271260 - 0.256458I$	$-8.93133 - 2.06464I$	0
$u = 0.432657 + 1.007900I$ $a = 0.113369 - 0.588730I$ $b = 0.021279 - 0.650648I$	$2.23861 - 1.82364I$	0
$u = 0.432657 - 1.007900I$ $a = 0.113369 + 0.588730I$ $b = 0.021279 + 0.650648I$	$2.23861 + 1.82364I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.10330$ $a = -1.11211$ $b = -2.15012$	-1.74309	0
$u = 0.584477 + 0.938415I$ $a = 0.943522 - 0.377784I$ $b = 2.48816 + 0.38109I$	$2.08534 - 8.07440I$	0
$u = 0.584477 - 0.938415I$ $a = 0.943522 + 0.377784I$ $b = 2.48816 - 0.38109I$	$2.08534 + 8.07440I$	0
$u = -0.562422 + 0.961350I$ $a = -0.273104 - 0.316163I$ $b = -1.14512 + 1.43575I$	$-2.03759 + 0.63611I$	0
$u = -0.562422 - 0.961350I$ $a = -0.273104 + 0.316163I$ $b = -1.14512 - 1.43575I$	$-2.03759 - 0.63611I$	0
$u = -0.735376 + 0.852023I$ $a = -0.251086 + 1.031980I$ $b = 0.245412 + 0.151108I$	$4.58637 - 0.17416I$	0
$u = -0.735376 - 0.852023I$ $a = -0.251086 - 1.031980I$ $b = 0.245412 - 0.151108I$	$4.58637 + 0.17416I$	0
$u = 1.063820 + 0.379249I$ $a = 0.876645 + 0.506504I$ $b = 0.888153 - 0.336155I$	$-0.53158 - 2.92126I$	0
$u = 1.063820 - 0.379249I$ $a = 0.876645 - 0.506504I$ $b = 0.888153 + 0.336155I$	$-0.53158 + 2.92126I$	0
$u = 0.851429 + 0.099909I$ $a = 1.265410 - 0.154215I$ $b = 1.42389 + 1.17660I$	$0.75470 - 2.36582I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.851429 - 0.099909I$ $a = 1.265410 + 0.154215I$ $b = 1.42389 - 1.17660I$	$0.75470 + 2.36582I$	0
$u = -1.029330 + 0.506262I$ $a = 0.363470 - 1.016050I$ $b = -0.227694 - 0.002893I$	$-3.72389 + 3.86913I$	0
$u = -1.029330 - 0.506262I$ $a = 0.363470 + 1.016050I$ $b = -0.227694 + 0.002893I$	$-3.72389 - 3.86913I$	0
$u = -0.595068 + 0.597381I$ $a = -1.27394 - 1.13856I$ $b = -1.67648 - 1.21810I$	$-4.91130 + 7.00164I$	0
$u = -0.595068 - 0.597381I$ $a = -1.27394 + 1.13856I$ $b = -1.67648 + 1.21810I$	$-4.91130 - 7.00164I$	0
$u = 0.782994 + 0.856661I$ $a = -0.701326 + 0.841550I$ $b = -1.105620 + 0.657033I$	$-5.86798 - 2.06115I$	0
$u = 0.782994 - 0.856661I$ $a = -0.701326 - 0.841550I$ $b = -1.105620 - 0.657033I$	$-5.86798 + 2.06115I$	0
$u = 0.690803 + 0.464994I$ $a = 0.297748 - 0.174526I$ $b = 0.14837 - 1.74686I$	$-1.39771 - 4.15360I$	0
$u = 0.690803 - 0.464994I$ $a = 0.297748 + 0.174526I$ $b = 0.14837 + 1.74686I$	$-1.39771 + 4.15360I$	0
$u = 1.009410 + 0.601914I$ $a = 1.45556 - 0.07995I$ $b = 1.256130 + 0.160658I$	$-5.76243 - 9.39036I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.009410 - 0.601914I$ $a = 1.45556 + 0.07995I$ $b = 1.256130 - 0.160658I$	$-5.76243 + 9.39036I$	0
$u = -0.680166 + 0.457476I$ $a = 0.211622 - 0.117266I$ $b = 1.02928 - 2.02906I$	$0.57382 - 6.84957I$	0
$u = -0.680166 - 0.457476I$ $a = 0.211622 + 0.117266I$ $b = 1.02928 + 2.02906I$	$0.57382 + 6.84957I$	0
$u = 1.076280 + 0.493384I$ $a = -0.847870 + 0.513350I$ $b = -1.57841 - 0.74164I$	$-3.94589 - 2.30114I$	0
$u = 1.076280 - 0.493384I$ $a = -0.847870 - 0.513350I$ $b = -1.57841 + 0.74164I$	$-3.94589 + 2.30114I$	0
$u = -1.123600 + 0.379256I$ $a = -1.53393 - 0.07531I$ $b = -1.44831 + 0.00070I$	$-7.00593 - 2.93592I$	0
$u = -1.123600 - 0.379256I$ $a = -1.53393 + 0.07531I$ $b = -1.44831 - 0.00070I$	$-7.00593 + 2.93592I$	0
$u = -1.084890 + 0.492363I$ $a = -0.504486 + 1.158190I$ $b = 0.0828795 + 0.0778496I$	$-1.06566 + 10.79880I$	0
$u = -1.084890 - 0.492363I$ $a = -0.504486 - 1.158190I$ $b = 0.0828795 - 0.0778496I$	$-1.06566 - 10.79880I$	0
$u = -1.124510 + 0.448253I$ $a = 1.209100 + 0.200099I$ $b = 1.85028 - 0.67299I$	$-1.21930 + 8.61712I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.124510 - 0.448253I$ $a = \ \ 1.209100 - 0.200099I$ $b = \ \ 1.85028 + 0.67299I$	$-1.21930 - 8.61712I$	0
$u = -0.464509 + 1.172000I$ $a = -0.053836 + 0.261001I$ $b = \ \ 0.621028 - 0.197974I$	$6.76349 + 2.34241I$	0
$u = -0.464509 - 1.172000I$ $a = -0.053836 - 0.261001I$ $b = \ \ 0.621028 + 0.197974I$	$6.76349 - 2.34241I$	0
$u = -0.739123$ $a = \ \ 2.25200$ $b = \ \ 2.54683$	-9.95144	-118.510
$u = -0.731020$ $a = -1.22807$ $b = -1.63973$	-1.67876	0
$u = -0.708249 + 0.175453I$ $a = \ \ 0.538567 - 0.513506I$ $b = \ \ 0.137723 - 0.377292I$	$2.40542 - 1.79703I$	0
$u = -0.708249 - 0.175453I$ $a = \ \ 0.538567 + 0.513506I$ $b = \ \ 0.137723 + 0.377292I$	$2.40542 + 1.79703I$	0
$u = \ \ 0.589743 + 1.141430I$ $a = -0.233114 - 0.785124I$ $b = -0.331529 - 0.320158I$	$2.51262 - 2.70362I$	0
$u = \ \ 0.589743 - 1.141430I$ $a = -0.233114 + 0.785124I$ $b = -0.331529 + 0.320158I$	$2.51262 + 2.70362I$	0
$u = \ \ 0.391378 + 0.596073I$ $a = \ \ 0.640441 + 0.147713I$ $b = \ \ 0.161637 - 0.141028I$	$-0.015074 - 1.217060I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.391378 - 0.596073I$ $a = 0.640441 - 0.147713I$ $b = 0.161637 + 0.141028I$	$-0.015074 + 1.217060I$	0
$u = 1.104790 + 0.665459I$ $a = -1.206870 + 0.214393I$ $b = -1.43304 - 0.12209I$	$-7.05257 - 3.86875I$	0
$u = 1.104790 - 0.665459I$ $a = -1.206870 - 0.214393I$ $b = -1.43304 + 0.12209I$	$-7.05257 + 3.86875I$	0
$u = 1.281240 + 0.166858I$ $a = 0.859196 - 0.472227I$ $b = 1.292930 + 0.430670I$	$-1.82405 + 2.36704I$	0
$u = 1.281240 - 0.166858I$ $a = 0.859196 + 0.472227I$ $b = 1.292930 - 0.430670I$	$-1.82405 - 2.36704I$	0
$u = -0.447035 + 1.215850I$ $a = -0.179136 - 0.116619I$ $b = 0.047631 + 0.526670I$	$5.34790 + 6.03017I$	0
$u = -0.447035 - 1.215850I$ $a = -0.179136 + 0.116619I$ $b = 0.047631 - 0.526670I$	$5.34790 - 6.03017I$	0
$u = -1.053150 + 0.760738I$ $a = 0.974388 - 0.043306I$ $b = 2.04585 - 0.47947I$	$3.59575 + 6.15631I$	0
$u = -1.053150 - 0.760738I$ $a = 0.974388 + 0.043306I$ $b = 2.04585 + 0.47947I$	$3.59575 - 6.15631I$	0
$u = -0.941624 + 0.927715I$ $a = -0.798890 - 0.745925I$ $b = -1.48050 + 0.77009I$	$0.68540 + 5.52613I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.941624-0.927715I$ $a=-0.798890+0.745925I$ $b=-1.48050-0.77009I$	$0.68540-5.52613I$	0
$u=-0.531514+0.061307I$ $a=1.50544+1.32141I$ $b=1.47349-0.41800I$	$1.41227-5.79351I$	$-2.46420+5.26074I$
$u=-0.531514-0.061307I$ $a=1.50544-1.32141I$ $b=1.47349+0.41800I$	$1.41227+5.79351I$	$-2.46420-5.26074I$
$u=1.25204+0.76158I$ $a=-0.897588+0.324316I$ $b=-1.69844-0.01396I$	$-6.45455-3.73447I$	0
$u=1.25204-0.76158I$ $a=-0.897588-0.324316I$ $b=-1.69844+0.01396I$	$-6.45455+3.73447I$	0
$u=0.492576+0.186056I$ $a=-2.16994+1.16872I$ $b=-1.49710-0.73339I$	$0.61225-2.87536I$	$0.+3.36558I$
$u=0.492576-0.186056I$ $a=-2.16994-1.16872I$ $b=-1.49710+0.73339I$	$0.61225+2.87536I$	$0.-3.36558I$
$u=-1.36632+0.62485I$ $a=0.800490+0.228431I$ $b=1.59769-0.73129I$	$3.19413+4.02524I$	0
$u=-1.36632-0.62485I$ $a=0.800490-0.228431I$ $b=1.59769+0.73129I$	$3.19413-4.02524I$	0
$u=-0.443603+0.070420I$ $a=-0.74926+3.09815I$ $b=0.116347+0.280142I$	$4.85526+3.12032I$	$-18.2113-2.9153I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.443603 - 0.070420I$ $a = -0.74926 - 3.09815I$ $b = 0.116347 - 0.280142I$	$4.85526 - 3.12032I$	$-18.2113 + 2.9153I$
$u = -0.338507 + 0.006882I$ $a = 0.15293 + 4.72616I$ $b = 0.199214 - 0.191193I$	$8.98797 - 0.51667I$	$-0.3104 - 17.1627I$
$u = -0.338507 - 0.006882I$ $a = 0.15293 - 4.72616I$ $b = 0.199214 + 0.191193I$	$8.98797 + 0.51667I$	$-0.3104 + 17.1627I$
$u = -1.43490 + 0.93399I$ $a = -0.889278 - 0.131933I$ $b = -2.12439 + 0.52190I$	$-7.70534 + 10.50060I$	0
$u = -1.43490 - 0.93399I$ $a = -0.889278 + 0.131933I$ $b = -2.12439 - 0.52190I$	$-7.70534 - 10.50060I$	0
$u = -1.41307 + 1.00623I$ $a = 0.929912 + 0.202368I$ $b = 2.09890 - 0.56276I$	$-5.8818 + 18.2319I$	0
$u = -1.41307 - 1.00623I$ $a = 0.929912 - 0.202368I$ $b = 2.09890 + 0.56276I$	$-5.8818 - 18.2319I$	0
$u = 1.52808 + 0.92551I$ $a = 0.874806 - 0.213439I$ $b = 1.96385 + 0.57108I$	$-8.06064 - 9.89546I$	0
$u = 1.52808 - 0.92551I$ $a = 0.874806 + 0.213439I$ $b = 1.96385 - 0.57108I$	$-8.06064 + 9.89546I$	0
$u = 1.48331 + 1.03234I$ $a = -0.832092 + 0.310326I$ $b = -2.02712 - 0.53893I$	$-9.02530 - 4.47960I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.48331 - 1.03234I$ $a = -0.832092 - 0.310326I$ $b = -2.02712 + 0.53893I$	$-9.02530 + 4.47960I$	0
$u = 1.42615 + 1.40778I$ $a = -0.599680 + 0.450622I$ $b = -1.92759 - 0.61809I$	$-7.90990 - 5.83472I$	0
$u = 1.42615 - 1.40778I$ $a = -0.599680 - 0.450622I$ $b = -1.92759 + 0.61809I$	$-7.90990 + 5.83472I$	0
$u = -0.93776 + 1.98197I$ $a = 0.187590 + 0.575826I$ $b = 1.001740 - 0.895873I$	$-3.58940 - 8.50475I$	0
$u = -0.93776 - 1.98197I$ $a = 0.187590 - 0.575826I$ $b = 1.001740 + 0.895873I$	$-3.58940 + 8.50475I$	0
$u = -0.02295 + 2.75755I$ $a = 0.039593 - 0.433321I$ $b = 0.20734 + 1.70128I$	$-4.31072 - 0.47019I$	0
$u = -0.02295 - 2.75755I$ $a = 0.039593 + 0.433321I$ $b = 0.20734 - 1.70128I$	$-4.31072 + 0.47019I$	0
$u = -5.89703$ $a = -0.196841$ $b = -5.25583$	-3.86366	0

II.
$\boldsymbol{I^u_2 = \langle -3.12\times10^{51}u^{35}-1.76\times10^{52}u^{34}+\cdots+5.72\times10^{50}b-4.79\times10^{51},\ -8.61\times 10^{50}u^{35}-4.68\times10^{51}u^{34}+\cdots+5.72\times10^{50}a-8.18\times10^{50},\ u^{36}+5u^{35}+\cdots+5u-1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}1.50502u^{35}+8.18351u^{34}+\cdots-14.9279u+1.42826\\5.44285u^{35}+30.7657u^{34}+\cdots-29.3039u+8.37448\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-5.34168u^{35}-31.1834u^{34}+\cdots+25.2753u-3.72596\\-0.760583u^{35}-4.34471u^{34}+\cdots+5.67801u-0.853526\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-4.58110u^{35}-26.8387u^{34}+\cdots+19.5973u-2.87243\\-0.760583u^{35}-4.34471u^{34}+\cdots+5.67801u-0.853526\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-2.98665u^{35}-17.9573u^{34}+\cdots+10.1903u+0.207279\\-0.304980u^{35}-1.88289u^{34}+\cdots+2.72645u+0.0556743\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1.07737u^{35}+4.15124u^{34}+\cdots-16.0513u+12.8229\\-0.777593u^{35}-3.94227u^{34}+\cdots+8.58729u-1.37480\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-4.64279u^{35}-24.3441u^{34}+\cdots+33.0800u-11.7179\\-2.60405u^{35}-14.5797u^{34}+\cdots+12.9586u-5.04576\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-2.25053u^{35}-11.6031u^{34}+\cdots+4.20377u+5.73381\\2.97419u^{35}+17.2209u^{34}+\cdots-11.5429u+3.71329\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}4.43065u^{35}+23.2355u^{34}+\cdots-44.2795u+5.86839\\0.843434u^{35}+4.18366u^{34}+\cdots-9.73349u+3.58140\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2.98045u^{35}+20.5518u^{34}+\cdots+21.8592u+0.516507\\8.99497u^{35}+51.2909u^{34}+\cdots-42.8677u+10.9520\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 63.0353u^{35}+363.897u^{34}+\cdots-287.092u+86.9170$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{36} + 5u^{35} + \cdots + 5u - 1$
c_2	$u^{36} - u^{35} + \cdots + 5u + 3$
c_3	$u^{36} + 7u^{35} + \cdots - 7u - 1$
c_4	$u^{36} - 2u^{35} + \cdots - 5u + 3$
c_5	$u^{36} - 4u^{35} + \cdots - 456u - 48$
c_6	$u^{36} - u^{35} + \cdots - 2036u - 441$
c_7	$u^{36} - 4u^{35} + \cdots + 5u + 1$
c_8	$u^{36} + u^{35} + \cdots - 5u + 3$
c_9	$u^{36} - 5u^{35} + \cdots + 3u + 1$
c_{10}	$u^{36} + 4u^{35} + \cdots - 5u + 1$
c_{11}	$u^{36} + 2u^{35} + \cdots + 5u + 3$
c_{12}	$u^{36} + 5u^{35} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{36} - 21y^{35} + \cdots - 9y + 1$
c_2, c_8	$y^{36} - 31y^{35} + \cdots - 217y + 9$
c_3	$y^{36} - 9y^{35} + \cdots - 141y + 1$
c_4, c_{11}	$y^{36} - 22y^{35} + \cdots - 103y + 9$
c_5	$y^{36} - 8y^{35} + \cdots - 47136y + 2304$
c_6	$y^{36} + 7y^{35} + \cdots - 2575336y + 194481$
c_7, c_{10}	$y^{36} - 18y^{35} + \cdots + 21y + 1$
c_9, c_{12}	$y^{36} + 7y^{35} + \cdots + 19y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.714881 + 0.756577I$ $a = 1.127120 - 0.293586I$ $b = 2.39796 + 0.45968I$	$2.22124 - 7.43156I$	$-1.98172 + 4.89120I$
$u = 0.714881 - 0.756577I$ $a = 1.127120 + 0.293586I$ $b = 2.39796 - 0.45968I$	$2.22124 + 7.43156I$	$-1.98172 - 4.89120I$
$u = 0.790065 + 0.529449I$ $a = 0.250037 + 0.439484I$ $b = -0.562359 - 0.828237I$	$-2.42134 - 2.11606I$	$-3.44727 + 4.91351I$
$u = 0.790065 - 0.529449I$ $a = 0.250037 - 0.439484I$ $b = -0.562359 + 0.828237I$	$-2.42134 + 2.11606I$	$-3.44727 - 4.91351I$
$u = -0.937628 + 0.506613I$ $a = -1.209760 - 0.208362I$ $b = -1.129070 - 0.566935I$	$-8.37156 + 2.07888I$	$6.15083 - 8.30328I$
$u = -0.937628 - 0.506613I$ $a = -1.209760 + 0.208362I$ $b = -1.129070 + 0.566935I$	$-8.37156 - 2.07888I$	$6.15083 + 8.30328I$
$u = 0.380494 + 1.063760I$ $a = -0.211123 - 0.804081I$ $b = -0.476605 - 0.674625I$	$3.26099 - 2.74854I$	$4.91917 + 3.92261I$
$u = 0.380494 - 1.063760I$ $a = -0.211123 + 0.804081I$ $b = -0.476605 + 0.674625I$	$3.26099 + 2.74854I$	$4.91917 - 3.92261I$
$u = 0.308878 + 0.813062I$ $a = -0.75125 + 1.48345I$ $b = -0.746739 + 0.671760I$	$-4.91265 - 6.31933I$	$-6.03488 + 2.93564I$
$u = 0.308878 - 0.813062I$ $a = -0.75125 - 1.48345I$ $b = -0.746739 - 0.671760I$	$-4.91265 + 6.31933I$	$-6.03488 - 2.93564I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.298926 + 0.780339I$ $a = -0.618693 + 0.555269I$ $b = 0.388321 + 0.823478I$	$2.63334 - 2.66378I$	$3.08842 + 4.48784I$
$u = 0.298926 - 0.780339I$ $a = -0.618693 - 0.555269I$ $b = 0.388321 - 0.823478I$	$2.63334 + 2.66378I$	$3.08842 - 4.48784I$
$u = 0.783498 + 0.166219I$ $a = -1.62139 + 0.18504I$ $b = -1.71746 - 0.73679I$	$-0.98609 - 1.66746I$	$-4.60766 + 1.22058I$
$u = 0.783498 - 0.166219I$ $a = -1.62139 - 0.18504I$ $b = -1.71746 + 0.73679I$	$-0.98609 + 1.66746I$	$-4.60766 - 1.22058I$
$u = -0.993785 + 0.766685I$ $a = -0.971315 - 0.697482I$ $b = -1.48402 + 0.69918I$	$0.87679 + 5.05336I$	0
$u = -0.993785 - 0.766685I$ $a = -0.971315 + 0.697482I$ $b = -1.48402 - 0.69918I$	$0.87679 - 5.05336I$	0
$u = 0.728210$ $a = 2.30119$ $b = 2.51843$	-9.91606	107.710
$u = -0.541426 + 0.376585I$ $a = 0.288983 + 0.929480I$ $b = 1.74791 - 1.77425I$	$0.44882 - 7.36372I$	$-7.2812 + 13.3503I$
$u = -0.541426 - 0.376585I$ $a = 0.288983 - 0.929480I$ $b = 1.74791 + 1.77425I$	$0.44882 + 7.36372I$	$-7.2812 - 13.3503I$
$u = -0.345267 + 1.296380I$ $a = -0.277461 - 0.363617I$ $b = 0.056666 + 0.331656I$	$5.08131 + 6.28383I$	$0. - 12.16133I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.345267-1.296380I$ $a=-0.277461+0.363617I$ $b=\ \ 0.056666-0.331656I$	$5.08131-6.28383I$	$0.+12.16133I$
$u=\ \ 0.626819+0.068521I$ $a=-1.35334+0.86602I$ $b=-0.98889-1.28768I$	$-1.67237-3.07358I$	$-6.56618+2.97279I$
$u=\ \ 0.626819-0.068521I$ $a=-1.35334-0.86602I$ $b=-0.98889+1.28768I$	$-1.67237+3.07358I$	$-6.56618-2.97279I$
$u=-1.088840+0.888476I$ $a=\ \ 0.874737+0.164187I$ $b=\ \ 1.92316-0.68714I$	$5.02758+5.86380I$	0
$u=-1.088840-0.888476I$ $a=\ \ 0.874737-0.164187I$ $b=\ \ 1.92316+0.68714I$	$5.02758-5.86380I$	0
$u=-0.66079+1.25901I$ $a=-0.037623+0.573489I$ $b=\ \ 0.383659-0.123803I$	$6.68431+1.63919I$	0
$u=-0.66079-1.25901I$ $a=-0.037623-0.573489I$ $b=\ \ 0.383659+0.123803I$	$6.68431-1.63919I$	0
$u=-0.420259+0.204955I$ $a=-1.40064+3.12278I$ $b=\ \ 0.113508-0.105877I$	$8.98569+0.71703I$	$-0.8048-22.3294I$
$u=-0.420259-0.204955I$ $a=-1.40064-3.12278I$ $b=\ \ 0.113508+0.105877I$	$8.98569-0.71703I$	$-0.8048+22.3294I$
$u=\ \ 0.206181+0.241545I$ $a=-3.25610-2.39451I$ $b=\ \ 0.071381-0.457718I$	$5.12019-3.11902I$	$12.56347+2.80103I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.206181 - 0.241545I$ $a = -3.25610 + 2.39451I$ $b = 0.071381 + 0.457718I$	$5.12019 + 3.11902I$	$12.56347 - 2.80103I$
$u = -0.95874 + 1.54632I$ $a = -0.211085 - 0.317945I$ $b = -1.95094 + 1.98931I$	$-2.26668 + 0.48403I$	0
$u = -0.95874 - 1.54632I$ $a = -0.211085 + 0.317945I$ $b = -1.95094 - 1.98931I$	$-2.26668 - 0.48403I$	0
$u = 1.51240 + 1.28157I$ $a = -0.656316 + 0.381230I$ $b = -1.99632 - 0.59791I$	$-7.87413 - 5.30398I$	0
$u = 1.51240 - 1.28157I$ $a = -0.656316 - 0.381230I$ $b = -1.99632 + 0.59791I$	$-7.87413 + 5.30398I$	0
$u = -5.07902$ $a = -0.230745$ $b = -4.57877$	-3.88522	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4a - 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	1.00000		
$a =$	$0.500000 + 0.866025I$	$-1.64493 - 2.02988I$	$-6.00000 + 3.46410I$
$b =$	$0.500000 - 0.866025I$		
$u =$	1.00000		
$a =$	$0.500000 - 0.866025I$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$
$b =$	$0.500000 + 0.866025I$		

IV. $I_4^u = \langle b+2,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = -2.00000$	-1.64493	-6.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^3)(u^{36}+5u^{35}+\cdots+5u-1)$ $\cdot(u^{98}-7u^{97}+\cdots-485513u+44043)$
c_2	$(u+1)(u^2+u+1)(u^{36}-u^{35}+\cdots+5u+3)$ $\cdot(u^{98}-21u^{96}+\cdots+16624u+2701)$
c_3	$u(u^2+u+1)(u^{36}+7u^{35}+\cdots-7u-1)(u^{98}+5u^{97}+\cdots-60u-3)$
c_4	$(u+1)(u^2+u+1)(u^{36}-2u^{35}+\cdots-5u+3)$ $\cdot(u^{98}-3u^{97}+\cdots-1324u-193)$
c_5	$u^2(u+1)(u^{36}-4u^{35}+\cdots-456u-48)$ $\cdot(u^{98}+4u^{97}+\cdots+9488u+1852)$
c_6	$(u+1)(u^2-u+1)(u^{36}-u^{35}+\cdots-2036u-441)$ $\cdot(u^{98}+28u^{96}+\cdots+1451470765u-470778887)$
c_7	$u(u-1)^2(u^{36}-4u^{35}+\cdots+5u+1)$ $\cdot(u^{98}-5u^{97}+\cdots+7560885u-625281)$
c_8	$(u+1)(u^2-u+1)(u^{36}+u^{35}+\cdots-5u+3)$ $\cdot(u^{98}-21u^{96}+\cdots+16624u+2701)$
c_9	$(u+1)(u^2-u+1)(u^{36}-5u^{35}+\cdots+3u+1)$ $\cdot(u^{98}-6u^{97}+\cdots-11140u+837)$
c_{10}	$u(u+1)^2(u^{36}+4u^{35}+\cdots-5u+1)$ $\cdot(u^{98}-5u^{97}+\cdots+7560885u-625281)$
c_{11}	$(u+1)(u^2-u+1)(u^{36}+2u^{35}+\cdots+5u+3)$ $\cdot(u^{98}-3u^{97}+\cdots-1324u-193)$
c_{12}	$(u+1)(u^2+u+1)(u^{36}+5u^{35}+\cdots-3u+1)$ $\cdot(u^{98}-6u^{97}+\cdots-11140u+837)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^3)(y^{36} - 21y^{35} + \cdots - 9y + 1)$ $\cdot (y^{98} - 51y^{97} + \cdots - 123544471309y + 1939785849)$
c_2, c_8	$(y-1)(y^2 + y + 1)(y^{36} - 31y^{35} + \cdots - 217y + 9)$ $\cdot (y^{98} - 42y^{97} + \cdots - 258320098y + 7295401)$
c_3	$y(y^2 + y + 1)(y^{36} - 9y^{35} + \cdots - 141y + 1)(y^{98} - 5y^{97} + \cdots - 822y + 9)$
c_4, c_{11}	$(y-1)(y^2 + y + 1)(y^{36} - 22y^{35} + \cdots - 103y + 9)$ $\cdot (y^{98} - 73y^{97} + \cdots - 1306760y + 37249)$
c_5	$y^2(y-1)(y^{36} - 8y^{35} + \cdots - 47136y + 2304)$ $\cdot (y^{98} - 24y^{97} + \cdots - 12001088y + 3429904)$
c_6	$(y-1)(y^2 + y + 1)(y^{36} + 7y^{35} + \cdots - 2575336y + 194481)$ $\cdot (y^{98} + 56y^{97} + \cdots + 1.14 \times 10^{19}y + 2.22 \times 10^{17})$
c_7, c_{10}	$y(y-1)^2(y^{36} - 18y^{35} + \cdots + 21y + 1)$ $\cdot (y^{98} - 89y^{97} + \cdots - 6238806215403y + 390976328961)$
c_9, c_{12}	$(y-1)(y^2 + y + 1)(y^{36} + 7y^{35} + \cdots + 19y + 1)$ $\cdot (y^{98} + 28y^{97} + \cdots + 524678y + 700569)$