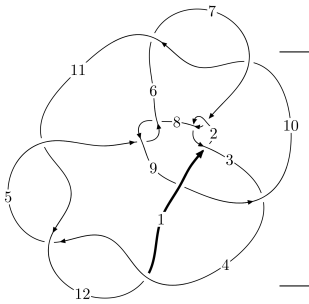
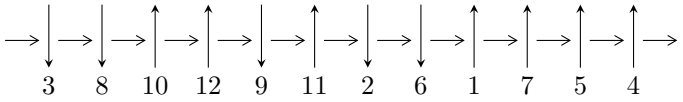
$12a_{0769}$ $(K12a_{0769})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 4.90028 \times 10^{221} u^{119} - 6.36136 \times 10^{221} u^{118} + \cdots + 3.32809 \times 10^{221} b - 7.62938 \times 10^{223}, \\ & 6.58487 \times 10^{222} u^{119} - 1.43090 \times 10^{222} u^{118} + \cdots + 1.05389 \times 10^{222} a - 5.06564 \times 10^{224}, \\ & u^{120} - u^{119} + \cdots - 55u + 76 \rangle \\ I_2^u = \langle & 43u^{25} + 128u^{24} + \cdots + 49b - 207,\ 235u^{25} + 246u^{24} + \cdots + 49a - 443,\ u^{26} - 5u^{24} + \cdots - 6u^2 + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 146 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. $\boldsymbol{I_1^u = \langle 4.90 \times 10^{221} u^{119} - 6.36 \times 10^{221} u^{118} + \cdots + 3.33 \times 10^{221} b - 7.63 \times 10^{223},\ 6.58 \times 10^{222} u^{119} - 1.43 \times 10^{222} u^{118} + \cdots + 1.05 \times 10^{222} a - 5.07 \times 10^{224},\ u^{120} - u^{119} + \cdots - 55u + 76 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -6.24813u^{119} + 1.35773u^{118} + \cdots + 43.1116u + 480.660 \\ -1.47240u^{119} + 1.91142u^{118} + \cdots + 144.938u + 229.242 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -5.70471u^{119} - 0.638481u^{118} + \cdots - 97.4784u + 319.351 \\ -4.92763u^{119} + 0.244041u^{118} + \cdots - 31.4329u + 326.770 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -7.17248u^{119} + 1.42733u^{118} + \cdots + 47.5668u + 545.642 \\ -2.50902u^{119} + 2.36297u^{118} + \cdots + 177.669u + 326.769 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -7.55899u^{119} - 0.806060u^{118} + \cdots - 153.369u + 406.441 \\ -4.70727u^{119} + 0.223186u^{118} + \cdots - 30.9319u + 305.682 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.77573u^{119} - 0.553687u^{118} + \cdots - 101.826u + 251.418 \\ -1.47240u^{119} + 1.91142u^{118} + \cdots + 144.938u + 229.242 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -6.42549u^{119} - 0.253055u^{118} + \cdots - 48.4915u + 394.825 \\ -3.76726u^{119} + 0.426794u^{118} + \cdots + 2.87528u + 263.024 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 4.90188u^{119} - 3.66164u^{118} + \cdots - 345.185u - 620.459 \\ 0.318017u^{119} - 1.90163u^{118} + \cdots - 189.757u - 184.421 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 11.9826u^{119} - 3.58926u^{118} + \cdots - 186.522u - 990.154$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{120} + 49u^{119} + \cdots + 96657u + 5776$
c_2, c_7	$u^{120} + u^{119} + \cdots + 55u + 76$
c_3	$u^{120} + 15u^{118} + \cdots + 8192u + 1024$
c_4, c_{11}, c_{12}	$u^{120} + 3u^{119} + \cdots + u + 2$
c_5, c_8	$u^{120} - 4u^{119} + \cdots - 288u + 112$
c_6, c_{10}	$u^{120} - u^{119} + \cdots + 10311u + 1766$
c_9	$u^{120} - 7u^{119} + \cdots + 3752u + 928$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{120} + 43y^{119} + \cdots + 814266207y + 33362176$
c_2, c_7	$y^{120} - 49y^{119} + \cdots - 96657y + 5776$
c_3	$y^{120} + 30y^{119} + \cdots + 22020096y + 1048576$
c_4, c_{11}, c_{12}	$y^{120} + 123y^{119} + \cdots + 311y + 4$
c_5, c_8	$y^{120} + 68y^{119} + \cdots + 688512y + 12544$
c_6, c_{10}	$y^{120} + 83y^{119} + \cdots + 16685179y + 3118756$
c_9	$y^{120} + y^{119} + \cdots - 8464960y + 861184$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.640376 + 0.754506I$ $a = -0.273310 - 0.956734I$ $b = 1.042890 - 0.294443I$	$5.13060 + 2.11657I$	0
$u = 0.640376 - 0.754506I$ $a = -0.273310 + 0.956734I$ $b = 1.042890 + 0.294443I$	$5.13060 - 2.11657I$	0
$u = -0.526278 + 0.835444I$ $a = 0.404937 - 0.002448I$ $b = -0.290883 + 1.201140I$	$-7.92215 - 4.97148I$	0
$u = -0.526278 - 0.835444I$ $a = 0.404937 + 0.002448I$ $b = -0.290883 - 1.201140I$	$-7.92215 + 4.97148I$	0
$u = 0.882437 + 0.436290I$ $a = -1.72646 - 2.00320I$ $b = -0.14486 - 2.24214I$	$-10.71680 - 1.79302I$	0
$u = 0.882437 - 0.436290I$ $a = -1.72646 + 2.00320I$ $b = -0.14486 + 2.24214I$	$-10.71680 + 1.79302I$	0
$u = -0.895202 + 0.495352I$ $a = -0.94608 + 2.31227I$ $b = 0.087800 + 1.396210I$	$-1.78369 + 2.17868I$	0
$u = -0.895202 - 0.495352I$ $a = -0.94608 - 2.31227I$ $b = 0.087800 - 1.396210I$	$-1.78369 - 2.17868I$	0
$u = 0.914841 + 0.478429I$ $a = 1.52846 + 1.20791I$ $b = -0.378324 + 1.071270I$	$-1.78722 - 2.37288I$	0
$u = 0.914841 - 0.478429I$ $a = 1.52846 - 1.20791I$ $b = -0.378324 - 1.071270I$	$-1.78722 + 2.37288I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.832669+0.489433I$ $a=-0.35939+1.69937I$ $b=-0.358930+1.273050I$	$-1.56898+1.83315I$	0
$u=-0.832669-0.489433I$ $a=-0.35939-1.69937I$ $b=-0.358930-1.273050I$	$-1.56898-1.83315I$	0
$u=0.883036+0.381686I$ $a=0.189734+0.020446I$ $b=0.499406+0.462228I$	$-1.35072-1.18683I$	0
$u=0.883036-0.381686I$ $a=0.189734-0.020446I$ $b=0.499406-0.462228I$	$-1.35072+1.18683I$	0
$u=0.809652+0.656870I$ $a=0.848716+0.218807I$ $b=-0.720338+0.598197I$	$-1.31759-1.23542I$	0
$u=0.809652-0.656870I$ $a=0.848716-0.218807I$ $b=-0.720338-0.598197I$	$-1.31759+1.23542I$	0
$u=-0.872320+0.393222I$ $a=2.21646-1.59565I$ $b=-0.065607-0.821017I$	$0.041033-0.859294I$	0
$u=-0.872320-0.393222I$ $a=2.21646+1.59565I$ $b=-0.065607+0.821017I$	$0.041033+0.859294I$	0
$u=-1.034920+0.226485I$ $a=0.853083-0.590111I$ $b=0.801681-0.687458I$	$-6.96211+0.05806I$	0
$u=-1.034920-0.226485I$ $a=0.853083+0.590111I$ $b=0.801681+0.687458I$	$-6.96211-0.05806I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.472677 + 0.954639I$ $a = -0.039591 + 0.315286I$ $b = 0.66236 + 1.30816I$	$-4.59021 + 12.29690I$	0
$u = 0.472677 - 0.954639I$ $a = -0.039591 - 0.315286I$ $b = 0.66236 - 1.30816I$	$-4.59021 - 12.29690I$	0
$u = -0.695176 + 0.610567I$ $a = 0.837440 + 0.424941I$ $b = -0.607307 + 0.978322I$	$-2.45014 - 3.81871I$	0
$u = -0.695176 - 0.610567I$ $a = 0.837440 - 0.424941I$ $b = -0.607307 - 0.978322I$	$-2.45014 + 3.81871I$	0
$u = 0.937857 + 0.536832I$ $a = -1.29364 - 2.46504I$ $b = 0.381221 - 1.189800I$	$1.04041 - 5.59127I$	0
$u = 0.937857 - 0.536832I$ $a = -1.29364 + 2.46504I$ $b = 0.381221 + 1.189800I$	$1.04041 + 5.59127I$	0
$u = -0.466942 + 0.975547I$ $a = 0.032907 - 0.446919I$ $b = 0.580562 - 1.221380I$	$2.18598 - 7.87003I$	0
$u = -0.466942 - 0.975547I$ $a = 0.032907 + 0.446919I$ $b = 0.580562 + 1.221380I$	$2.18598 + 7.87003I$	0
$u = -0.972631 + 0.474931I$ $a = -0.478168 + 0.389429I$ $b = 0.495723 - 0.238417I$	$-0.55152 + 4.16383I$	0
$u = -0.972631 - 0.474931I$ $a = -0.478168 - 0.389429I$ $b = 0.495723 + 0.238417I$	$-0.55152 - 4.16383I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.845008 + 0.351940I$ $a = 2.45288 + 2.44208I$ $b = 0.111293 + 0.735777I$	$-4.95807 + 3.90695I$	0
$u = 0.845008 - 0.351940I$ $a = 2.45288 - 2.44208I$ $b = 0.111293 - 0.735777I$	$-4.95807 - 3.90695I$	0
$u = -0.578766 + 0.699373I$ $a = -0.472636 + 1.200260I$ $b = 1.290760 + 0.327675I$	$-1.33795 - 5.57386I$	0
$u = -0.578766 - 0.699373I$ $a = -0.472636 - 1.200260I$ $b = 1.290760 - 0.327675I$	$-1.33795 + 5.57386I$	0
$u = 0.886943 + 0.175895I$ $a = -0.613692 + 0.718318I$ $b = -1.198730 - 0.548916I$	$-5.60557 + 5.04751I$	0
$u = 0.886943 - 0.175895I$ $a = -0.613692 - 0.718318I$ $b = -1.198730 + 0.548916I$	$-5.60557 - 5.04751I$	0
$u = 0.739706 + 0.509645I$ $a = 0.332396 - 0.867037I$ $b = -0.575450 - 1.044550I$	$1.69152 + 1.31290I$	0
$u = 0.739706 - 0.509645I$ $a = 0.332396 + 0.867037I$ $b = -0.575450 + 1.044550I$	$1.69152 - 1.31290I$	0
$u = -0.747119 + 0.815803I$ $a = -0.086094 + 0.707533I$ $b = 0.621373 + 0.213296I$	$4.69145 + 2.28641I$	0
$u = -0.747119 - 0.815803I$ $a = -0.086094 - 0.707533I$ $b = 0.621373 - 0.213296I$	$4.69145 - 2.28641I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.015460 + 0.447308I$ $a = -1.317700 - 0.432286I$ $b = 0.237227 + 0.107181I$	$-5.79389 - 7.01675I$	0
$u = 1.015460 - 0.447308I$ $a = -1.317700 + 0.432286I$ $b = 0.237227 - 0.107181I$	$-5.79389 + 7.01675I$	0
$u = 0.455745 + 0.753757I$ $a = 0.508301 - 0.127039I$ $b = -0.326725 - 0.980508I$	$-1.21124 + 2.82506I$	0
$u = 0.455745 - 0.753757I$ $a = 0.508301 + 0.127039I$ $b = -0.326725 + 0.980508I$	$-1.21124 - 2.82506I$	0
$u = 1.070650 + 0.334394I$ $a = 1.11732 + 1.32635I$ $b = 0.442128 + 1.240410I$	$-2.93359 - 0.36031I$	0
$u = 1.070650 - 0.334394I$ $a = 1.11732 - 1.32635I$ $b = 0.442128 - 1.240410I$	$-2.93359 + 0.36031I$	0
$u = -0.958174 + 0.583219I$ $a = -1.68183 + 2.25035I$ $b = 0.511496 + 1.072450I$	$-3.26276 + 8.54514I$	0
$u = -0.958174 - 0.583219I$ $a = -1.68183 - 2.25035I$ $b = 0.511496 - 1.072450I$	$-3.26276 - 8.54514I$	0
$u = -0.988511 + 0.551859I$ $a = 1.36500 - 1.43555I$ $b = -0.47857 - 1.64419I$	$-9.67224 + 2.94134I$	0
$u = -0.988511 - 0.551859I$ $a = 1.36500 + 1.43555I$ $b = -0.47857 + 1.64419I$	$-9.67224 - 2.94134I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.885154 + 0.709753I$ $a = 0.272074 - 0.779465I$ $b = 0.640083 + 0.500521I$	$-1.51750 - 4.05330I$	0
$u = 0.885154 - 0.709753I$ $a = 0.272074 + 0.779465I$ $b = 0.640083 - 0.500521I$	$-1.51750 + 4.05330I$	0
$u = -0.150218 + 1.125420I$ $a = 0.234940 + 0.606687I$ $b = 0.177560 + 0.897894I$	$1.59223 + 0.82756I$	0
$u = -0.150218 - 1.125420I$ $a = 0.234940 - 0.606687I$ $b = 0.177560 - 0.897894I$	$1.59223 - 0.82756I$	0
$u = -0.478342 + 0.702792I$ $a = 0.559900 + 0.148553I$ $b = 0.205940 - 1.327080I$	$-8.23370 + 1.80575I$	0
$u = -0.478342 - 0.702792I$ $a = 0.559900 - 0.148553I$ $b = 0.205940 + 1.327080I$	$-8.23370 - 1.80575I$	0
$u = 1.162960 + 0.015963I$ $a = -0.17549 + 2.26357I$ $b = 0.16472 + 1.48066I$	$-13.9002 + 3.2371I$	0
$u = 1.162960 - 0.015963I$ $a = -0.17549 - 2.26357I$ $b = 0.16472 - 1.48066I$	$-13.9002 - 3.2371I$	0
$u = -0.878585 + 0.772283I$ $a = 0.365079 + 0.400564I$ $b = -0.041316 - 0.479766I$	$4.22944 + 2.91051I$	0
$u = -0.878585 - 0.772283I$ $a = 0.365079 - 0.400564I$ $b = -0.041316 + 0.479766I$	$4.22944 - 2.91051I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.120880+0.344185I$ $a=\ \ 0.07241-1.61285I$ $b=\ \ 0.108071-0.859897I$	$-6.25035+0.01892I$	0
$u=-1.120880-0.344185I$ $a=\ \ 0.07241+1.61285I$ $b=\ \ 0.108071+0.859897I$	$-6.25035-0.01892I$	0
$u=-1.117730+0.361741I$ $a=\ \ 1.32383-1.24388I$ $b=\ \ 0.53827-1.51484I$	$-8.26977-0.16688I$	0
$u=-1.117730-0.361741I$ $a=\ \ 1.32383+1.24388I$ $b=\ \ 0.53827+1.51484I$	$-8.26977+0.16688I$	0
$u=-1.061330+0.508158I$ $a=-0.89192+1.97682I$ $b=\ \ 0.85279+1.14210I$	$-1.81518+6.56693I$	0
$u=-1.061330-0.508158I$ $a=-0.89192-1.97682I$ $b=\ \ 0.85279-1.14210I$	$-1.81518-6.56693I$	0
$u=\ \ 1.082650+0.461042I$ $a=-0.72573-2.16920I$ $b=\ \ 1.03655-1.34819I$	$-7.66656-7.57137I$	0
$u=\ \ 1.082650-0.461042I$ $a=-0.72573+2.16920I$ $b=\ \ 1.03655+1.34819I$	$-7.66656+7.57137I$	0
$u=\ \ 0.874346+0.790463I$ $a=\ \ 0.615703-0.470871I$ $b=-0.078613+0.882615I$	$-0.00142-2.96056I$	0
$u=\ \ 0.874346-0.790463I$ $a=\ \ 0.615703+0.470871I$ $b=-0.078613-0.882615I$	$-0.00142+2.96056I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.947454+0.705336I$ $a=\ 0.050044-0.235893I$ $b=-0.756499-0.099528I$	$4.04803+3.39775I$	0
$u=-0.947454-0.705336I$ $a=\ 0.050044+0.235893I$ $b=-0.756499+0.099528I$	$4.04803-3.39775I$	0
$u=\ 0.510655+1.067890I$ $a=-0.020351-0.392987I$ $b=\ 0.263141-1.006270I$	$-4.23224-6.56669I$	0
$u=\ 0.510655-1.067890I$ $a=-0.020351+0.392987I$ $b=\ 0.263141+1.006270I$	$-4.23224+6.56669I$	0
$u=-1.024770+0.614403I$ $a=-0.543083-0.844425I$ $b=-1.55541+0.18806I$	$-2.67491+10.64940I$	0
$u=-1.024770-0.614403I$ $a=-0.543083+0.844425I$ $b=-1.55541-0.18806I$	$-2.67491-10.64940I$	0
$u=\ 1.004810+0.652032I$ $a=-0.325232+0.602839I$ $b=-1.225640-0.112802I$	$4.01972-7.46198I$	0
$u=\ 1.004810-0.652032I$ $a=-0.325232-0.602839I$ $b=-1.225640+0.112802I$	$4.01972+7.46198I$	0
$u=\ 0.489454+1.098110I$ $a=\ 0.226348+0.610901I$ $b=\ 0.376642+1.161960I$	$1.92369+1.64383I$	0
$u=\ 0.489454-1.098110I$ $a=\ 0.226348-0.610901I$ $b=\ 0.376642-1.161960I$	$1.92369-1.64383I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.203110+0.141860I$ $a=-0.01063-1.99891I$ $b=\ \ 0.047918-1.218620I$	$-6.29656-0.50343I$	0
$u=-1.203110-0.141860I$ $a=-0.01063+1.99891I$ $b=\ \ 0.047918+1.218620I$	$-6.29656+0.50343I$	0
$u=\ \ 1.088030+0.538755I$ $a=-0.62773-1.56135I$ $b=\ \ 0.931399-0.613542I$	$-5.08544-6.87789I$	0
$u=\ \ 1.088030-0.538755I$ $a=-0.62773+1.56135I$ $b=\ \ 0.931399+0.613542I$	$-5.08544+6.87789I$	0
$u=\ \ 0.679820+0.336957I$ $a=\ \ 1.232030-0.681094I$ $b=-0.406069+0.398167I$	$-1.81621-1.39548I$	$0.+4.94228I$
$u=\ \ 0.679820-0.336957I$ $a=\ \ 1.232030+0.681094I$ $b=-0.406069-0.398167I$	$-1.81621+1.39548I$	$0.-4.94228I$
$u=\ \ 1.088030+0.622795I$ $a=-1.35243-1.36217I$ $b=\ \ 0.445681-1.106640I$	$-3.05949-8.07209I$	0
$u=\ \ 1.088030-0.622795I$ $a=-1.35243+1.36217I$ $b=\ \ 0.445681+1.106640I$	$-3.05949+8.07209I$	0
$u=\ \ 0.337789+0.657214I$ $a=\ \ 0.819345+0.033021I$ $b=-0.839678-0.535416I$	$-2.95335+2.23609I$	$2.00000-1.76365I$
$u=\ \ 0.337789-0.657214I$ $a=\ \ 0.819345-0.033021I$ $b=-0.839678+0.535416I$	$-2.95335-2.23609I$	$2.00000+1.76365I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.087990+0.666342I$ $a=-1.51101+1.19215I$ $b=\ \ 0.428378+1.252690I$	$-9.6150+10.5872I$	0
$u=-1.087990-0.666342I$ $a=-1.51101-1.19215I$ $b=\ \ 0.428378-1.252690I$	$-9.6150-10.5872I$	0
$u=-0.692575+0.103205I$ $a=-0.006438-0.545981I$ $b=-0.783820+0.630029I$	$0.33138-2.81172I$	$-1.59494+8.15444I$
$u=-0.692575-0.103205I$ $a=-0.006438+0.545981I$ $b=-0.783820-0.630029I$	$0.33138+2.81172I$	$-1.59494-8.15444I$
$u=-1.173680+0.559139I$ $a=-0.97992+1.25670I$ $b=\ \ 0.214798+0.833089I$	$-1.67878+4.55618I$	0
$u=-1.173680-0.559139I$ $a=-0.97992-1.25670I$ $b=\ \ 0.214798-0.833089I$	$-1.67878-4.55618I$	0
$u=-0.130840+0.683948I$ $a=\ \ 0.689722-1.176870I$ $b=\ \ 0.387314-0.530088I$	$-2.97731+3.82183I$	$1.37005-2.48592I$
$u=-0.130840-0.683948I$ $a=\ \ 0.689722+1.176870I$ $b=\ \ 0.387314+0.530088I$	$-2.97731-3.82183I$	$1.37005+2.48592I$
$u=-1.311010+0.004264I$ $a=-0.42932-1.89199I$ $b=-0.383741-1.340220I$	$-11.3531+9.5454I$	0
$u=-1.311010-0.004264I$ $a=-0.42932+1.89199I$ $b=-0.383741+1.340220I$	$-11.3531-9.5454I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.031930+0.824659I$ $a=\ \ 0.92437-1.11266I$ $b=-0.09117-1.52498I$	$-8.87470+3.23927I$	0
$u=-1.031930-0.824659I$ $a=\ \ 0.92437+1.11266I$ $b=-0.09117+1.52498I$	$-8.87470-3.23927I$	0
$u=\ \ 1.147360+0.682433I$ $a=\ \ 1.05738+1.77093I$ $b=-0.71682+1.42364I$	$-6.6712-18.2695I$	0
$u=\ \ 1.147360-0.682433I$ $a=\ \ 1.05738-1.77093I$ $b=-0.71682-1.42364I$	$-6.6712+18.2695I$	0
$u=-1.152220+0.686593I$ $a=\ \ 0.97380-1.74188I$ $b=-0.61990-1.36344I$	$0.06823+13.90220I$	0
$u=-1.152220-0.686593I$ $a=\ \ 0.97380+1.74188I$ $b=-0.61990+1.36344I$	$0.06823-13.90220I$	0
$u=\ \ 1.342350+0.051845I$ $a=-0.28993+1.82104I$ $b=-0.242137+1.218030I$	$-4.87573-4.97897I$	0
$u=\ \ 1.342350-0.051845I$ $a=-0.28993-1.82104I$ $b=-0.242137-1.218030I$	$-4.87573+4.97897I$	0
$u=\ \ 1.166220+0.708331I$ $a=\ \ 0.85639+1.62895I$ $b=-0.455418+1.336690I$	$-0.25747-8.00434I$	0
$u=\ \ 1.166220-0.708331I$ $a=\ \ 0.85639-1.62895I$ $b=-0.455418-1.336690I$	$-0.25747+8.00434I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.496518 + 0.387230I$ $a = 0.638984 - 0.276542I$ $b = 0.003814 + 0.743880I$	$-0.95945 - 1.26307I$	$-1.11291 + 4.67551I$
$u = 0.496518 - 0.387230I$ $a = 0.638984 + 0.276542I$ $b = 0.003814 - 0.743880I$	$-0.95945 + 1.26307I$	$-1.11291 - 4.67551I$
$u = 0.030638 + 0.627848I$ $a = 0.630163 + 0.281169I$ $b = -0.705482 - 1.181490I$	$-4.93792 + 3.70699I$	$-0.95537 - 2.54574I$
$u = 0.030638 - 0.627848I$ $a = 0.630163 - 0.281169I$ $b = -0.705482 + 1.181490I$	$-4.93792 - 3.70699I$	$-0.95537 + 2.54574I$
$u = -0.368109 + 0.489191I$ $a = 0.940791 + 0.181536I$ $b = -0.351242 + 0.085606I$	$1.128240 - 0.421422I$	$8.38329 + 0.77170I$
$u = -0.368109 - 0.489191I$ $a = 0.940791 - 0.181536I$ $b = -0.351242 - 0.085606I$	$1.128240 + 0.421422I$	$8.38329 - 0.77170I$
$u = 1.24385 + 0.68095I$ $a = -0.892938 - 0.924431I$ $b = -0.035336 - 0.993557I$	$-6.66799 + 0.06763I$	0
$u = 1.24385 - 0.68095I$ $a = -0.892938 + 0.924431I$ $b = -0.035336 + 0.993557I$	$-6.66799 - 0.06763I$	0
$u = -0.185544 + 0.477522I$ $a = 0.577402 - 0.178656I$ $b = -0.654975 + 0.931972I$	$0.28814 - 2.49618I$	$0.33548 + 5.38020I$
$u = -0.185544 - 0.477522I$ $a = 0.577402 + 0.178656I$ $b = -0.654975 - 0.931972I$	$0.28814 + 2.49618I$	$0.33548 - 5.38020I$

II. $I_2^u = \langle 43u^{25} + 128u^{24} + \cdots + 49b - 207,\ 235u^{25} + 246u^{24} + \cdots + 49a - 443,\ u^{26} - 5u^{24} + \cdots - 6u^2 + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4.79592u^{25} - 5.02041u^{24} + \cdots + 6.59184u + 9.04082 \\ -0.877551u^{25} - 2.61224u^{24} + \cdots + 2.75510u + 4.22449 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0816327u^{25} - 2.40816u^{24} + \cdots - 1.16327u + 3.81633 \\ -0.0816327u^{25} + 1.40816u^{24} + \cdots - 2.83673u - 2.81633 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.91837u^{25} - 2.40816u^{24} + \cdots + 3.83673u + 4.81633 \\ -0.877551u^{25} - 2.61224u^{24} + \cdots + 2.75510u + 4.22449 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.48980u^{25} + 4.55102u^{24} + \cdots - 5.97959u - 7.10204 \\ \frac{13}{7}u^{25} + \frac{19}{7}u^{24} + \cdots - \frac{33}{7}u - \frac{31}{7} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3.91837u^{25} - 2.40816u^{24} + \cdots + 3.83673u + 4.81633 \\ -0.877551u^{25} - 2.61224u^{24} + \cdots + 2.75510u + 4.22449 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -8.67347u^{25} - 7.63265u^{24} + \cdots + 10.3469u + 7.26531 \\ -u^{22} + 4u^{20} + \cdots + 5u^2 - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{3}{7}u^{25} + \frac{8}{7}u^{24} + \cdots + \frac{34}{7}u + \frac{12}{7} \\ -3.89796u^{25} - 1.51020u^{24} + \cdots + 7.79592u + 4.02041 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{16}{49}u^{25} + \frac{67}{49}u^{24} + \cdots - \frac{816}{49}u + \frac{160}{49}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - 10u^{25} + \cdots - 12u + 1$
c_2	$u^{26} - 5u^{24} + \cdots - 6u^2 + 1$
c_3	$u^{26} + u^{25} + \cdots - 6u + 1$
c_4	$u^{26} - 2u^{25} + \cdots - 2u + 1$
c_5	$u^{26} - 3u^{25} + \cdots + 13u^2 + 1$
c_6	$u^{26} + 13u^{24} + \cdots + 3u + 1$
c_7	$u^{26} - 5u^{24} + \cdots - 6u^2 + 1$
c_8	$u^{26} + 3u^{25} + \cdots + 13u^2 + 1$
c_9	$u^{26} - 4u^{24} + \cdots + 8u^2 + 1$
c_{10}	$u^{26} + 13u^{24} + \cdots - 3u + 1$
c_{11}, c_{12}	$u^{26} + 2u^{25} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26}+10y^{25}+\cdots+8y+1$
c_2, c_7	$y^{26}-10y^{25}+\cdots-12y+1$
c_3	$y^{26}+9y^{25}+\cdots-6y+1$
c_4, c_{11}, c_{12}	$y^{26}+30y^{25}+\cdots+8y+1$
c_5, c_8	$y^{26}+23y^{25}+\cdots+26y+1$
c_6, c_{10}	$y^{26}+26y^{25}+\cdots+23y+1$
c_9	$y^{26}-8y^{25}+\cdots+16y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.994810 + 0.279825I$ $a = 1.20662 + 1.58702I$ $b = 0.227394 + 1.366040I$	$-3.35390 - 0.94845I$	$-6.87984 + 3.64915I$
$u = 0.994810 - 0.279825I$ $a = 1.20662 - 1.58702I$ $b = 0.227394 - 1.366040I$	$-3.35390 + 0.94845I$	$-6.87984 - 3.64915I$
$u = -0.896116 + 0.358125I$ $a = 1.82244 - 1.90249I$ $b = 0.10623 - 2.13069I$	$-11.06900 + 1.49966I$	$-11.79695 + 3.82891I$
$u = -0.896116 - 0.358125I$ $a = 1.82244 + 1.90249I$ $b = 0.10623 + 2.13069I$	$-11.06900 - 1.49966I$	$-11.79695 - 3.82891I$
$u = -0.182958 + 1.069700I$ $a = -0.165446 + 0.603831I$ $b = -0.326305 + 1.013770I$	$1.50865 - 1.30118I$	$-4.13640 + 4.60269I$
$u = -0.182958 - 1.069700I$ $a = -0.165446 - 0.603831I$ $b = -0.326305 - 1.013770I$	$1.50865 + 1.30118I$	$-4.13640 - 4.60269I$
$u = -0.539712 + 0.685386I$ $a = -0.568414 - 0.817881I$ $b = -0.385644 - 0.655112I$	$-3.16868 + 5.70923I$	$0.89618 - 5.43712I$
$u = -0.539712 - 0.685386I$ $a = -0.568414 + 0.817881I$ $b = -0.385644 + 0.655112I$	$-3.16868 - 5.70923I$	$0.89618 + 5.43712I$
$u = -0.873848 + 0.718674I$ $a = 0.595356 + 0.958868I$ $b = -0.046280 - 0.505395I$	$0.84766 + 2.74739I$	$6.98009 - 2.11826I$
$u = -0.873848 - 0.718674I$ $a = 0.595356 - 0.958868I$ $b = -0.046280 + 0.505395I$	$0.84766 - 2.74739I$	$6.98009 + 2.11826I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.041120 + 0.481650I$ $a = -1.27885 - 1.92900I$ $b = 0.732093 - 0.736920I$	$-5.41688 - 8.12687I$	$-2.91620 + 10.98109I$
$u = 1.041120 - 0.481650I$ $a = -1.27885 + 1.92900I$ $b = 0.732093 + 0.736920I$	$-5.41688 + 8.12687I$	$-2.91620 - 10.98109I$
$u = 0.873481 + 0.804316I$ $a = 0.336421 - 0.216727I$ $b = -0.064219 + 0.596287I$	$4.02040 - 3.00294I$	$-13.3311 + 9.6327I$
$u = 0.873481 - 0.804316I$ $a = 0.336421 + 0.216727I$ $b = -0.064219 - 0.596287I$	$4.02040 + 3.00294I$	$-13.3311 - 9.6327I$
$u = -1.095000 + 0.529832I$ $a = -0.88226 + 1.88566I$ $b = 0.625830 + 1.064040I$	$-1.34633 + 6.03466I$	$3.29288 - 4.61700I$
$u = -1.095000 - 0.529832I$ $a = -0.88226 - 1.88566I$ $b = 0.625830 - 1.064040I$	$-1.34633 - 6.03466I$	$3.29288 + 4.61700I$
$u = 0.645691 + 0.412052I$ $a = 1.59816 + 1.11692I$ $b = -0.636457 - 0.552346I$	$-3.99958 + 4.31687I$	$0.76169 - 4.27455I$
$u = 0.645691 - 0.412052I$ $a = 1.59816 - 1.11692I$ $b = -0.636457 + 0.552346I$	$-3.99958 - 4.31687I$	$0.76169 + 4.27455I$
$u = -1.154670 + 0.441862I$ $a = 0.85882 - 1.26098I$ $b = 0.385734 - 0.901560I$	$-5.49285 - 1.08973I$	$-1.82174 + 3.24447I$
$u = -1.154670 - 0.441862I$ $a = 0.85882 + 1.26098I$ $b = 0.385734 + 0.901560I$	$-5.49285 + 1.08973I$	$-1.82174 - 3.24447I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.743428 + 0.117360I$ $a = 1.62838 - 1.59027I$ $b = -0.275262 - 0.830725I$	$-2.61520 - 0.29638I$	$-3.41297 - 0.74904I$
$u = 0.743428 - 0.117360I$ $a = 1.62838 + 1.59027I$ $b = -0.275262 + 0.830725I$	$-2.61520 + 0.29638I$	$-3.41297 + 0.74904I$
$u = 0.999411 + 0.755073I$ $a = -1.01604 - 1.23039I$ $b = 0.16796 - 1.63056I$	$-8.59776 - 3.03619I$	$7.54150 - 1.66230I$
$u = 0.999411 - 0.755073I$ $a = -1.01604 + 1.23039I$ $b = 0.16796 + 1.63056I$	$-8.59776 + 3.03619I$	$7.54150 + 1.66230I$
$u = -0.555636 + 0.302936I$ $a = 1.364820 + 0.228812I$ $b = -0.511074 + 0.745245I$	$0.84996 - 2.10170I$	$4.82287 + 3.44352I$
$u = -0.555636 - 0.302936I$ $a = 1.364820 - 0.228812I$ $b = -0.511074 - 0.745245I$	$0.84996 + 2.10170I$	$4.82287 - 3.44352I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{26}-10u^{25}+\cdots-12u+1)(u^{120}+49u^{119}+\cdots+96657u+5776)$
c_2	$(u^{26}-5u^{24}+\cdots-6u^2+1)(u^{120}+u^{119}+\cdots+55u+76)$
c_3	$(u^{26}+u^{25}+\cdots-6u+1)(u^{120}+15u^{118}+\cdots+8192u+1024)$
c_4	$(u^{26}-2u^{25}+\cdots-2u+1)(u^{120}+3u^{119}+\cdots+u+2)$
c_5	$(u^{26}-3u^{25}+\cdots+13u^2+1)(u^{120}-4u^{119}+\cdots-288u+112)$
c_6	$(u^{26}+13u^{24}+\cdots+3u+1)(u^{120}-u^{119}+\cdots+10311u+1766)$
c_7	$(u^{26}-5u^{24}+\cdots-6u^2+1)(u^{120}+u^{119}+\cdots+55u+76)$
c_8	$(u^{26}+3u^{25}+\cdots+13u^2+1)(u^{120}-4u^{119}+\cdots-288u+112)$
c_9	$(u^{26}-4u^{24}+\cdots+8u^2+1)(u^{120}-7u^{119}+\cdots+3752u+928)$
c_{10}	$(u^{26}+13u^{24}+\cdots-3u+1)(u^{120}-u^{119}+\cdots+10311u+1766)$
c_{11}, c_{12}	$(u^{26}+2u^{25}+\cdots+2u+1)(u^{120}+3u^{119}+\cdots+u+2)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{26}+10y^{25}+\cdots+8y+1)$ $\cdot(y^{120}+43y^{119}+\cdots+814266207y+33362176)$
c_2, c_7	$(y^{26}-10y^{25}+\cdots-12y+1)(y^{120}-49y^{119}+\cdots-96657y+5776)$
c_3	$(y^{26}+9y^{25}+\cdots-6y+1)$ $\cdot(y^{120}+30y^{119}+\cdots+22020096y+1048576)$
c_4, c_{11}, c_{12}	$(y^{26}+30y^{25}+\cdots+8y+1)(y^{120}+123y^{119}+\cdots+311y+4)$
c_5, c_8	$(y^{26}+23y^{25}+\cdots+26y+1)(y^{120}+68y^{119}+\cdots+688512y+12544)$
c_6, c_{10}	$(y^{26}+26y^{25}+\cdots+23y+1)$ $\cdot(y^{120}+83y^{119}+\cdots+16685179y+3118756)$
c_9	$(y^{26}-8y^{25}+\cdots+16y+1)(y^{120}+y^{119}+\cdots-8464960y+861184)$