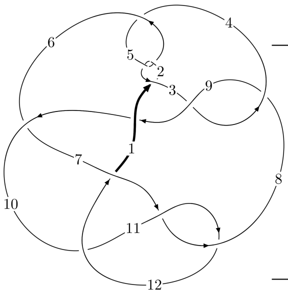
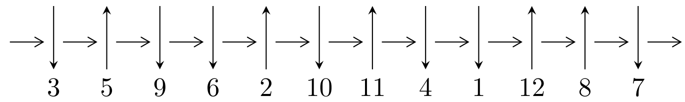
$12a_{0171}$ ($K12a_{0171}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.15819 \times 10^{360} u^{109} - 4.02996 \times 10^{360} u^{108} + \cdots + 5.49965 \times 10^{360} b - 1.34535 \times 10^{364}, \\ & - 1.86842 \times 10^{361} u^{109} + 2.18094 \times 10^{361} u^{108} + \cdots + 1.09993 \times 10^{361} a + 8.84584 \times 10^{363}, \\ & u^{110} - u^{109} + \cdots - 8192u + 4096 \rangle \end{aligned}$$

$$I_1^v = \langle a,\ v^3 + b - 1,\ v^{12} - v^{11} + v^{10} - 4v^9 + 3v^8 - 3v^7 + 5v^6 - 3v^5 + 3v^4 - 3v^3 + 2v^2 - v + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 122 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. $\boldsymbol{I^u_1 = \langle 1.16 \times 10^{360} u^{109} - 4.03 \times 10^{360} u^{108} + \cdots + 5.50 \times 10^{360} b - 1.35 \times 10^{364},\ -1.87 \times 10^{361} u^{109} + 2.18 \times 10^{361} u^{108} + \cdots + 1.10 \times 10^{361} a + 8.85 \times 10^{363},\ u^{110} - u^{109} + \cdots - 8192u + 4096\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.69867u^{109} - 1.98280u^{108} + \cdots + 9457.21u - 804.218 \\ -0.210593u^{109} + 0.732766u^{108} + \cdots - 5987.35u + 2446.24 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1.48808u^{109} - 1.25003u^{108} + \cdots + 3469.86u + 1642.02 \\ -0.210593u^{109} + 0.732766u^{108} + \cdots - 5987.35u + 2446.24 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.714770u^{109} - 1.52578u^{108} + \cdots + 10789.3u - 3614.64 \\ 0.337885u^{109} + 0.284437u^{108} + \cdots - 4404.48u + 2959.35 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.13580u^{109} - 2.01555u^{108} + \cdots + 13081.2u - 3731.32 \\ 1.06260u^{109} - 1.34601u^{108} + \cdots + 6511.41u - 918.245 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.431583u^{109} - 0.532966u^{108} + \cdots + 2172.28u - 59.0907 \\ -0.724304u^{109} + 0.723872u^{108} + \cdots - 3494.65u + 30.9050 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.857528u^{109} + 1.09821u^{108} + \cdots - 5289.40u + 790.397 \\ -1.99332u^{109} + 3.11376u^{108} + \cdots - 18370.6u + 4521.72 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.00285440u^{109} + 0.527936u^{108} + \cdots - 5539.52u + 2531.27 \\ 0.0673513u^{109} - 0.758670u^{108} + \cdots + 6801.27u - 3238.00 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.93960u^{109} - 3.10158u^{108} + \cdots + 18565.3u - 4717.17 \\ 1.11994u^{109} - 1.36855u^{108} + \cdots + 6391.16u - 748.098 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.48768u^{109} + 4.72242u^{108} + \cdots - 31628.9u + 9674.98$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{110} + 35u^{109} + \cdots + 3u + 1$
c_2, c_5	$u^{110} + 7u^{109} + \cdots + 7u + 1$
c_3, c_8	$u^{110} + u^{109} + \cdots + 8192u + 4096$
c_6	$u^{110} + 3u^{109} + \cdots + 1599u + 1297$
c_7, c_{11}	$u^{110} - 3u^{109} + \cdots - 5u + 1$
c_9	$u^{110} - 11u^{109} + \cdots - 299803u + 6701$
c_{10}	$u^{110} - 53u^{109} + \cdots + 7u + 1$
c_{12}	$u^{110} - 9u^{109} + \cdots + 6069u + 851$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{110} + 87y^{109} + \cdots - 9y + 1$
c_2, c_5	$y^{110} + 35y^{109} + \cdots + 3y + 1$
c_3, c_8	$y^{110} + 65y^{109} + \cdots + 268435456y + 16777216$
c_6	$y^{110} - 13y^{109} + \cdots - 35448721y + 1682209$
c_7, c_{11}	$y^{110} - 53y^{109} + \cdots + 7y + 1$
c_9	$y^{110} + 47y^{109} + \cdots + 20676298343y + 44903401$
c_{10}	$y^{110} + 11y^{109} + \cdots - 49y + 1$
c_{12}	$y^{110} + 31y^{109} + \cdots - 29575433y + 724201$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.180529 + 0.981799I$ $a = 0.436047 - 0.614290I$ $b = 0.491906 - 0.727885I$	$-0.53209 + 3.96936I$	0
$u = -0.180529 - 0.981799I$ $a = 0.436047 + 0.614290I$ $b = 0.491906 + 0.727885I$	$-0.53209 - 3.96936I$	0
$u = -0.957729 + 0.306652I$ $a = 0.696769 - 0.934630I$ $b = 0.640335 - 0.557300I$	$-0.05454 - 4.42932I$	0
$u = -0.957729 - 0.306652I$ $a = 0.696769 + 0.934630I$ $b = 0.640335 + 0.557300I$	$-0.05454 + 4.42932I$	0
$u = 0.245291 + 0.984450I$ $a = -0.56407 - 1.41967I$ $b = 1.049850 - 0.596683I$	$1.11589 - 9.02457I$	0
$u = 0.245291 - 0.984450I$ $a = -0.56407 + 1.41967I$ $b = 1.049850 + 0.596683I$	$1.11589 + 9.02457I$	0
$u = 0.532933 + 0.873851I$ $a = 0.084707 + 0.191205I$ $b = -0.954325 - 0.534058I$	$-2.00995 + 0.05811I$	0
$u = 0.532933 - 0.873851I$ $a = 0.084707 - 0.191205I$ $b = -0.954325 + 0.534058I$	$-2.00995 - 0.05811I$	0
$u = -0.105007 + 1.018520I$ $a = -3.29953 - 0.20001I$ $b = 1.108910 + 0.314775I$	$3.39141 + 3.62653I$	0
$u = -0.105007 - 1.018520I$ $a = -3.29953 + 0.20001I$ $b = 1.108910 - 0.314775I$	$3.39141 - 3.62653I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.059861 + 1.025080I$ $a = 3.21011 + 0.60441I$ $b = -1.114020 + 0.535031I$	$1.88520 - 3.91301I$	0
$u = 0.059861 - 1.025080I$ $a = 3.21011 - 0.60441I$ $b = -1.114020 - 0.535031I$	$1.88520 + 3.91301I$	0
$u = 0.196284 + 0.944858I$ $a = 0.947750 + 0.572093I$ $b = -0.665914 + 0.514784I$	$0.83286 - 1.92222I$	0
$u = 0.196284 - 0.944858I$ $a = 0.947750 - 0.572093I$ $b = -0.665914 - 0.514784I$	$0.83286 + 1.92222I$	0
$u = -0.042659 + 0.963890I$ $a = 0.429644 + 0.579531I$ $b = 0.466727 + 0.736300I$	$-0.40492 + 1.37362I$	0
$u = -0.042659 - 0.963890I$ $a = 0.429644 - 0.579531I$ $b = 0.466727 - 0.736300I$	$-0.40492 - 1.37362I$	0
$u = -0.020984 + 0.946768I$ $a = -0.62326 + 1.38833I$ $b = 1.065210 + 0.594026I$	$1.36280 + 3.69257I$	0
$u = -0.020984 - 0.946768I$ $a = -0.62326 - 1.38833I$ $b = 1.065210 - 0.594026I$	$1.36280 - 3.69257I$	0
$u = -0.045031 + 0.927975I$ $a = 0.019136 - 1.251560I$ $b = -0.294206 + 0.667943I$	$-0.456573 - 0.751770I$	0
$u = -0.045031 - 0.927975I$ $a = 0.019136 + 1.251560I$ $b = -0.294206 - 0.667943I$	$-0.456573 + 0.751770I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.490706 + 0.956042I$ $a = 0.90556 - 1.10461I$ $b = -0.616458 - 0.613746I$	$-2.99794 + 4.49260I$	0
$u = -0.490706 - 0.956042I$ $a = 0.90556 + 1.10461I$ $b = -0.616458 + 0.613746I$	$-2.99794 - 4.49260I$	0
$u = 0.649259 + 0.651850I$ $a = -0.49900 - 1.69164I$ $b = 1.012510 - 0.555888I$	$-2.73974 - 4.65409I$	0
$u = 0.649259 - 0.651850I$ $a = -0.49900 + 1.69164I$ $b = 1.012510 + 0.555888I$	$-2.73974 + 4.65409I$	0
$u = -0.641134 + 0.595733I$ $a = 0.551507 - 0.699489I$ $b = 0.536320 - 0.644113I$	$-4.14246 - 0.04555I$	0
$u = -0.641134 - 0.595733I$ $a = 0.551507 + 0.699489I$ $b = 0.536320 + 0.644113I$	$-4.14246 + 0.04555I$	0
$u = -0.725461 + 0.479876I$ $a = -1.02784 + 2.23874I$ $b = 1.031940 + 0.469288I$	$1.74989 + 4.60006I$	0
$u = -0.725461 - 0.479876I$ $a = -1.02784 - 2.23874I$ $b = 1.031940 - 0.469288I$	$1.74989 - 4.60006I$	0
$u = 0.085944 + 1.128550I$ $a = 0.999975 + 0.000279I$ $b = -1.045510 + 0.024442I$	$4.66020 - 2.81279I$	0
$u = 0.085944 - 1.128550I$ $a = 0.999975 - 0.000279I$ $b = -1.045510 - 0.024442I$	$4.66020 + 2.81279I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.845787 + 0.182009I$ $a = 0.934137 + 0.898042I$ $b = 0.627147 + 0.468257I$	$0.388388 - 0.807655I$	0
$u = 0.845787 - 0.182009I$ $a = 0.934137 - 0.898042I$ $b = 0.627147 - 0.468257I$	$0.388388 + 0.807655I$	0
$u = 1.130550 + 0.136437I$ $a = 0.448643 - 0.344341I$ $b = 0.278130 - 0.714398I$	$1.86533 + 0.28927I$	0
$u = 1.130550 - 0.136437I$ $a = 0.448643 + 0.344341I$ $b = 0.278130 + 0.714398I$	$1.86533 - 0.28927I$	0
$u = 0.748053 + 0.425580I$ $a = -0.32882 - 2.51211I$ $b = 0.972826 - 0.468613I$	$0.873774 + 0.295236I$	0
$u = 0.748053 - 0.425580I$ $a = -0.32882 + 2.51211I$ $b = 0.972826 + 0.468613I$	$0.873774 - 0.295236I$	0
$u = 0.368685 + 1.078770I$ $a = -2.18116 - 1.37265I$ $b = 1.120270 + 0.256088I$	$2.76276 - 3.58996I$	0
$u = 0.368685 - 1.078770I$ $a = -2.18116 + 1.37265I$ $b = 1.120270 - 0.256088I$	$2.76276 + 3.58996I$	0
$u = -0.484397 + 0.700403I$ $a = 0.939042 - 0.555934I$ $b = -1.023720 + 0.450046I$	$1.87514 - 1.78615I$	0
$u = -0.484397 - 0.700403I$ $a = 0.939042 + 0.555934I$ $b = -1.023720 - 0.450046I$	$1.87514 + 1.78615I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.450007 + 1.072020I$ $a = -0.871246 - 0.709105I$ $b = -0.323796 + 0.743902I$	$-1.61375 + 6.35314I$	0
$u = -0.450007 - 1.072020I$ $a = -0.871246 + 0.709105I$ $b = -0.323796 - 0.743902I$	$-1.61375 - 6.35314I$	0
$u = 0.465125 + 0.693500I$ $a = 0.54861 + 1.38506I$ $b = -1.032120 - 0.509724I$	$0.29498 + 6.14668I$	0
$u = 0.465125 - 0.693500I$ $a = 0.54861 - 1.38506I$ $b = -1.032120 + 0.509724I$	$0.29498 - 6.14668I$	0
$u = -0.636626 + 0.511266I$ $a = 0.458277 + 0.471434I$ $b = 0.381330 + 0.717360I$	$-3.40779 - 2.06523I$	0
$u = -0.636626 - 0.511266I$ $a = 0.458277 - 0.471434I$ $b = 0.381330 - 0.717360I$	$-3.40779 + 2.06523I$	0
$u = -1.184690 + 0.040759I$ $a = 1.096850 + 0.011640I$ $b = -1.129150 - 0.296830I$	$5.96201 + 2.70522I$	0
$u = -1.184690 - 0.040759I$ $a = 1.096850 - 0.011640I$ $b = -1.129150 + 0.296830I$	$5.96201 - 2.70522I$	0
$u = -1.150850 + 0.292842I$ $a = 0.427388 + 0.371304I$ $b = 0.297385 + 0.735259I$	$1.48990 - 5.94638I$	0
$u = -1.150850 - 0.292842I$ $a = 0.427388 - 0.371304I$ $b = 0.297385 - 0.735259I$	$1.48990 + 5.94638I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.641277 + 0.481162I$ $a = -0.81379 + 1.36040I$ $b = 1.098180 + 0.566600I$	$-1.31118 + 6.97785I$	0
$u = 0.641277 - 0.481162I$ $a = -0.81379 - 1.36040I$ $b = 1.098180 - 0.566600I$	$-1.31118 - 6.97785I$	0
$u = 0.205359 + 1.181870I$ $a = -0.403773 + 0.734690I$ $b = -0.282394 - 0.729773I$	$2.47472 - 3.21396I$	0
$u = 0.205359 - 1.181870I$ $a = -0.403773 - 0.734690I$ $b = -0.282394 + 0.729773I$	$2.47472 + 3.21396I$	0
$u = 0.453466 + 1.111160I$ $a = 2.55908 + 1.80779I$ $b = -1.124140 + 0.559775I$	$0.72608 - 11.29210I$	0
$u = 0.453466 - 1.111160I$ $a = 2.55908 - 1.80779I$ $b = -1.124140 - 0.559775I$	$0.72608 + 11.29210I$	0
$u = -1.190690 + 0.160033I$ $a = -0.99139 - 1.29273I$ $b = 1.126970 - 0.540371I$	$4.31167 - 5.06642I$	0
$u = -1.190690 - 0.160033I$ $a = -0.99139 + 1.29273I$ $b = 1.126970 + 0.540371I$	$4.31167 + 5.06642I$	0
$u = 1.188990 + 0.206425I$ $a = 1.078590 - 0.003691I$ $b = -1.130880 + 0.277395I$	$5.74865 + 3.02431I$	0
$u = 1.188990 - 0.206425I$ $a = 1.078590 + 0.003691I$ $b = -1.130880 - 0.277395I$	$5.74865 - 3.02431I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.120046 + 1.229700I$ $a = -2.47515 + 0.66044I$ $b = 1.134800 - 0.287824I$	$6.66882 + 0.21455I$	0
$u = -0.120046 - 1.229700I$ $a = -2.47515 - 0.66044I$ $b = 1.134800 + 0.287824I$	$6.66882 - 0.21455I$	0
$u = 1.198980 + 0.310591I$ $a = -0.94829 + 1.26895I$ $b = 1.128520 + 0.550313I$	$3.90634 + 10.81930I$	0
$u = 1.198980 - 0.310591I$ $a = -0.94829 - 1.26895I$ $b = 1.128520 - 0.550313I$	$3.90634 - 10.81930I$	0
$u = 0.569124 + 0.493960I$ $a = 1.018900 - 0.025895I$ $b = -1.049650 + 0.227586I$	$0.920628 - 0.155382I$	0
$u = 0.569124 - 0.493960I$ $a = 1.018900 + 0.025895I$ $b = -1.049650 - 0.227586I$	$0.920628 + 0.155382I$	0
$u = -0.279474 + 0.697539I$ $a = 1.83135 - 0.50580I$ $b = -0.501982 - 0.530747I$	$-1.28186 - 1.88031I$	0
$u = -0.279474 - 0.697539I$ $a = 1.83135 + 0.50580I$ $b = -0.501982 + 0.530747I$	$-1.28186 + 1.88031I$	0
$u = -0.228922 + 1.233270I$ $a = 2.56564 - 1.13931I$ $b = -1.130270 - 0.544788I$	$4.93107 + 8.04588I$	0
$u = -0.228922 - 1.233270I$ $a = 2.56564 + 1.13931I$ $b = -1.130270 + 0.544788I$	$4.93107 - 8.04588I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.417717 + 1.241140I$ $a = 0.223034 + 0.351211I$ $b = -0.877035 + 0.586420I$	$4.47958 - 0.57999I$	0
$u = -0.417717 - 1.241140I$ $a = 0.223034 - 0.351211I$ $b = -0.877035 - 0.586420I$	$4.47958 + 0.57999I$	0
$u = 0.537463 + 1.234880I$ $a = 0.119374 - 0.342327I$ $b = -0.899213 - 0.595297I$	$3.66551 - 5.28805I$	0
$u = 0.537463 - 1.234880I$ $a = 0.119374 + 0.342327I$ $b = -0.899213 + 0.595297I$	$3.66551 + 5.28805I$	0
$u = 0.378428 + 0.509984I$ $a = 0.895553 - 0.098903I$ $b = -0.076718 + 0.345713I$	$-0.22364 - 1.43182I$	$-1.59578 + 4.94774I$
$u = 0.378428 - 0.509984I$ $a = 0.895553 + 0.098903I$ $b = -0.076718 - 0.345713I$	$-0.22364 + 1.43182I$	$-1.59578 - 4.94774I$
$u = 0.493923 + 1.274500I$ $a = 0.550307 + 0.943227I$ $b = -0.683310 + 0.649852I$	$3.90406 - 4.23872I$	0
$u = 0.493923 - 1.274500I$ $a = 0.550307 - 0.943227I$ $b = -0.683310 - 0.649852I$	$3.90406 + 4.23872I$	0
$u = -0.598872 + 0.202622I$ $a = -0.86845 + 1.56868I$ $b = 1.073350 + 0.535528I$	$0.50426 + 5.26842I$	$-1.42602 - 6.38867I$
$u = -0.598872 - 0.202622I$ $a = -0.86845 - 1.56868I$ $b = 1.073350 - 0.535528I$	$0.50426 - 5.26842I$	$-1.42602 + 6.38867I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.593543 + 1.262890I$ $a = 0.520858 - 1.019690I$ $b = -0.670145 - 0.664553I$	$2.98722 + 10.17610I$	0
$u = -0.593543 - 1.262890I$ $a = 0.520858 + 1.019690I$ $b = -0.670145 + 0.664553I$	$2.98722 - 10.17610I$	0
$u = -0.465786 + 0.357832I$ $a = 1.014510 - 0.153271I$ $b = -1.024670 + 0.349069I$	$1.88785 - 1.40638I$	$1.246985 + 0.206629I$
$u = -0.465786 - 0.357832I$ $a = 1.014510 + 0.153271I$ $b = -1.024670 - 0.349069I$	$1.88785 + 1.40638I$	$1.246985 - 0.206629I$
$u = -0.28618 + 1.41805I$ $a = 0.037185 + 0.349641I$ $b = -0.179530 - 0.737078I$	$7.53903 - 1.10320I$	0
$u = -0.28618 - 1.41805I$ $a = 0.037185 - 0.349641I$ $b = -0.179530 + 0.737078I$	$7.53903 + 1.10320I$	0
$u = 0.541196 + 0.114054I$ $a = 0.603515 + 0.495743I$ $b = 0.405527 + 0.611984I$	$-1.43557 - 0.70982I$	$-5.82290 + 1.43887I$
$u = 0.541196 - 0.114054I$ $a = 0.603515 - 0.495743I$ $b = 0.405527 - 0.611984I$	$-1.43557 + 0.70982I$	$-5.82290 - 1.43887I$
$u = 0.40905 + 1.38806I$ $a = 0.109813 - 0.303682I$ $b = -0.155596 + 0.730307I$	$6.97539 - 5.01261I$	0
$u = 0.40905 - 1.38806I$ $a = 0.109813 + 0.303682I$ $b = -0.155596 - 0.730307I$	$6.97539 + 5.01261I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.56749 + 1.35440I$ $a = -0.690960 + 0.322032I$ $b = -0.308940 - 0.783839I$	$5.79286 - 6.36271I$	0
$u = 0.56749 - 1.35440I$ $a = -0.690960 - 0.322032I$ $b = -0.308940 + 0.783839I$	$5.79286 + 6.36271I$	0
$u = -0.65580 + 1.32288I$ $a = -0.768079 - 0.266525I$ $b = -0.320117 + 0.787990I$	$4.78412 + 12.43520I$	0
$u = -0.65580 - 1.32288I$ $a = -0.768079 + 0.266525I$ $b = -0.320117 - 0.787990I$	$4.78412 - 12.43520I$	0
$u = -0.37782 + 1.44032I$ $a = 1.91284 + 0.31037I$ $b = -1.149350 + 0.499766I$	$9.82902 + 0.44626I$	0
$u = -0.37782 - 1.44032I$ $a = 1.91284 - 0.31037I$ $b = -1.149350 - 0.499766I$	$9.82902 - 0.44626I$	0
$u = 0.25528 + 1.47093I$ $a = 1.98926 - 0.43026I$ $b = -1.149460 - 0.510050I$	$10.33460 + 5.74943I$	0
$u = 0.25528 - 1.47093I$ $a = 1.98926 + 0.43026I$ $b = -1.149460 + 0.510050I$	$10.33460 - 5.74943I$	0
$u = -0.52933 + 1.39822I$ $a = -1.68966 + 0.82868I$ $b = 1.160500 - 0.245741I$	$10.39990 + 3.37190I$	0
$u = -0.52933 - 1.39822I$ $a = -1.68966 - 0.82868I$ $b = 1.160500 + 0.245741I$	$10.39990 - 3.37190I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.59327 + 1.37249I$ $a = 1.96671 - 1.59078I$ $b = -1.140220 - 0.566656I$	$8.24290 + 11.42160I$	0
$u = -0.59327 - 1.37249I$ $a = 1.96671 + 1.59078I$ $b = -1.140220 + 0.566656I$	$8.24290 - 11.42160I$	0
$u = 0.62530 + 1.36151I$ $a = -1.56445 - 0.89690I$ $b = 1.159570 + 0.234648I$	$9.45902 - 9.50115I$	0
$u = 0.62530 - 1.36151I$ $a = -1.56445 + 0.89690I$ $b = 1.159570 - 0.234648I$	$9.45902 + 9.50115I$	0
$u = 0.67789 + 1.33618I$ $a = 1.88704 + 1.71244I$ $b = -1.138430 + 0.571589I$	$7.2001 - 17.5270I$	0
$u = 0.67789 - 1.33618I$ $a = 1.88704 - 1.71244I$ $b = -1.138430 - 0.571589I$	$7.2001 + 17.5270I$	0
$u = 0.35309 + 1.45869I$ $a = -2.21477 - 0.22989I$ $b = 1.161990 - 0.338061I$	$11.50100 - 2.40029I$	0
$u = 0.35309 - 1.45869I$ $a = -2.21477 + 0.22989I$ $b = 1.161990 + 0.338061I$	$11.50100 + 2.40029I$	0
$u = -0.47081 + 1.42643I$ $a = -2.19405 + 0.38704I$ $b = 1.161060 + 0.350472I$	$10.84080 + 8.59122I$	0
$u = -0.47081 - 1.42643I$ $a = -2.19405 - 0.38704I$ $b = 1.161060 - 0.350472I$	$10.84080 - 8.59122I$	0

II. $\boldsymbol{I_1^v = \langle a,\ v^3 + b - 1,\ v^{12} - v^{11} + \cdots - v + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -v^3 + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -v^3 + 1 \\ -v^3 + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ v^6 - 2v^3 + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -v^9 + 3v^6 - 3v^3 + 1 \\ v^{11} - 2v^{10} + v^9 - 4v^8 + 6v^7 - 3v^6 + 5v^5 - 5v^4 + 3v^3 - 3v^2 + 2v - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} v^9 - 3v^6 + 3v^3 - 1 \\ v^9 - 3v^6 + 2v^3 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} v^9 - 3v^6 + 3v^3 - 1 \\ -v^{11} + 2v^{10} - v^9 + 4v^8 - 6v^7 + 3v^6 - 5v^5 + 5v^4 - 3v^3 + 3v^2 - 2v + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} v^{10} - 3v^7 + 3v^4 - v \\ v^{10} - 3v^7 + 2v^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} v^{11} - v^{10} - 3v^8 + 3v^7 + 3v^5 - 3v^4 - 2v^2 + 2v \\ v^{11} - 2v^{10} + v^9 - 4v^8 + 6v^7 - 3v^6 + 5v^5 - 5v^4 + 3v^3 - 3v^2 + 2v - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -v^{11} + 4v^{10} + 3v^8 - 11v^7 - 6v^5 + 10v^4 + 9v^2 - 3v - 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v=-0.693431+0.659641I$ $a=0$ $b=0.428243-0.664531I$	$-1.89061+2.95419I$	$-5.61650-4.08278I$
$v=-0.693431-0.659641I$ $a=0$ $b=0.428243+0.664531I$	$-1.89061-2.95419I$	$-5.61650+4.08278I$
$v=-0.224551+0.930349I$ $a=0$ $b=0.428243+0.664531I$	$-1.89061+1.10558I$	$-7.50338-2.58970I$
$v=-0.224551-0.930349I$ $a=0$ $b=0.428243-0.664531I$	$-1.89061-1.10558I$	$-7.50338+2.58970I$
$v=0.036219+0.825237I$ $a=0$ $b=1.073950+0.558752I$	$3.66314I$	$-4.13964-2.11509I$
$v=0.036219-0.825237I$ $a=0$ $b=1.073950-0.558752I$	$-3.66314I$	$-4.13964+2.11509I$
$v=0.696567+0.443985I$ $a=0$ $b=1.073950-0.558752I$	$-7.72290I$	$-1.09315+8.26466I$
$v=0.696567-0.443985I$ $a=0$ $b=1.073950+0.558752I$	$7.72290I$	$-1.09315-8.26466I$
$v=-0.578212+1.125030I$ $a=0$ $b=-1.002190+0.295542I$	$1.89061-2.95419I$	$0.42156+3.46552I$
$v=-0.578212-1.125030I$ $a=0$ $b=-1.002190-0.295542I$	$1.89061+2.95419I$	$0.42156-3.46552I$

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.263410 + 0.061767I$ $a = 0$ $b = -1.002190 - 0.295542I$	$1.89061 - 1.10558I$	$3.93112 + 2.76498I$
$v = 1.263410 - 0.061767I$ $a = 0$ $b = -1.002190 + 0.295542I$	$1.89061 + 1.10558I$	$3.93112 - 2.76498I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$((u^2-u+1)^6)(u^{110}+35u^{109}+\cdots+3u+1)$
c_2	$((u^2+u+1)^6)(u^{110}+7u^{109}+\cdots+7u+1)$
c_3, c_8	$u^{12}(u^{110}+u^{109}+\cdots+8192u+4096)$
c_5	$((u^2-u+1)^6)(u^{110}+7u^{109}+\cdots+7u+1)$
c_6	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{110}+3u^{109}+\cdots+1599u+1297)$
c_7	$((u^6-u^5-u^4+2u^3-u+1)^2)(u^{110}-3u^{109}+\cdots-5u+1)$
c_9	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{110}-11u^{109}+\cdots-299803u+6701)$
c_{10}	$((u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2)(u^{110}-53u^{109}+\cdots+7u+1)$
c_{11}	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{110}-3u^{109}+\cdots-5u+1)$
c_{12}	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2$ $\cdot\,(u^{110}-9u^{109}+\cdots+6069u+851)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^6)(y^{110}+87y^{109}+\cdots-9y+1)$
c_2, c_5	$((y^2+y+1)^6)(y^{110}+35y^{109}+\cdots+3y+1)$
c_3, c_8	$y^{12}(y^{110}+65y^{109}+\cdots+2.68435\times10^8y+1.67772\times10^7)$
c_6	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{110}-13y^{109}+\cdots-35448721y+1682209)$
c_7, c_{11}	$((y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2)(y^{110}-53y^{109}+\cdots+7y+1)$
c_9	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{110}+47y^{109}+\cdots+20676298343y+44903401)$
c_{10}	$((y^6+y^5+5y^4+6y^2+3y+1)^2)(y^{110}+11y^{109}+\cdots-49y+1)$
c_{12}	$(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{110}+31y^{109}+\cdots-29575433y+724201)$