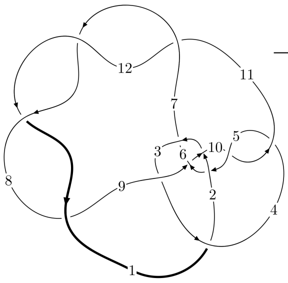
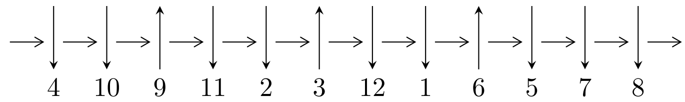
$12a_{1184}$ $(K12a_{1184})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 6.39446 \times 10^{159} u^{107} - 3.76803 \times 10^{159} u^{106} + \cdots + 6.12809 \times 10^{158} b + 2.51906 \times 10^{161}, \\ & -1.20288 \times 10^{161} u^{107} + 4.35929 \times 10^{160} u^{106} + \cdots + 1.16434 \times 10^{160} a - 4.81370 \times 10^{162}, \\ & u^{108} - 64u^{106} + \cdots + 79u + 19 \rangle \\ I_2^u = \langle & -6u^{19} + 5u^{18} + \cdots + b + 11,\ -22u^{19} + 25u^{18} + \cdots + a + 65,\ u^{20} - u^{19} + \cdots - 3u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 128 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. $\boldsymbol{I_1^u = \langle 6.39 \times 10^{159} u^{107} - 3.77 \times 10^{159} u^{106} + \cdots + 6.13 \times 10^{158} b + 2.52 \times 10^{161},\ -1.20 \times 10^{161} u^{107} + 4.36 \times 10^{160} u^{106} + \cdots + 1.16 \times 10^{160} a - 4.81 \times 10^{162},\ u^{108} - 64 u^{106} + \cdots + 79 u + 19 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 10.3310u^{107} - 3.74401u^{106} + \cdots + 793.996u + 413.428 \\ -10.4347u^{107} + 6.14879u^{106} + \cdots - 929.658u - 411.068 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -2.98176u^{107} + 2.93862u^{106} + \cdots - 411.821u - 156.791 \\ -1.87036u^{107} + 1.63181u^{106} + \cdots - 260.056u - 126.652 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 19.0569u^{107} - 8.18342u^{106} + \cdots + 1516.78u + 752.274 \\ -5.23619u^{107} + 3.46950u^{106} + \cdots - 506.976u - 215.183 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 13.4025u^{107} - 6.62774u^{106} + \cdots + 1005.37u + 465.422 \\ -3.69603u^{107} + 1.87222u^{106} + \cdots - 362.917u - 184.182 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 15.0580u^{107} - 6.03524u^{106} + \cdots + 1180.98u + 601.392 \\ -5.70771u^{107} + 3.85755u^{106} + \cdots - 542.675u - 223.105 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 57.1117u^{107} - 29.2858u^{106} + \cdots + 4525.00u + 1962.94 \\ -6.37163u^{107} + 4.48054u^{106} + \cdots - 574.058u - 265.244 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2474.05u^{107} - 1304.36u^{106} + \cdots + 202505.u + 89977.7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{108} + 3u^{107} + \cdots - 14150u - 877$
c_2	$u^{108} - 3u^{107} + \cdots - 263u + 863$
c_3	$u^{108} - 2u^{107} + \cdots - 146927u + 6859$
c_4, c_{10}	$u^{108} - 2u^{107} + \cdots + 41712u + 7342$
c_5	$u^{108} + 9u^{106} + \cdots - 13u + 1$
c_6	$u^{108} - 3u^{107} + \cdots + 210u + 50$
c_7, c_8, c_{11} c_{12}	$u^{108} - 64u^{106} + \cdots + 79u + 19$
c_9	$u^{108} - 6u^{107} + \cdots - 26u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{108} - 23y^{107} + \cdots - 277829984y + 769129$
c_2	$y^{108} + 23y^{107} + \cdots + 28915549y + 744769$
c_3	$y^{108} + 24y^{107} + \cdots - 8465521839y + 47045881$
c_4, c_{10}	$y^{108} + 62y^{107} + \cdots + 2759081080y + 53904964$
c_5	$y^{108} + 18y^{107} + \cdots - 117y + 1$
c_6	$y^{108} + 7y^{107} + \cdots - 182700y + 2500$
c_7, c_8, c_{11} c_{12}	$y^{108} - 128y^{107} + \cdots - 7001y + 361$
c_9	$y^{108} + 2y^{107} + \cdots - 400y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.918403 + 0.363047I$ $a = 0.577687 + 0.075821I$ $b = 1.29762 - 0.97342I$	$-0.68898 + 5.29923I$	0
$u = -0.918403 - 0.363047I$ $a = 0.577687 - 0.075821I$ $b = 1.29762 + 0.97342I$	$-0.68898 - 5.29923I$	0
$u = -0.786840 + 0.594679I$ $a = -0.360188 - 0.273117I$ $b = -1.65851 + 0.51392I$	$0.8477 + 14.7408I$	0
$u = -0.786840 - 0.594679I$ $a = -0.360188 + 0.273117I$ $b = -1.65851 - 0.51392I$	$0.8477 - 14.7408I$	0
$u = -0.853224 + 0.471994I$ $a = -0.082684 - 0.260349I$ $b = -1.086620 - 0.376320I$	$-3.71442 - 1.11666I$	0
$u = -0.853224 - 0.471994I$ $a = -0.082684 + 0.260349I$ $b = -1.086620 + 0.376320I$	$-3.71442 + 1.11666I$	0
$u = 0.762919 + 0.594989I$ $a = 0.127443 - 0.379906I$ $b = 1.48454 + 0.30248I$	$2.37811 - 6.64794I$	0
$u = 0.762919 - 0.594989I$ $a = 0.127443 + 0.379906I$ $b = 1.48454 - 0.30248I$	$2.37811 + 6.64794I$	0
$u = 0.828146 + 0.461143I$ $a = -0.074938 + 0.356052I$ $b = 1.048180 - 0.185516I$	$-3.68598 - 8.69698I$	0
$u = 0.828146 - 0.461143I$ $a = -0.074938 - 0.356052I$ $b = 1.048180 + 0.185516I$	$-3.68598 + 8.69698I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.839992+0.662463I$ $a=0.336973+0.212786I$ $b=1.062600-0.510318I$	$1.14032+5.01007I$	0
$u=-0.839992-0.662463I$ $a=0.336973-0.212786I$ $b=1.062600+0.510318I$	$1.14032-5.01007I$	0
$u=-0.135219+0.871002I$ $a=-0.508112+0.365104I$ $b=0.632779+0.185856I$	$3.29458+0.06012I$	0
$u=-0.135219-0.871002I$ $a=-0.508112-0.365104I$ $b=0.632779-0.185856I$	$3.29458-0.06012I$	0
$u=0.816794+0.324059I$ $a=-0.196676-0.789532I$ $b=-0.046523-0.614863I$	$-1.09335-4.09841I$	0
$u=0.816794-0.324059I$ $a=-0.196676+0.789532I$ $b=-0.046523+0.614863I$	$-1.09335+4.09841I$	0
$u=0.745079+0.455136I$ $a=-0.599572-0.052001I$ $b=-1.57915-0.82326I$	$-1.44059-6.30070I$	0
$u=0.745079-0.455136I$ $a=-0.599572+0.052001I$ $b=-1.57915+0.82326I$	$-1.44059+6.30070I$	0
$u=-0.763932+0.347374I$ $a=0.391757-0.366806I$ $b=0.259733+0.554449I$	$-2.10240+0.07367I$	0
$u=-0.763932-0.347374I$ $a=0.391757+0.366806I$ $b=0.259733-0.554449I$	$-2.10240-0.07367I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.115360 + 0.391127I$ $a = -0.069494 + 0.571612I$ $b = -0.009646 - 0.486385I$	$-1.21891 + 6.13662I$	0
$u = 1.115360 - 0.391127I$ $a = -0.069494 - 0.571612I$ $b = -0.009646 + 0.486385I$	$-1.21891 - 6.13662I$	0
$u = 0.792577 + 0.183240I$ $a = -0.528779 - 0.502606I$ $b = -1.251760 - 0.258832I$	$-4.28634 - 1.95164I$	0
$u = 0.792577 - 0.183240I$ $a = -0.528779 + 0.502606I$ $b = -1.251760 + 0.258832I$	$-4.28634 + 1.95164I$	0
$u = 0.221271 + 0.765584I$ $a = -0.509266 - 0.902262I$ $b = 0.705595 + 0.169000I$	$4.04452 + 2.10493I$	0
$u = 0.221271 - 0.765584I$ $a = -0.509266 + 0.902262I$ $b = 0.705595 - 0.169000I$	$4.04452 - 2.10493I$	0
$u = -0.160991 + 0.770485I$ $a = 0.754805 - 1.020410I$ $b = -0.743086 - 0.054824I$	$2.73787 - 10.19870I$	0
$u = -0.160991 - 0.770485I$ $a = 0.754805 + 1.020410I$ $b = -0.743086 + 0.054824I$	$2.73787 + 10.19870I$	0
$u = 0.542523 + 0.538416I$ $a = -0.539993 + 0.936976I$ $b = -1.50096 + 0.19417I$	$-1.94334 - 1.86285I$	0
$u = 0.542523 - 0.538416I$ $a = -0.539993 - 0.936976I$ $b = -1.50096 - 0.19417I$	$-1.94334 + 1.86285I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.734335 + 0.204776I$ $a = \ \ 0.572466 + 0.621429I$ $b = -0.570960 - 0.128398I$	$-0.806750 + 0.415425I$	0
$u = -0.734335 - 0.204776I$ $a = \ \ 0.572466 - 0.621429I$ $b = -0.570960 + 0.128398I$	$-0.806750 - 0.415425I$	0
$u = -0.673601 + 0.348591I$ $a = \ \ 0.529252 - 0.790567I$ $b = \ \ 0.972439 + 0.173848I$	$-3.05293 + 2.31643I$	0
$u = -0.673601 - 0.348591I$ $a = \ \ 0.529252 + 0.790567I$ $b = \ \ 0.972439 - 0.173848I$	$-3.05293 - 2.31643I$	0
$u = \ \ 1.175480 + 0.414874I$ $a = \ \ 0.103995 - 0.595442I$ $b = \ \ 0.479884 + 0.042072I$	$-0.72700 - 4.62038I$	0
$u = \ \ 1.175480 - 0.414874I$ $a = \ \ 0.103995 + 0.595442I$ $b = \ \ 0.479884 - 0.042072I$	$-0.72700 + 4.62038I$	0
$u = \ \ 0.337393 + 0.638153I$ $a = -0.936417 - 0.482034I$ $b = \ \ 0.657396 + 0.231964I$	$3.17800 - 2.10286I$	0
$u = \ \ 0.337393 - 0.638153I$ $a = -0.936417 + 0.482034I$ $b = \ \ 0.657396 - 0.231964I$	$3.17800 + 2.10286I$	0
$u = \ \ 0.581607 + 0.356113I$ $a = \ \ 0.268997 + 0.217922I$ $b = -1.41217 - 0.94149I$	$3.56570 - 6.80593I$	0
$u = \ \ 0.581607 - 0.356113I$ $a = \ \ 0.268997 - 0.217922I$ $b = -1.41217 + 0.94149I$	$3.56570 + 6.80593I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.004677 + 0.664850I$ $a = -0.193937 - 1.179350I$ $b = -0.270651 + 0.253195I$	$-1.17764 + 4.94781I$	0
$u = -0.004677 - 0.664850I$ $a = -0.193937 + 1.179350I$ $b = -0.270651 - 0.253195I$	$-1.17764 - 4.94781I$	0
$u = -1.318830 + 0.302141I$ $a = 0.405046 + 0.324159I$ $b = 0.210817 - 0.448074I$	$-0.71202 + 1.74500I$	0
$u = -1.318830 - 0.302141I$ $a = 0.405046 - 0.324159I$ $b = 0.210817 + 0.448074I$	$-0.71202 - 1.74500I$	0
$u = 0.473407 + 0.403433I$ $a = 0.191460 - 1.124820I$ $b = 1.38625 + 0.38967I$	$3.27491 - 1.44689I$	0
$u = 0.473407 - 0.403433I$ $a = 0.191460 + 1.124820I$ $b = 1.38625 - 0.38967I$	$3.27491 + 1.44689I$	0
$u = 0.449380 + 0.427340I$ $a = -0.30281 - 1.54482I$ $b = 1.230100 - 0.077357I$	$3.34419 - 1.57237I$	0
$u = 0.449380 - 0.427340I$ $a = -0.30281 + 1.54482I$ $b = 1.230100 + 0.077357I$	$3.34419 + 1.57237I$	0
$u = -0.543074 + 0.265773I$ $a = -1.073620 - 0.183651I$ $b = -1.67123 + 1.50600I$	$3.02271 - 3.50835I$	0
$u = -0.543074 - 0.265773I$ $a = -1.073620 + 0.183651I$ $b = -1.67123 - 1.50600I$	$3.02271 + 3.50835I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.561967 + 0.148339I$ $a = 0.06600 + 2.18752I$ $b = 1.063990 - 0.687409I$	$1.153670 + 0.568402I$	$-18.5278 + 5.1996I$
$u = -0.561967 - 0.148339I$ $a = 0.06600 - 2.18752I$ $b = 1.063990 + 0.687409I$	$1.153670 - 0.568402I$	$-18.5278 - 5.1996I$
$u = 0.085437 + 0.562730I$ $a = 1.30050 + 1.06453I$ $b = -0.344796 + 0.356638I$	$0.48204 + 2.83082I$	$-6.00000 - 4.98877I$
$u = 0.085437 - 0.562730I$ $a = 1.30050 - 1.06453I$ $b = -0.344796 - 0.356638I$	$0.48204 - 2.83082I$	$-6.00000 + 4.98877I$
$u = -0.487598 + 0.197242I$ $a = 0.52968 - 3.54305I$ $b = -0.64961 - 1.36649I$	$3.29846 + 5.31621I$	$-6.6460 - 12.8715I$
$u = -0.487598 - 0.197242I$ $a = 0.52968 + 3.54305I$ $b = -0.64961 + 1.36649I$	$3.29846 - 5.31621I$	$-6.6460 + 12.8715I$
$u = -0.524996$ $a = -3.34733$ $b = 2.70406$	0.861575	-721.720
$u = -1.51099 + 0.01392I$ $a = 0.415611 - 0.142159I$ $b = 0.573366 + 0.852056I$	$-1.75741 - 3.30179I$	0
$u = -1.51099 - 0.01392I$ $a = 0.415611 + 0.142159I$ $b = 0.573366 - 0.852056I$	$-1.75741 + 3.30179I$	0
$u = -0.478642$ $a = 0.759788$ $b = -0.383924$	-0.850740	-12.2080

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.322815 + 0.350066I$ $a = 1.39524 + 2.51421I$ $b = -0.166714 - 0.009266I$	$4.31901 + 4.18133I$	$-0.636621 + 0.682075I$
$u = 0.322815 - 0.350066I$ $a = 1.39524 - 2.51421I$ $b = -0.166714 + 0.009266I$	$4.31901 - 4.18133I$	$-0.636621 - 0.682075I$
$u = -1.52286 + 0.07536I$ $a = 1.46969 + 0.87081I$ $b = 1.58641 + 0.00893I$	$-3.21753 + 3.18908I$	0
$u = -1.52286 - 0.07536I$ $a = 1.46969 - 0.87081I$ $b = 1.58641 - 0.00893I$	$-3.21753 - 3.18908I$	0
$u = 1.54723$ $a = -1.50376$ $b = -2.03839$	-7.67325	0
$u = -1.54915 + 0.07118I$ $a = 2.25525 + 0.03732I$ $b = 2.37551 - 0.62818I$	$-3.55685 + 2.93173I$	0
$u = -1.54915 - 0.07118I$ $a = 2.25525 - 0.03732I$ $b = 2.37551 + 0.62818I$	$-3.55685 - 2.93173I$	0
$u = 1.56910 + 0.05756I$ $a = -2.77571 - 1.20477I$ $b = -2.80809 - 1.79704I$	$-4.22369 + 2.41374I$	0
$u = 1.56910 - 0.05756I$ $a = -2.77571 + 1.20477I$ $b = -2.80809 + 1.79704I$	$-4.22369 - 2.41374I$	0
$u = 1.57523 + 0.04067I$ $a = -0.34969 + 1.94842I$ $b = -0.442055 + 1.066160I$	$-3.90930 - 6.07655I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57523 - 0.04067I$ $a = -0.34969 - 1.94842I$ $b = -0.442055 - 1.066160I$	$-3.90930 + 6.07655I$	0
$u = -1.57034 + 0.16360I$ $a = -1.97014 - 0.95650I$ $b = -2.20061 - 0.32678I$	$-9.09144 + 4.42081I$	0
$u = -1.57034 - 0.16360I$ $a = -1.97014 + 0.95650I$ $b = -2.20061 + 0.32678I$	$-9.09144 - 4.42081I$	0
$u = -1.57717 + 0.08329I$ $a = -2.44275 + 0.93501I$ $b = -2.95985 + 1.70623I$	$-3.80592 + 8.32471I$	0
$u = -1.57717 - 0.08329I$ $a = -2.44275 - 0.93501I$ $b = -2.95985 - 1.70623I$	$-3.80592 - 8.32471I$	0
$u = 1.58453$ $a = 3.66567$ $b = 5.23316$	-6.52398	0
$u = 1.59172 + 0.03587I$ $a = 1.48460 + 0.91593I$ $b = 1.69763 + 2.07886I$	$-6.36818 - 1.20710I$	0
$u = 1.59172 - 0.03587I$ $a = 1.48460 - 0.91593I$ $b = 1.69763 - 2.07886I$	$-6.36818 + 1.20710I$	0
$u = 0.013147 + 0.404692I$ $a = 0.916367 - 0.639370I$ $b = 0.435184 + 0.458824I$	$1.21199 + 1.56615I$	$-0.45773 - 2.46701I$
$u = 0.013147 - 0.404692I$ $a = 0.916367 + 0.639370I$ $b = 0.435184 - 0.458824I$	$1.21199 - 1.56615I$	$-0.45773 + 2.46701I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.139404 + 0.368779I$ $a = 0.82345 + 1.47280I$ $b = -0.221813 + 0.391507I$	$-1.58343 + 0.26531I$	$-8.98911 - 1.46511I$
$u = -0.139404 - 0.368779I$ $a = 0.82345 - 1.47280I$ $b = -0.221813 - 0.391507I$	$-1.58343 - 0.26531I$	$-8.98911 + 1.46511I$
$u = 1.60487 + 0.09478I$ $a = 1.89473 - 0.69782I$ $b = 2.32906 - 1.10540I$	$-10.87800 - 3.94093I$	0
$u = 1.60487 - 0.09478I$ $a = 1.89473 + 0.69782I$ $b = 2.32906 + 1.10540I$	$-10.87800 + 3.94093I$	0
$u = 1.62125 + 0.10554I$ $a = 0.835187 - 0.849590I$ $b = 1.03381 - 1.24999I$	$-10.25420 - 1.81805I$	0
$u = 1.62125 - 0.10554I$ $a = 0.835187 + 0.849590I$ $b = 1.03381 + 1.24999I$	$-10.25420 + 1.81805I$	0
$u = -1.62134 + 0.13055I$ $a = -2.66168 + 0.40813I$ $b = -2.99226 + 1.01910I$	$-9.51933 + 8.50404I$	0
$u = -1.62134 - 0.13055I$ $a = -2.66168 - 0.40813I$ $b = -2.99226 - 1.01910I$	$-9.51933 - 8.50404I$	0
$u = 1.63391 + 0.06790I$ $a = -1.54583 + 0.66573I$ $b = -2.34433 + 1.12590I$	$-9.10384 - 1.49738I$	0
$u = 1.63391 - 0.06790I$ $a = -1.54583 - 0.66573I$ $b = -2.34433 - 1.12590I$	$-9.10384 + 1.49738I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.63138+0.17483I$ $a=\ \ 2.10964+0.04433I$ $b=\ \ 2.63177-0.78645I$	$-5.73693+9.55495I$	0
$u=-1.63138-0.17483I$ $a=\ \ 2.10964-0.04433I$ $b=\ \ 2.63177+0.78645I$	$-5.73693-9.55495I$	0
$u=-1.64065+0.05077I$ $a=-2.10831-0.01374I$ $b=-2.58701-0.14842I$	$-12.75440+2.84117I$	0
$u=-1.64065-0.05077I$ $a=-2.10831+0.01374I$ $b=-2.58701+0.14842I$	$-12.75440-2.84117I$	0
$u=\ \ 1.63877+0.17836I$ $a=-2.33688-0.03643I$ $b=-2.79570-0.87107I$	$-7.3779-17.6901I$	0
$u=\ \ 1.63877-0.17836I$ $a=-2.33688+0.03643I$ $b=-2.79570+0.87107I$	$-7.3779+17.6901I$	0
$u=-1.64771+0.13067I$ $a=\ \ 1.92632+0.51550I$ $b=\ \ 2.74956+0.52191I$	$-12.1800+10.9627I$	0
$u=-1.64771-0.13067I$ $a=\ \ 1.92632-0.51550I$ $b=\ \ 2.74956-0.52191I$	$-12.1800-10.9627I$	0
$u=-1.65236+0.10735I$ $a=-0.925408+0.230990I$ $b=-1.091200+0.023322I$	$-9.69561+5.84410I$	0
$u=-1.65236-0.10735I$ $a=-0.925408-0.230990I$ $b=-1.091200-0.023322I$	$-9.69561-5.84410I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.65188 + 0.20115I$ $a = 1.59648 + 0.06650I$ $b = 1.83545 + 0.71916I$	$-7.26351 - 8.34290I$	0
$u = 1.65188 - 0.20115I$ $a = 1.59648 - 0.06650I$ $b = 1.83545 - 0.71916I$	$-7.26351 + 8.34290I$	0
$u = 1.66033 + 0.12389I$ $a = -1.71677 + 0.40426I$ $b = -2.38091 + 0.08129I$	$-12.39510 - 1.15238I$	0
$u = 1.66033 - 0.12389I$ $a = -1.71677 - 0.40426I$ $b = -2.38091 - 0.08129I$	$-12.39510 + 1.15238I$	0
$u = 1.66282 + 0.10923I$ $a = 2.15488 + 0.68122I$ $b = 2.44240 + 1.39064I$	$-9.57130 - 7.18922I$	0
$u = 1.66282 - 0.10923I$ $a = 2.15488 - 0.68122I$ $b = 2.44240 - 1.39064I$	$-9.57130 + 7.18922I$	0
$u = -1.69122 + 0.03683I$ $a = 0.957399 + 0.454951I$ $b = 1.34667 + 1.01291I$	$-11.21990 - 4.93762I$	0
$u = -1.69122 - 0.03683I$ $a = 0.957399 - 0.454951I$ $b = 1.34667 - 1.01291I$	$-11.21990 + 4.93762I$	0

II. $\boldsymbol{I_2^u =}$
$\boldsymbol{\langle -6u^{19}+5u^{18}+\cdots+b+11,\ -22u^{19}+25u^{18}+\cdots+a+65,\ u^{20}-u^{19}+\cdots-3u-1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}22u^{19}-25u^{18}+\cdots+10u-65\\6u^{19}-5u^{18}+\cdots+14u-11\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-15u^{19}+8u^{18}+\cdots-5u+19\\-15u^{19}+8u^{18}+\cdots-17u+23\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}22u^{19}-25u^{18}+\cdots+4u-66\\6u^{19}-5u^{18}+\cdots+10u-12\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-20u^{19}+19u^{18}+\cdots-22u+41\\-10u^{19}+8u^{18}+\cdots-8u+21\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}26u^{19}-25u^{18}+\cdots+14u-69\\10u^{19}-5u^{18}+\cdots+18u-15\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-3u^{19}+5u^{18}+\cdots+20u+28\\u^{19}-5u^{18}+\cdots-12u-13\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 164u^{19}-79u^{18}-1993u^{17}+775u^{16}+10059u^{15}-2864u^{14}-27044u^{13}+4696u^{12}+40777u^{11}-2714u^{10}-31522u^9-375u^8+5389u^7-444u^6+9258u^5+1034u^4-6308u^3+121u^2+1398u+246$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - 8u^{19} + \cdots - 32u^2 + 1$
c_2	$u^{20} + 3u^{18} + \cdots - u - 1$
c_3	$u^{20} + u^{19} + \cdots - u - 1$
c_4	$u^{20} + u^{19} + \cdots + 4u - 2$
c_5	$u^{20} - 3u^{19} + \cdots + 15u + 1$
c_6	$u^{20} + 2u^{19} + \cdots + 2u + 2$
c_7, c_8	$u^{20} - u^{19} + \cdots - 3u - 1$
c_9	$u^{20} + u^{19} + \cdots - 2u^3 - 1$
c_{10}	$u^{20} - u^{19} + \cdots - 4u - 2$
c_{11}, c_{12}	$u^{20} + u^{19} + \cdots + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} + 8y^{19} + \cdots - 64y + 1$
c_2	$y^{20} + 6y^{19} + \cdots + y + 1$
c_3	$y^{20} - 13y^{19} + \cdots - 3y + 1$
c_4, c_{10}	$y^{20} + 5y^{19} + \cdots + 20y + 4$
c_5	$y^{20} + 13y^{19} + \cdots - 117y + 1$
c_6	$y^{20} + 10y^{19} + \cdots + 32y + 4$
c_7, c_8, c_{11} c_{12}	$y^{20} - 25y^{19} + \cdots - 29y + 1$
c_9	$y^{20} - 11y^{19} + \cdots + 8y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.927558 + 0.479017I$ $a = 0.305202 + 0.075270I$ $b = 1.011920 - 0.737878I$	$0.21502 + 5.49018I$	$-5.21712 - 9.94532I$
$u = -0.927558 - 0.479017I$ $a = 0.305202 - 0.075270I$ $b = 1.011920 + 0.737878I$	$0.21502 - 5.49018I$	$-5.21712 + 9.94532I$
$u = -1.217210 + 0.080107I$ $a = -0.339609 + 0.265677I$ $b = -0.100001 - 0.690051I$	$0.52066 + 4.92437I$	$-4.37167 - 4.92544I$
$u = -1.217210 - 0.080107I$ $a = -0.339609 - 0.265677I$ $b = -0.100001 + 0.690051I$	$0.52066 - 4.92437I$	$-4.37167 + 4.92544I$
$u = 0.017934 + 0.756062I$ $a = -0.798234 + 0.332699I$ $b = 0.725629 + 0.065244I$	$3.31475 - 1.17586I$	$-2.09290 + 2.07427I$
$u = 0.017934 - 0.756062I$ $a = -0.798234 - 0.332699I$ $b = 0.725629 - 0.065244I$	$3.31475 + 1.17586I$	$-2.09290 - 2.07427I$
$u = 1.289750 + 0.230856I$ $a = 0.701038 - 0.444772I$ $b = 0.513480 + 0.410656I$	$-0.51588 - 2.16021I$	$-2.00099 + 7.16467I$
$u = 1.289750 - 0.230856I$ $a = 0.701038 + 0.444772I$ $b = 0.513480 - 0.410656I$	$-0.51588 + 2.16021I$	$-2.00099 - 7.16467I$
$u = 0.600674 + 0.326138I$ $a = -0.896932 - 0.104211I$ $b = -1.018200 + 0.326709I$	$-3.11645 - 1.14921I$	$-14.4687 + 0.5864I$
$u = 0.600674 - 0.326138I$ $a = -0.896932 + 0.104211I$ $b = -1.018200 - 0.326709I$	$-3.11645 + 1.14921I$	$-14.4687 - 0.5864I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.517686$ $a = -3.16389$ $b = 2.56725$	0.868020	526.730
$u = 1.53323 + 0.01301I$ $a = -1.68845 + 1.51349I$ $b = -1.85891 + 0.65600I$	$-3.10435 - 4.82721I$	$-7.16186 + 5.64625I$
$u = 1.53323 - 0.01301I$ $a = -1.68845 - 1.51349I$ $b = -1.85891 - 0.65600I$	$-3.10435 + 4.82721I$	$-7.16186 - 5.64625I$
$u = -1.57537$ $a = 3.07312$ $b = 4.27015$	-6.42326	12.0550
$u = -1.60552 + 0.09762I$ $a = -1.64866 - 0.70657I$ $b = -1.94517 - 0.88479I$	$-10.80260 + 2.73837I$	$-13.76555 - 0.87762I$
$u = -1.60552 - 0.09762I$ $a = -1.64866 + 0.70657I$ $b = -1.94517 + 0.88479I$	$-10.80260 - 2.73837I$	$-13.76555 + 0.87762I$
$u = 1.65144 + 0.13670I$ $a = 2.00290 + 0.54466I$ $b = 2.28133 + 1.16101I$	$-8.52584 - 7.86422I$	$-8.50053 + 6.51125I$
$u = 1.65144 - 0.13670I$ $a = 2.00290 - 0.54466I$ $b = 2.28133 - 1.16101I$	$-8.52584 + 7.86422I$	$-8.50053 - 6.51125I$
$u = -0.313909 + 0.012318I$ $a = -0.09188 - 4.94728I$ $b = -1.028780 - 0.956034I$	$3.40813 + 4.69505I$	$-5.81380 - 2.44604I$
$u = -0.313909 - 0.012318I$ $a = -0.09188 + 4.94728I$ $b = -1.028780 + 0.956034I$	$3.40813 - 4.69505I$	$-5.81380 + 2.44604I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{20} - 8u^{19} + \cdots - 32u^2 + 1)(u^{108} + 3u^{107} + \cdots - 14150u - 877)$
c_2	$(u^{20} + 3u^{18} + \cdots - u - 1)(u^{108} - 3u^{107} + \cdots - 263u + 863)$
c_3	$(u^{20} + u^{19} + \cdots - u - 1)(u^{108} - 2u^{107} + \cdots - 146927u + 6859)$
c_4	$(u^{20} + u^{19} + \cdots + 4u - 2)(u^{108} - 2u^{107} + \cdots + 41712u + 7342)$
c_5	$(u^{20} - 3u^{19} + \cdots + 15u + 1)(u^{108} + 9u^{106} + \cdots - 13u + 1)$
c_6	$(u^{20} + 2u^{19} + \cdots + 2u + 2)(u^{108} - 3u^{107} + \cdots + 210u + 50)$
c_7, c_8	$(u^{20} - u^{19} + \cdots - 3u - 1)(u^{108} - 64u^{106} + \cdots + 79u + 19)$
c_9	$(u^{20} + u^{19} + \cdots - 2u^3 - 1)(u^{108} - 6u^{107} + \cdots - 26u - 1)$
c_{10}	$(u^{20} - u^{19} + \cdots - 4u - 2)(u^{108} - 2u^{107} + \cdots + 41712u + 7342)$
c_{11}, c_{12}	$(u^{20} + u^{19} + \cdots + 3u - 1)(u^{108} - 64u^{106} + \cdots + 79u + 19)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{20}+8y^{19}+\cdots-64y+1)$ $\cdot(y^{108}-23y^{107}+\cdots-277829984y+769129)$
c_2	$(y^{20}+6y^{19}+\cdots+y+1)(y^{108}+23y^{107}+\cdots+2.89155\times10^7y+744769)$
c_3	$(y^{20}-13y^{19}+\cdots-3y+1)$ $\cdot(y^{108}+24y^{107}+\cdots-8465521839y+47045881)$
c_4, c_{10}	$(y^{20}+5y^{19}+\cdots+20y+4)$ $\cdot(y^{108}+62y^{107}+\cdots+2759081080y+53904964)$
c_5	$(y^{20}+13y^{19}+\cdots-117y+1)(y^{108}+18y^{107}+\cdots-117y+1)$
c_6	$(y^{20}+10y^{19}+\cdots+32y+4)(y^{108}+7y^{107}+\cdots-182700y+2500)$
c_7, c_8, c_{11} c_{12}	$(y^{20}-25y^{19}+\cdots-29y+1)(y^{108}-128y^{107}+\cdots-7001y+361)$
c_9	$(y^{20}-11y^{19}+\cdots+8y^2+1)(y^{108}+2y^{107}+\cdots-400y+1)$