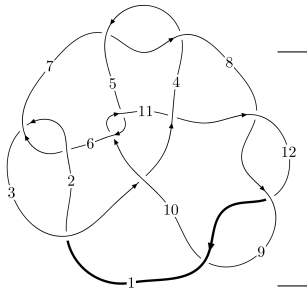
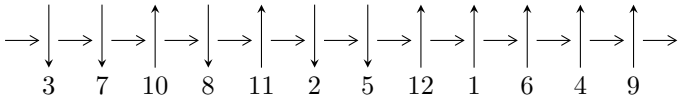
$12a_{0621}$ $(K12a_{0621})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.20239 \times 10^{215} u^{107} + 1.87947 \times 10^{215} u^{106} + \cdots + 1.06285 \times 10^{214} b - 3.23420 \times 10^{217}, \\ & 5.28723 \times 10^{217} u^{107} - 8.28194 \times 10^{217} u^{106} + \cdots + 1.28605 \times 10^{216} a + 1.46385 \times 10^{220}, \\ & u^{108} - 2u^{107} + \cdots + 665u - 121 \rangle \\ I_2^u = \langle & u^{20} + 2u^{19} + \cdots + b + 5,\ -12u^{20} - 5u^{19} + \cdots + a - 15,\ u^{21} + u^{20} + \cdots + 3u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 129 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. $\boldsymbol{I_1^u = \langle -1.20 \times 10^{215} u^{107} + 1.88 \times 10^{215} u^{106} + \cdots + 1.06 \times 10^{214} b - 3.23 \times 10^{217},\ 5.29 \times 10^{217} u^{107} - 8.28 \times 10^{217} u^{106} + \cdots + 1.29 \times 10^{216} a + 1.46 \times 10^{220},\ u^{108} - 2u^{107} + \cdots + 665u - 121 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_{10} = \begin{pmatrix} -41.1122u^{107} + 64.3984u^{106} + \cdots + 36653.3u - 11382.6 \\ 11.3129u^{107} - 17.6833u^{106} + \cdots - 9984.50u + 3042.95 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.827553u^{107} - 2.28938u^{106} + \cdots - 1509.86u + 617.568 \\ -4.54597u^{107} + 6.83298u^{106} + \cdots + 3815.14u - 1175.67 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -29.7993u^{107} + 46.7151u^{106} + \cdots + 26668.8u - 8339.62 \\ 11.3129u^{107} - 17.6833u^{106} + \cdots - 9984.50u + 3042.95 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -16.4923u^{107} + 26.9884u^{106} + \cdots + 15115.1u - 4723.79 \\ 22.4428u^{107} - 33.7114u^{106} + \cdots - 18998.4u + 5793.78 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 49.2264u^{107} - 75.9538u^{106} + \cdots - 42626.0u + 13138.8 \\ 3.39652u^{107} - 6.09058u^{106} + \cdots - 3073.51u + 962.163 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -42.3987u^{107} + 66.3530u^{106} + \cdots + 37791.9u - 11742.9 \\ 5.22265u^{107} - 8.18612u^{106} + \cdots - 4597.36u + 1378.17 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -20.8291u^{107} + 33.7038u^{106} + \cdots + 19474.8u - 6266.69 \\ 12.6839u^{107} - 20.1507u^{106} + \cdots - 11239.0u + 3449.01 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -44.1834u^{107} + 68.3158u^{106} + \cdots + 39249.5u - 11362.2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{108} + 42u^{107} + \cdots + 640907u + 14641$
c_2, c_6	$u^{108} - 2u^{107} + \cdots + 665u - 121$
c_3	$u^{108} - 16u^{106} + \cdots - 2048u + 4096$
c_4, c_7	$u^{108} - 3u^{107} + \cdots + 3492u - 216$
c_5, c_{10}	$u^{108} + u^{107} + \cdots - 2u + 1$
c_8, c_9, c_{12}	$u^{108} - 8u^{107} + \cdots + 29u - 49$
c_{11}	$u^{108} - 5u^{107} + \cdots - 1003776u + 284645$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{108} + 58y^{107} + \cdots - 10226920779y + 214358881$
c_2, c_6	$y^{108} - 42y^{107} + \cdots - 640907y + 14641$
c_3	$y^{108} - 32y^{107} + \cdots - 20971520y + 16777216$
c_4, c_7	$y^{108} + 85y^{107} + \cdots - 4952016y + 46656$
c_5, c_{10}	$y^{108} + 67y^{107} + \cdots + 34y + 1$
c_8, c_9, c_{12}	$y^{108} - 122y^{107} + \cdots - 168029y + 2401$
c_{11}	$y^{108} - 41y^{107} + \cdots - 1084936184916y + 81022776025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.473060 + 0.875553I$ $a = 0.707490 + 0.870890I$ $b = -0.693599 - 1.206920I$	$2.70722 + 7.95600I$	0
$u = 0.473060 - 0.875553I$ $a = 0.707490 - 0.870890I$ $b = -0.693599 + 1.206920I$	$2.70722 - 7.95600I$	0
$u = -0.549471 + 0.842594I$ $a = 1.008210 - 0.819907I$ $b = -0.396404 + 1.083280I$	$5.18492 - 5.01087I$	0
$u = -0.549471 - 0.842594I$ $a = 1.008210 + 0.819907I$ $b = -0.396404 - 1.083280I$	$5.18492 + 5.01087I$	0
$u = -0.838043 + 0.573550I$ $a = -2.21721 + 1.72162I$ $b = 0.349372 + 1.102210I$	$8.48917 + 5.97444I$	0
$u = -0.838043 - 0.573550I$ $a = -2.21721 - 1.72162I$ $b = 0.349372 - 1.102210I$	$8.48917 - 5.97444I$	0
$u = 0.919844 + 0.431107I$ $a = -2.06859 - 0.63924I$ $b = 0.083628 - 0.715885I$	$0.333552 + 0.320050I$	0
$u = 0.919844 - 0.431107I$ $a = -2.06859 + 0.63924I$ $b = 0.083628 + 0.715885I$	$0.333552 - 0.320050I$	0
$u = 0.853517 + 0.591429I$ $a = -2.11840 - 0.23828I$ $b = 0.56054 - 1.87766I$	$6.82179 - 1.22996I$	0
$u = 0.853517 - 0.591429I$ $a = -2.11840 + 0.23828I$ $b = 0.56054 + 1.87766I$	$6.82179 + 1.22996I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.852765 + 0.594286I$ $a = -0.382859 + 1.083340I$ $b = -0.83303 - 1.78714I$	$6.82273 - 3.46268I$	0
$u = 0.852765 - 0.594286I$ $a = -0.382859 - 1.083340I$ $b = -0.83303 + 1.78714I$	$6.82273 + 3.46268I$	0
$u = -0.708277 + 0.646884I$ $a = 1.64335 - 0.76091I$ $b = -1.34848 - 0.50829I$	$5.12587 - 1.17539I$	0
$u = -0.708277 - 0.646884I$ $a = 1.64335 + 0.76091I$ $b = -1.34848 + 0.50829I$	$5.12587 + 1.17539I$	0
$u = 0.927702 + 0.218176I$ $a = 0.681705 - 0.897707I$ $b = -0.690327 + 0.454815I$	$6.57674 - 5.64279I$	0
$u = 0.927702 - 0.218176I$ $a = 0.681705 + 0.897707I$ $b = -0.690327 - 0.454815I$	$6.57674 + 5.64279I$	0
$u = 0.926121 + 0.504353I$ $a = 1.104810 + 0.665303I$ $b = -0.523582 - 0.110172I$	$0.09015 - 3.83905I$	0
$u = 0.926121 - 0.504353I$ $a = 1.104810 - 0.665303I$ $b = -0.523582 + 0.110172I$	$0.09015 + 3.83905I$	0
$u = -0.878524 + 0.584465I$ $a = 1.205720 - 0.130671I$ $b = -0.541178 + 1.046540I$	$8.35182 - 1.37489I$	0
$u = -0.878524 - 0.584465I$ $a = 1.205720 + 0.130671I$ $b = -0.541178 - 1.046540I$	$8.35182 + 1.37489I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.885925 + 0.270042I$ $a = 0.674994 + 0.890462I$ $b = 0.09003 + 1.54119I$	$-4.90763 - 1.11610I$	0
$u = 0.885925 - 0.270042I$ $a = 0.674994 - 0.890462I$ $b = 0.09003 - 1.54119I$	$-4.90763 + 1.11610I$	0
$u = -0.670529 + 0.843882I$ $a = -1.41684 + 0.60093I$ $b = 1.144080 + 0.271829I$	$13.4229 - 5.1024I$	0
$u = -0.670529 - 0.843882I$ $a = -1.41684 - 0.60093I$ $b = 1.144080 - 0.271829I$	$13.4229 + 5.1024I$	0
$u = -0.586082 + 0.699959I$ $a = 1.351240 + 0.417284I$ $b = -0.277289 - 1.121530I$	$5.00143 + 1.83882I$	0
$u = -0.586082 - 0.699959I$ $a = 1.351240 - 0.417284I$ $b = -0.277289 + 1.121530I$	$5.00143 - 1.83882I$	0
$u = 1.091640 + 0.073011I$ $a = 0.103738 - 0.992056I$ $b = -0.139220 - 1.307480I$	$-6.53240 + 1.23702I$	0
$u = 1.091640 - 0.073011I$ $a = 0.103738 + 0.992056I$ $b = -0.139220 + 1.307480I$	$-6.53240 - 1.23702I$	0
$u = 0.451011 + 0.784212I$ $a = 1.273660 - 0.133702I$ $b = -0.568027 - 0.047119I$	$8.07381 + 1.59724I$	0
$u = 0.451011 - 0.784212I$ $a = 1.273660 + 0.133702I$ $b = -0.568027 + 0.047119I$	$8.07381 - 1.59724I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.083430+0.170919I$ $a=-0.698255+0.527280I$ $b=-0.378511+1.246240I$	$-2.92616-1.09003I$	0
$u=-1.083430-0.170919I$ $a=-0.698255-0.527280I$ $b=-0.378511-1.246240I$	$-2.92616+1.09003I$	0
$u=-1.09795$ $a=-0.368465$ $b=\ \ 0.666440$	2.62003	0
$u=-0.523837+0.733708I$ $a=-0.696556+0.981163I$ $b=\ \ 0.346320-1.044430I$	$-1.38558-2.70089I$	0
$u=-0.523837-0.733708I$ $a=-0.696556-0.981163I$ $b=\ \ 0.346320+1.044430I$	$-1.38558+2.70089I$	0
$u=-0.984732+0.540814I$ $a=\ \ 1.48087-1.27252I$ $b=-0.359632-1.138000I$	$1.10854+5.71480I$	0
$u=-0.984732-0.540814I$ $a=\ \ 1.48087+1.27252I$ $b=-0.359632+1.138000I$	$1.10854-5.71480I$	0
$u=-0.703662+0.518712I$ $a=-1.031900-0.031481I$ $b=\ \ 0.543441-1.001150I$	$2.03756-1.38231I$	0
$u=-0.703662-0.518712I$ $a=-1.031900+0.031481I$ $b=\ \ 0.543441+1.001150I$	$2.03756+1.38231I$	0
$u=\ \ 0.757168+0.434719I$ $a=\ \ 3.39105+0.12282I$ $b=-0.010875+0.740927I$	$7.60270+2.67213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.757168 - 0.434719I$ $a = 3.39105 - 0.12282I$ $b = -0.010875 - 0.740927I$	$7.60270 - 2.67213I$	0
$u = -0.936532 + 0.633259I$ $a = -1.00052 + 1.11876I$ $b = 1.55972 - 0.17892I$	$4.45386 + 6.18095I$	0
$u = -0.936532 - 0.633259I$ $a = -1.00052 - 1.11876I$ $b = 1.55972 + 0.17892I$	$4.45386 - 6.18095I$	0
$u = -0.976297 + 0.585566I$ $a = -1.78809 + 0.08042I$ $b = 0.454982 + 1.235360I$	$-2.63040 + 3.86869I$	0
$u = -0.976297 - 0.585566I$ $a = -1.78809 - 0.08042I$ $b = 0.454982 - 1.235360I$	$-2.63040 - 3.86869I$	0
$u = -0.227089 + 0.828776I$ $a = 0.283807 + 0.030814I$ $b = -0.465423 + 0.863386I$	$3.05305 - 0.31048I$	0
$u = -0.227089 - 0.828776I$ $a = 0.283807 - 0.030814I$ $b = -0.465423 - 0.863386I$	$3.05305 + 0.31048I$	0
$u = 0.541017 + 1.005910I$ $a = -0.650168 - 0.745155I$ $b = 0.646450 + 1.252080I$	$10.3554 + 11.3655I$	0
$u = 0.541017 - 1.005910I$ $a = -0.650168 + 0.745155I$ $b = 0.646450 - 1.252080I$	$10.3554 - 11.3655I$	0
$u = 0.875093 + 0.734313I$ $a = -0.663314 + 0.334049I$ $b = 0.400839 - 0.319523I$	$3.72639 - 2.82265I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.875093 - 0.734313I$ $a = -0.663314 - 0.334049I$ $b = 0.400839 + 0.319523I$	$3.72639 + 2.82265I$	0
$u = -0.959651 + 0.645938I$ $a = -0.005851 + 0.347104I$ $b = 0.523713 - 0.959481I$	$4.00904 + 3.32493I$	0
$u = -0.959651 - 0.645938I$ $a = -0.005851 - 0.347104I$ $b = 0.523713 + 0.959481I$	$4.00904 - 3.32493I$	0
$u = 0.876860 + 0.761678I$ $a = -0.179546 + 0.607540I$ $b = -0.054879 - 0.291273I$	$3.75178 - 2.88559I$	0
$u = 0.876860 - 0.761678I$ $a = -0.179546 - 0.607540I$ $b = -0.054879 + 0.291273I$	$3.75178 + 2.88559I$	0
$u = 1.028930 + 0.587128I$ $a = 1.90164 + 0.62956I$ $b = -0.87739 + 1.40295I$	$-0.30441 - 7.63518I$	0
$u = 1.028930 - 0.587128I$ $a = 1.90164 - 0.62956I$ $b = -0.87739 - 1.40295I$	$-0.30441 + 7.63518I$	0
$u = 0.861830 + 0.816429I$ $a = 0.071175 - 1.214830I$ $b = 0.182839 + 0.432133I$	$10.65380 - 3.10774I$	0
$u = 0.861830 - 0.816429I$ $a = 0.071175 + 1.214830I$ $b = 0.182839 - 0.432133I$	$10.65380 + 3.10774I$	0
$u = -0.760443 + 0.271321I$ $a = -0.002660 - 0.265274I$ $b = -0.338167 + 0.464740I$	$-1.25535 + 0.69450I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.760443-0.271321I$ $a=-0.002660+0.265274I$ $b=-0.338167-0.464740I$	$-1.25535-0.69450I$	0
$u=1.040690+0.589174I$ $a=-0.923884-0.806157I$ $b=0.499188+0.215260I$	$6.23284-6.65466I$	0
$u=1.040690-0.589174I$ $a=-0.923884+0.806157I$ $b=0.499188-0.215260I$	$6.23284+6.65466I$	0
$u=1.201340+0.015247I$ $a=-0.503046-0.959905I$ $b=0.256160-1.198350I$	$-1.06906-3.31616I$	0
$u=1.201340-0.015247I$ $a=-0.503046+0.959905I$ $b=0.256160+1.198350I$	$-1.06906+3.31616I$	0
$u=-0.208754+1.187980I$ $a=-0.259697+0.052384I$ $b=0.394602-0.862464I$	$9.93351+0.77910I$	0
$u=-0.208754-1.187980I$ $a=-0.259697-0.052384I$ $b=0.394602+0.862464I$	$9.93351-0.77910I$	0
$u=0.747978+0.953978I$ $a=0.461708-0.162440I$ $b=-0.306209+0.634133I$	$3.85688-3.32718I$	0
$u=0.747978-0.953978I$ $a=0.461708+0.162440I$ $b=-0.306209-0.634133I$	$3.85688+3.32718I$	0
$u=1.102530+0.504475I$ $a=1.226100+0.569982I$ $b=-0.125324+0.660192I$	$-0.43748-3.66386I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.102530 - 0.504475I$ $a = 1.226100 - 0.569982I$ $b = -0.125324 - 0.660192I$	$-0.43748 + 3.66386I$	0
$u = -0.541468 + 0.567666I$ $a = -0.028249 - 1.023690I$ $b = -0.234324 + 0.946299I$	$-1.48923 + 0.77150I$	0
$u = -0.541468 - 0.567666I$ $a = -0.028249 + 1.023690I$ $b = -0.234324 - 0.946299I$	$-1.48923 - 0.77150I$	0
$u = -1.051390 + 0.633166I$ $a = 1.88360 - 0.20286I$ $b = -0.462804 - 1.171660I$	$-2.92953 + 7.93071I$	0
$u = -1.051390 - 0.633166I$ $a = 1.88360 + 0.20286I$ $b = -0.462804 + 1.171660I$	$-2.92953 - 7.93071I$	0
$u = 0.959577 + 0.788105I$ $a = 0.838671 - 0.381486I$ $b = -0.528764 + 0.258032I$	$10.36730 - 2.98702I$	0
$u = 0.959577 - 0.788105I$ $a = 0.838671 + 0.381486I$ $b = -0.528764 - 0.258032I$	$10.36730 + 2.98702I$	0
$u = -1.022620 + 0.716898I$ $a = 0.975752 - 0.785034I$ $b = -1.286650 + 0.123126I$	$12.3366 + 10.9198I$	0
$u = -1.022620 - 0.716898I$ $a = 0.975752 + 0.785034I$ $b = -1.286650 - 0.123126I$	$12.3366 - 10.9198I$	0
$u = -0.727701 + 0.161722I$ $a = 1.77728 - 0.36588I$ $b = -0.753976 - 1.046270I$	$4.92697 - 0.20226I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.727701-0.161722I$ $a=\ \ 1.77728+0.36588I$ $b=-0.753976+1.046270I$	$4.92697+0.20226I$	0
$u=\ \ 0.622029+0.398139I$ $a=-1.52293-0.22173I$ $b=\ \ 0.472209+0.032024I$	$1.073050-0.034370I$	0
$u=\ \ 0.622029-0.398139I$ $a=-1.52293+0.22173I$ $b=\ \ 0.472209-0.032024I$	$1.073050+0.034370I$	0
$u=-1.262390+0.001421I$ $a=\ \ 0.132361+0.701874I$ $b=\ \ 0.363612+1.190420I$	$-3.61718+5.59007I$	0
$u=-1.262390-0.001421I$ $a=\ \ 0.132361-0.701874I$ $b=\ \ 0.363612-1.190420I$	$-3.61718-5.59007I$	0
$u=\ \ 0.486653+0.553887I$ $a=-0.76014-1.31274I$ $b=\ \ 0.878383+1.068390I$	$1.19643+2.94178I$	0
$u=\ \ 0.486653-0.553887I$ $a=-0.76014+1.31274I$ $b=\ \ 0.878383-1.068390I$	$1.19643-2.94178I$	0
$u=-0.657418+0.310518I$ $a=\ \ 2.51515+0.43393I$ $b=\ \ 0.094082-1.281950I$	$5.31723+1.96329I$	0
$u=-0.657418-0.310518I$ $a=\ \ 2.51515-0.43393I$ $b=\ \ 0.094082+1.281950I$	$5.31723-1.96329I$	0
$u=-1.080210+0.682836I$ $a=-2.01230+0.23776I$ $b=\ \ 0.464349+1.137860I$	$3.58932+10.70600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.080210-0.682836I$ $a=-2.01230-0.23776I$ $b=\ \ 0.464349-1.137860I$	$3.58932-10.70600I$	0
$u=\ \ 1.109350+0.662620I$ $a=-1.73834-0.48707I$ $b=\ \ 0.71822-1.35841I$	$0.79512-13.63080I$	0
$u=\ \ 1.109350-0.662620I$ $a=-1.73834+0.48707I$ $b=\ \ 0.71822+1.35841I$	$0.79512+13.63080I$	0
$u=\ \ 1.141290+0.730712I$ $a=\ \ 1.69619+0.39257I$ $b=-0.66089+1.36226I$	$8.4801-17.6568I$	0
$u=\ \ 1.141290-0.730712I$ $a=\ \ 1.69619-0.39257I$ $b=-0.66089-1.36226I$	$8.4801+17.6568I$	0
$u=-1.193680+0.662241I$ $a=-1.038890+0.558810I$ $b=\ \ 0.366469+1.171730I$	$0.27951+5.89405I$	0
$u=-1.193680-0.662241I$ $a=-1.038890-0.558810I$ $b=\ \ 0.366469-1.171730I$	$0.27951-5.89405I$	0
$u=\ \ 1.261090+0.636921I$ $a=-0.803064-0.444751I$ $b=\ \ 0.126758-0.654920I$	$5.57865-6.57980I$	0
$u=\ \ 1.261090-0.636921I$ $a=-0.803064+0.444751I$ $b=\ \ 0.126758+0.654920I$	$5.57865+6.57980I$	0
$u=-1.43120+0.14591I$ $a=\ \ 0.191855-0.602946I$ $b=-0.358116-1.174330I$	$2.45534+8.59444I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43120-0.14591I$ $a=\ \ 0.191855+0.602946I$ $b=-0.358116+1.174330I$	$2.45534-8.59444I$	0
$u=\ \ 0.76870+1.21907I$ $a=-0.400142+0.042707I$ $b=\ \ 0.274008-0.711337I$	$10.54990-3.98993I$	0
$u=\ \ 0.76870-1.21907I$ $a=-0.400142-0.042707I$ $b=\ \ 0.274008+0.711337I$	$10.54990+3.98993I$	0
$u=-1.30134+0.78639I$ $a=\ \ 0.908626-0.350281I$ $b=-0.363659-1.180110I$	$6.72804+6.21729I$	0
$u=-1.30134-0.78639I$ $a=\ \ 0.908626+0.350281I$ $b=-0.363659+1.180110I$	$6.72804-6.21729I$	0
$u=\ \ 0.440218+0.007816I$ $a=-0.24041-1.63056I$ $b=\ \ 0.758652+0.713064I$	$1.19054+2.71950I$	$0.99256-6.37992I$
$u=\ \ 0.440218-0.007816I$ $a=-0.24041+1.63056I$ $b=\ \ 0.758652-0.713064I$	$1.19054-2.71950I$	$0.99256+6.37992I$
$u=\ \ 0.419660$ $a=-1.87954$ $b=\ \ 0.381743$	0.914841	13.1320

II.

$\boldsymbol{I_2^u = \langle u^{20}+2u^{19}+\cdots+b+5,\ -12u^{20}-5u^{19}+\cdots+a-15,\ u^{21}+u^{20}+\cdots+3u+1\rangle}$

(i) Arc colorings

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

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

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

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

$$a_{10} = \begin{pmatrix} 12u^{20}+5u^{19}+\cdots+36u+15 \\ -u^{20}-2u^{19}+\cdots-4u-5 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 12u^{20}+3u^{19}+\cdots+35u+5 \\ -2u^{20}-u^{19}+\cdots-9u-6 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 11u^{20}+3u^{19}+\cdots+32u+10 \\ -u^{20}-2u^{19}+\cdots-4u-5 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 7u^{20}+5u^{19}+\cdots+16u+12 \\ -u^{20}+4u^{18}+\cdots-u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -10u^{20}-3u^{19}+\cdots-33u-12 \\ -u^{17}+4u^{15}+\cdots-2u+1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 12u^{20}+5u^{19}+\cdots+37u+16 \\ u^{20}-u^{19}+\cdots+3u-1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -13u^{20}-6u^{19}+\cdots-40u-14 \\ -u^{10}+3u^8-u^7-6u^6+3u^5+6u^4-4u^3-5u^2+2u+2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -14u^{20}-u^{19}+63u^{18}-25u^{17}-196u^{16}+132u^{15}+375u^{14}-360u^{13}-534u^{12}+648u^{11}+529u^{10}-804u^9-401u^8+739u^7+210u^6-461u^5-92u^4+189u^3+29u^2-41u-6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{21} - 9u^{20} + \cdots + 11u - 1$
c_2	$u^{21} - u^{20} + \cdots + 3u - 1$
c_3	$u^{21} + u^{20} + \cdots + 5u - 1$
c_4	$u^{21} - 2u^{20} + \cdots - 2u - 3$
c_5	$u^{21} + 10u^{19} + \cdots + 6u + 1$
c_6	$u^{21} + u^{20} + \cdots + 3u + 1$
c_7	$u^{21} + 2u^{20} + \cdots - 2u + 3$
c_8, c_9	$u^{21} + u^{20} + \cdots + 5u + 1$
c_{10}	$u^{21} + 10u^{19} + \cdots + 6u - 1$
c_{11}	$u^{21} - 2u^{19} + \cdots + 6u + 1$
c_{12}	$u^{21} - u^{20} + \cdots + 5u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{21} + 15y^{20} + \cdots - 17y - 1$
c_2, c_6	$y^{21} - 9y^{20} + \cdots + 11y - 1$
c_3	$y^{21} - 7y^{20} + \cdots + 19y - 1$
c_4, c_7	$y^{21} + 22y^{20} + \cdots - 104y - 9$
c_5, c_{10}	$y^{21} + 20y^{20} + \cdots + 10y - 1$
c_8, c_9, c_{12}	$y^{21} - 29y^{20} + \cdots + 9y - 1$
c_{11}	$y^{21} - 4y^{20} + \cdots + 32y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.820423+0.631013I$ $a=1.050250+0.253276I$ $b=0.21601-1.68021I$	$6.89986+2.50759I$	$9.76319-2.39511I$
$u=-0.820423-0.631013I$ $a=1.050250-0.253276I$ $b=0.21601+1.68021I$	$6.89986-2.50759I$	$9.76319+2.39511I$
$u=0.903321+0.133481I$ $a=0.775922+0.968361I$ $b=0.01390+1.46618I$	$-5.15941-0.56745I$	$-1.92028-2.84114I$
$u=0.903321-0.133481I$ $a=0.775922-0.968361I$ $b=0.01390-1.46618I$	$-5.15941+0.56745I$	$-1.92028+2.84114I$
$u=0.716086+0.505123I$ $a=-2.35062+0.26772I$ $b=0.74430-1.29894I$	$6.07693-0.03732I$	$9.37966-0.12123I$
$u=0.716086-0.505123I$ $a=-2.35062-0.26772I$ $b=0.74430+1.29894I$	$6.07693+0.03732I$	$9.37966+0.12123I$
$u=0.819984+0.838814I$ $a=0.253614-0.504529I$ $b=-0.140516+0.590111I$	$3.42574-3.14778I$	$-5.74962+6.21620I$
$u=0.819984-0.838814I$ $a=0.253614+0.504529I$ $b=-0.140516-0.590111I$	$3.42574+3.14778I$	$-5.74962-6.21620I$
$u=1.009200+0.606978I$ $a=-0.058815+0.756627I$ $b=-0.711331-0.858548I$	$5.00283-4.45517I$	$7.26864+4.48388I$
$u=1.009200-0.606978I$ $a=-0.058815-0.756627I$ $b=-0.711331+0.858548I$	$5.00283+4.45517I$	$7.26864-4.48388I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.800131$ $a=\ \ 1.38397$ $b=-0.198977$	0.422571	-5.22070
$u=-1.110220+0.558025I$ $a=-1.25135+0.83423I$ $b=\ \ 0.455417+1.127270I$	$-0.46752+5.65574I$	$-1.10475-5.29317I$
$u=-1.110220-0.558025I$ $a=-1.25135-0.83423I$ $b=\ \ 0.455417-1.127270I$	$-0.46752-5.65574I$	$-1.10475+5.29317I$
$u=-0.646187+0.388815I$ $a=\ \ 1.47122-0.35668I$ $b=-0.628007+0.810454I$	$1.34744-1.67206I$	$1.52827+2.27823I$
$u=-0.646187-0.388815I$ $a=\ \ 1.47122+0.35668I$ $b=-0.628007-0.810454I$	$1.34744+1.67206I$	$1.52827-2.27823I$
$u=\ \ 0.790181+0.999133I$ $a=-0.052855+0.670525I$ $b=\ \ 0.090745-0.772295I$	$9.80396-3.59314I$	$3.21150+2.92520I$
$u=\ \ 0.790181-0.999133I$ $a=-0.052855-0.670525I$ $b=\ \ 0.090745+0.772295I$	$9.80396+3.59314I$	$3.21150-2.92520I$
$u=-1.272280+0.582453I$ $a=\ \ 0.919745-0.861219I$ $b=-0.279270-1.015850I$	$4.60320+7.62970I$	$3.69155-7.59260I$
$u=-1.272280-0.582453I$ $a=\ \ 0.919745+0.861219I$ $b=-0.279270+1.015850I$	$4.60320-7.62970I$	$3.69155+7.59260I$
$u=-0.489595+0.320187I$ $a=-3.44909-0.90345I$ $b=\ \ 0.338245-0.804670I$	$7.73410-3.58608I$	$7.04221+5.92560I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.489595-0.320187I$		
$a=-3.44909+0.90345I$	$7.73410+3.58608I$	$7.04221-5.92560I$
$b=\ \ 0.338245+0.804670I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{21}-9u^{20}+\cdots+11u-1)(u^{108}+42u^{107}+\cdots+640907u+14641)$
c_2	$(u^{21}-u^{20}+\cdots+3u-1)(u^{108}-2u^{107}+\cdots+665u-121)$
c_3	$(u^{21}+u^{20}+\cdots+5u-1)(u^{108}-16u^{106}+\cdots-2048u+4096)$
c_4	$(u^{21}-2u^{20}+\cdots-2u-3)(u^{108}-3u^{107}+\cdots+3492u-216)$
c_5	$(u^{21}+10u^{19}+\cdots+6u+1)(u^{108}+u^{107}+\cdots-2u+1)$
c_6	$(u^{21}+u^{20}+\cdots+3u+1)(u^{108}-2u^{107}+\cdots+665u-121)$
c_7	$(u^{21}+2u^{20}+\cdots-2u+3)(u^{108}-3u^{107}+\cdots+3492u-216)$
c_8, c_9	$(u^{21}+u^{20}+\cdots+5u+1)(u^{108}-8u^{107}+\cdots+29u-49)$
c_{10}	$(u^{21}+10u^{19}+\cdots+6u-1)(u^{108}+u^{107}+\cdots-2u+1)$
c_{11}	$(u^{21}-2u^{19}+\cdots+6u+1)(u^{108}-5u^{107}+\cdots-1003776u+284645)$
c_{12}	$(u^{21}-u^{20}+\cdots+5u-1)(u^{108}-8u^{107}+\cdots+29u-49)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{21}+15y^{20}+\cdots-17y-1)$ $\cdot(y^{108}+58y^{107}+\cdots-10226920779y+214358881)$
c_2, c_6	$(y^{21}-9y^{20}+\cdots+11y-1)(y^{108}-42y^{107}+\cdots-640907y+14641)$
c_3	$(y^{21}-7y^{20}+\cdots+19y-1)$ $\cdot(y^{108}-32y^{107}+\cdots-20971520y+16777216)$
c_4, c_7	$(y^{21}+22y^{20}+\cdots-104y-9)$ $\cdot(y^{108}+85y^{107}+\cdots-4952016y+46656)$
c_5, c_{10}	$(y^{21}+20y^{20}+\cdots+10y-1)(y^{108}+67y^{107}+\cdots+34y+1)$
c_8, c_9, c_{12}	$(y^{21}-29y^{20}+\cdots+9y-1)(y^{108}-122y^{107}+\cdots-168029y+2401)$
c_{11}	$(y^{21}-4y^{20}+\cdots+32y-1)$ $\cdot(y^{108}-41y^{107}+\cdots-1084936184916y+81022776025)$