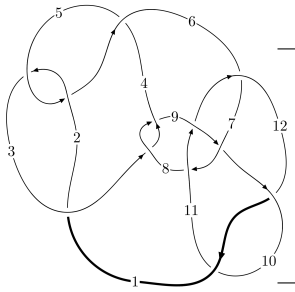
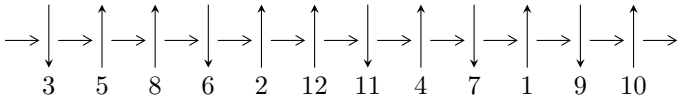
$12a_{0133}$ $(K12a_{0133})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.85504 \times 10^{788} u^{124} + 3.67648 \times 10^{789} u^{123} + \cdots + 1.84177 \times 10^{788} b - 7.07747 \times 10^{788}, \\ & - 2.43301 \times 10^{788} u^{124} + 5.11381 \times 10^{789} u^{123} + \cdots + 9.20887 \times 10^{787} a + 7.40748 \times 10^{788}, \\ & u^{125} - 21 u^{124} + \cdots - 3u + 1 \rangle \\ I_2^u = \langle & -u^5 b + 2u^5 + u^3 b - 3u^3 + b^2 - bu - b + 3u + 1,\ a,\ u^6 - u^5 - u^4 + 2u^3 - u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 137 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle -1.86 \times 10^{788} u^{124} + 3.68 \times 10^{789} u^{123} + \cdots + 1.84 \times 10^{788} b - 7.08 \times 10^{788},\ -2.43 \times 10^{788} u^{124} + 5.11 \times 10^{789} u^{123} + \cdots + 9.21 \times 10^{787} a + 7.41 \times 10^{788},\ u^{125} - 21 u^{124} + \cdots - 3u + 1 \rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2.64203u^{124} - 55.5313u^{123} + \cdots + 19.1899u - 8.04385 \\ 1.00720u^{124} - 19.9616u^{123} + \cdots + 5.57665u + 3.84275 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.481862u^{124} - 11.4373u^{123} + \cdots + 6.21816u - 7.95654 \\ 0.193276u^{124} - 3.35222u^{123} + \cdots - 2.51683u + 3.74346 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 5.54735u^{124} - 116.372u^{123} + \cdots + 44.2277u - 12.9410 \\ 0.987816u^{124} - 19.2874u^{123} + \cdots + 3.17753u + 5.56318 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.675138u^{124} - 14.7895u^{123} + \cdots + 3.70134u - 4.21308 \\ 0.193276u^{124} - 3.35222u^{123} + \cdots - 2.51683u + 3.74346 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0738144u^{124} + 1.46614u^{123} + \cdots - 0.540455u + 1.43814 \\ 0.581451u^{124} - 12.1584u^{123} + \cdots + 2.87063u - 1.11559 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0738144u^{124} + 1.46614u^{123} + \cdots - 0.540455u + 1.43814 \\ -0.669841u^{124} + 14.0038u^{123} + \cdots - 3.04870u + 1.19955 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.110132u^{124} - 3.63794u^{123} + \cdots + 3.70815u - 7.34491 \\ -0.00891814u^{124} + 0.907468u^{123} + \cdots - 4.09245u + 4.45700 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.04837u^{124} - 126.686u^{123} + \cdots + 46.7051u - 14.3744 \\ 1.25389u^{124} - 24.7312u^{123} + \cdots + 4.66284u + 5.75382 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.97982u^{124} - 43.5856u^{123} + \cdots + 16.2112u - 16.0378 \\ -1.16126u^{124} + 25.5464u^{123} + \cdots - 13.1425u + 10.4296 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2.99618u^{124} - 67.3888u^{123} + \cdots + 57.9690u - 28.9195$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{125} + 41u^{124} + \cdots - 145u - 1$
c_2, c_5	$u^{125} + 7u^{124} + \cdots - 9u - 1$
c_3, c_8	$u^{125} - u^{124} + \cdots + 20480u - 4096$
c_6	$u^{125} + 9u^{124} + \cdots + 391375u + 25489$
c_7	$u^{125} + 3u^{124} + \cdots - 6561489u + 604147$
c_9	$u^{125} - 9u^{124} + \cdots - 3u + 1$
c_{10}, c_{12}	$u^{125} + 3u^{124} + \cdots + 17u - 1$
c_{11}	$u^{125} - 21u^{124} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{125} + 93y^{124} + \cdots + 5099y - 1$
c_2, c_5	$y^{125} + 41y^{124} + \cdots - 145y - 1$
c_3, c_8	$y^{125} - 65y^{124} + \cdots + 301989888y - 16777216$
c_6	$y^{125} - 127y^{124} + \cdots + 36942460527y - 649689121$
c_7	$y^{125} - 91y^{124} + \cdots - 24775319389441y - 364993597609$
c_9	$y^{125} + 21y^{124} + \cdots - 9y - 1$
c_{10}, c_{12}	$y^{125} - 83y^{124} + \cdots - 17y - 1$
c_{11}	$y^{125} - 3y^{124} + \cdots - 17y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.655767+0.724024I$ $a=\ \ 0.33434+1.55566I$ $b=\ \ 0.447793-1.297880I$	$6.22986+11.45440I$	0
$u=-0.655767-0.724024I$ $a=\ \ 0.33434-1.55566I$ $b=\ \ 0.447793+1.297880I$	$6.22986-11.45440I$	0
$u=\ \ 0.800249+0.648673I$ $a=-0.435423-0.783872I$ $b=\ \ 0.0861307+0.1080150I$	$1.30610-5.13081I$	0
$u=\ \ 0.800249-0.648673I$ $a=-0.435423+0.783872I$ $b=\ \ 0.0861307-0.1080150I$	$1.30610+5.13081I$	0
$u=-0.812584+0.469650I$ $a=\ \ 0.404002-0.446533I$ $b=\ \ 0.205603-0.077552I$	$-1.40641+1.21884I$	0
$u=-0.812584-0.469650I$ $a=\ \ 0.404002+0.446533I$ $b=\ \ 0.205603+0.077552I$	$-1.40641-1.21884I$	0
$u=-0.556208+0.736230I$ $a=-0.28352-1.68148I$ $b=-0.372160+1.230560I$	$7.45341+5.28303I$	0
$u=-0.556208-0.736230I$ $a=-0.28352+1.68148I$ $b=-0.372160-1.230560I$	$7.45341-5.28303I$	0
$u=-0.906987+0.030403I$ $a=\ \ 0.519200-0.675115I$ $b=-0.025247-0.165447I$	$-3.11701+0.35524I$	0
$u=-0.906987-0.030403I$ $a=\ \ 0.519200+0.675115I$ $b=-0.025247+0.165447I$	$-3.11701-0.35524I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.149600 + 0.349509I$ $a = -0.535012 + 0.432272I$ $b = 0.078999 - 0.123440I$	$0.35042 - 8.49800I$	0
$u = 1.149600 - 0.349509I$ $a = -0.535012 - 0.432272I$ $b = 0.078999 + 0.123440I$	$0.35042 + 8.49800I$	0
$u = 0.601239 + 0.510683I$ $a = -0.62073 + 1.55220I$ $b = 0.094233 - 1.338300I$	$3.00041 - 8.24027I$	0
$u = 0.601239 - 0.510683I$ $a = -0.62073 - 1.55220I$ $b = 0.094233 + 1.338300I$	$3.00041 + 8.24027I$	0
$u = -0.874574 + 0.851604I$ $a = -0.310901 - 0.625158I$ $b = -1.21137 + 2.18977I$	$-1.140860 + 0.185574I$	0
$u = -0.874574 - 0.851604I$ $a = -0.310901 + 0.625158I$ $b = -1.21137 - 2.18977I$	$-1.140860 - 0.185574I$	0
$u = -0.081636 + 0.769248I$ $a = -0.36800 + 1.57288I$ $b = 0.83539 - 1.84910I$	$4.79797 + 5.99082I$	0
$u = -0.081636 - 0.769248I$ $a = -0.36800 - 1.57288I$ $b = 0.83539 + 1.84910I$	$4.79797 - 5.99082I$	0
$u = 1.079040 + 0.584332I$ $a = 0.456985 - 0.442276I$ $b = 0.69928 + 2.28590I$	$2.34856 - 1.43127I$	0
$u = 1.079040 - 0.584332I$ $a = 0.456985 + 0.442276I$ $b = 0.69928 - 2.28590I$	$2.34856 + 1.43127I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.012937+0.762843I$ $a=\ \ 0.34464-1.56179I$ $b=-0.79362+1.73569I$	$5.39776+0.24395I$	0
$u=-0.012937-0.762843I$ $a=\ \ 0.34464+1.56179I$ $b=-0.79362-1.73569I$	$5.39776-0.24395I$	0
$u=\ \ 0.465870+1.150330I$ $a=\ \ 0.562053-1.160690I$ $b=\ \ 0.54269+1.53375I$	$12.64840-1.23482I$	0
$u=\ \ 0.465870-1.150330I$ $a=\ \ 0.562053+1.160690I$ $b=\ \ 0.54269-1.53375I$	$12.64840+1.23482I$	0
$u=\ \ 0.709846+0.224075I$ $a=-0.52362+1.38728I$ $b=-0.080817-0.223298I$	$-2.63980-3.08960I$	0
$u=\ \ 0.709846-0.224075I$ $a=-0.52362-1.38728I$ $b=-0.080817+0.223298I$	$-2.63980+3.08960I$	0
$u=\ \ 0.514320+0.536168I$ $a=\ \ 0.57898-1.61891I$ $b=-0.187141+1.327970I$	$3.99062-2.47202I$	0
$u=\ \ 0.514320-0.536168I$ $a=\ \ 0.57898+1.61891I$ $b=-0.187141-1.327970I$	$3.99062+2.47202I$	0
$u=\ \ 0.720998+0.172200I$ $a=\ \ 0.469048-0.594384I$ $b=-0.36139+2.83331I$	$2.22327-1.42836I$	0
$u=\ \ 0.720998-0.172200I$ $a=\ \ 0.469048+0.594384I$ $b=-0.36139-2.83331I$	$2.22327+1.42836I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.426109 + 1.187070I$ $a = -0.238651 - 0.571154I$ $b = -0.405811 + 1.274680I$	$0.652314 + 1.029720I$	0
$u = 0.426109 - 1.187070I$ $a = -0.238651 + 0.571154I$ $b = -0.405811 - 1.274680I$	$0.652314 - 1.029720I$	0
$u = 0.458876 + 0.536127I$ $a = 0.452310 + 0.035894I$ $b = -0.825132 - 0.578278I$	$1.92047 + 0.80353I$	0
$u = 0.458876 - 0.536127I$ $a = 0.452310 - 0.035894I$ $b = -0.825132 + 0.578278I$	$1.92047 - 0.80353I$	0
$u = 1.212330 + 0.482011I$ $a = 0.510598 - 0.206916I$ $b = -0.0951467 + 0.0676096I$	$0.64386 - 3.59414I$	0
$u = 1.212330 - 0.482011I$ $a = 0.510598 + 0.206916I$ $b = -0.0951467 - 0.0676096I$	$0.64386 + 3.59414I$	0
$u = 0.571989 + 1.185410I$ $a = -0.521400 + 1.090710I$ $b = -0.58676 - 1.63613I$	$12.7252 - 7.6247I$	0
$u = 0.571989 - 1.185410I$ $a = -0.521400 - 1.090710I$ $b = -0.58676 + 1.63613I$	$12.7252 + 7.6247I$	0
$u = 0.916959 + 0.954823I$ $a = 0.457245 - 0.773326I$ $b = 1.04744 + 2.04862I$	$2.84396 - 4.99238I$	0
$u = 0.916959 - 0.954823I$ $a = 0.457245 + 0.773326I$ $b = 1.04744 - 2.04862I$	$2.84396 + 4.99238I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.564784+0.344975I$ $a=\ \ 1.98382+0.30021I$ $b=-1.97480-0.78752I$	$5.73499-7.52961I$	0
$u=-0.564784-0.344975I$ $a=\ \ 1.98382-0.30021I$ $b=-1.97480+0.78752I$	$5.73499+7.52961I$	0
$u=\ \ 1.098570+0.780864I$ $a=\ \ 0.586410+0.267127I$ $b=-0.1161610-0.0423086I$	$-1.27865-7.70761I$	0
$u=\ \ 1.098570-0.780864I$ $a=\ \ 0.586410-0.267127I$ $b=-0.1161610+0.0423086I$	$-1.27865+7.70761I$	0
$u=-0.569229+0.272964I$ $a=-2.03944-0.26318I$ $b=\ \ 2.11744+0.68360I$	$6.52143-1.68218I$	$-4.62817-7.60476I$
$u=-0.569229-0.272964I$ $a=-2.03944+0.26318I$ $b=\ \ 2.11744-0.68360I$	$6.52143+1.68218I$	$-4.62817+7.60476I$
$u=-0.863415+1.085210I$ $a=\ \ 0.673655-0.289380I$ $b=\ \ 0.458382+0.152113I$	$0.76237+1.42438I$	0
$u=-0.863415-1.085210I$ $a=\ \ 0.673655+0.289380I$ $b=\ \ 0.458382-0.152113I$	$0.76237-1.42438I$	0
$u=-1.373220+0.195922I$ $a=\ \ 0.628799+0.082468I$ $b=\ \ 0.071598+0.187138I$	$-0.67458+2.99174I$	0
$u=-1.373220-0.195922I$ $a=\ \ 0.628799-0.082468I$ $b=\ \ 0.071598-0.187138I$	$-0.67458-2.99174I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.472217+0.389380I$ $a=\ \ 1.12716+1.98262I$ $b=\ \ 0.589186-0.812623I$	$-0.34954+4.52947I$	$2.00000-13.81389I$
$u=-0.472217-0.389380I$ $a=\ \ 1.12716-1.98262I$ $b=\ \ 0.589186+0.812623I$	$-0.34954-4.52947I$	$2.00000+13.81389I$
$u=\ \ 0.941617+1.043060I$ $a=-0.835809-0.412754I$ $b=\ \ 0.144449+0.087004I$	$5.23935-6.54595I$	0
$u=\ \ 0.941617-1.043060I$ $a=-0.835809+0.412754I$ $b=\ \ 0.144449-0.087004I$	$5.23935+6.54595I$	0
$u=-1.21916+0.74148I$ $a=-0.605742+0.193847I$ $b=-0.245807-0.160971I$	$-4.30119+2.18209I$	0
$u=-1.21916-0.74148I$ $a=-0.605742-0.193847I$ $b=-0.245807+0.160971I$	$-4.30119-2.18209I$	0
$u=\ \ 0.97414+1.07043I$ $a=-0.384349+0.846825I$ $b=-0.80389-2.10781I$	$5.74950-9.66103I$	0
$u=\ \ 0.97414-1.07043I$ $a=-0.384349-0.846825I$ $b=-0.80389+2.10781I$	$5.74950+9.66103I$	0
$u=\ \ 0.343667+0.427238I$ $a=-2.27849+1.08888I$ $b=-0.583367-0.463637I$	$1.78016-4.49817I$	$8.2687+15.7325I$
$u=\ \ 0.343667-0.427238I$ $a=-2.27849-1.08888I$ $b=-0.583367+0.463637I$	$1.78016+4.49817I$	$8.2687-15.7325I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.408496+0.362667I$ $a=\ 0.956928+0.805869I$ $b=\ 1.56321-0.83191I$	$-0.66370+2.83474I$	$3.37234-5.05490I$
$u=-0.408496-0.362667I$ $a=\ 0.956928-0.805869I$ $b=\ 1.56321+0.83191I$	$-0.66370-2.83474I$	$3.37234+5.05490I$
$u=\ 1.02185+1.06029I$ $a=\ 0.832160+0.354664I$ $b=-0.151510-0.078925I$	$4.53531-12.42450I$	0
$u=\ 1.02185-1.06029I$ $a=\ 0.832160-0.354664I$ $b=-0.151510+0.078925I$	$4.53531+12.42450I$	0
$u=-0.045042+0.518697I$ $a=\ 0.82086-2.89616I$ $b=\ 0.050949+0.729389I$	$4.64685+0.82915I$	$22.7383-3.4399I$
$u=-0.045042-0.518697I$ $a=\ 0.82086+2.89616I$ $b=\ 0.050949-0.729389I$	$4.64685-0.82915I$	$22.7383+3.4399I$
$u=-0.92818+1.15242I$ $a=\ 0.277979+0.678887I$ $b=\ 0.83742-2.07441I$	$1.20280+4.30451I$	0
$u=-0.92818-1.15242I$ $a=\ 0.277979-0.678887I$ $b=\ 0.83742+2.07441I$	$1.20280-4.30451I$	0
$u=\ 0.472978+0.216290I$ $a=-1.03307+1.75271I$ $b=\ 0.086430-0.953078I$	$-2.31917-2.48205I$	$-2.69773+2.44933I$
$u=\ 0.472978-0.216290I$ $a=-1.03307-1.75271I$ $b=\ 0.086430+0.953078I$	$-2.31917+2.48205I$	$-2.69773-2.44933I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43892+0.34979I$ $a=-0.635403+0.009303I$ $b=-0.110646-0.197389I$	$-0.90323-2.21060I$	0
$u=-1.43892-0.34979I$ $a=-0.635403-0.009303I$ $b=-0.110646+0.197389I$	$-0.90323+2.21060I$	0
$u=-0.112927+0.503855I$ $a=-0.69615+1.51978I$ $b=1.62571-2.00477I$	$-0.39162+1.59192I$	$5.69392-11.13943I$
$u=-0.112927-0.503855I$ $a=-0.69615-1.51978I$ $b=1.62571+2.00477I$	$-0.39162-1.59192I$	$5.69392+11.13943I$
$u=0.100372+0.504572I$ $a=-2.49644-1.62571I$ $b=0.102842+0.125100I$	$4.17272-2.48498I$	$20.8404+8.1724I$
$u=0.100372-0.504572I$ $a=-2.49644+1.62571I$ $b=0.102842-0.125100I$	$4.17272+2.48498I$	$20.8404-8.1724I$
$u=-0.206853+0.453051I$ $a=3.10944-0.25342I$ $b=-0.071875-0.135036I$	$3.28804+3.77271I$	$16.3017-14.4940I$
$u=-0.206853-0.453051I$ $a=3.10944+0.25342I$ $b=-0.071875+0.135036I$	$3.28804-3.77271I$	$16.3017+14.4940I$
$u=1.09874+1.02810I$ $a=0.305533-0.805877I$ $b=0.75512+2.32378I$	$1.03911-12.82610I$	0
$u=1.09874-1.02810I$ $a=0.305533+0.805877I$ $b=0.75512-2.32378I$	$1.03911+12.82610I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.02955+1.12530I$ $a=-0.673996+0.265111I$ $b=-0.405078-0.208746I$	$0.16327+6.85626I$	0
$u=-1.02955-1.12530I$ $a=-0.673996-0.265111I$ $b=-0.405078+0.208746I$	$0.16327-6.85626I$	0
$u=1.19774+0.96859I$ $a=0.403750+0.508853I$ $b=0.09110-1.49370I$	$4.58964-0.88814I$	0
$u=1.19774-0.96859I$ $a=0.403750-0.508853I$ $b=0.09110+1.49370I$	$4.58964+0.88814I$	0
$u=0.260833+0.364385I$ $a=0.242358+1.026030I$ $b=0.75167-4.05520I$	$1.72895+2.62928I$	$4.2210+23.6665I$
$u=0.260833-0.364385I$ $a=0.242358-1.026030I$ $b=0.75167+4.05520I$	$1.72895-2.62928I$	$4.2210-23.6665I$
$u=0.117927+0.423401I$ $a=0.08943-2.01381I$ $b=-0.646164+1.045010I$	$1.45688-0.48467I$	$7.00982+0.32488I$
$u=0.117927-0.423401I$ $a=0.08943+2.01381I$ $b=-0.646164-1.045010I$	$1.45688+0.48467I$	$7.00982-0.32488I$
$u=0.89351+1.28706I$ $a=0.546290-0.344120I$ $b=1.20226+1.43579I$	$1.67799+4.80704I$	0
$u=0.89351-1.28706I$ $a=0.546290+0.344120I$ $b=1.20226-1.43579I$	$1.67799-4.80704I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.289466+0.319128I$ $a=\ \ 2.06945+0.68682I$ $b=-2.29689-1.76507I$	$-0.01102-2.45400I$	$-3.8556-17.4577I$
$u=-0.289466-0.319128I$ $a=\ \ 2.06945-0.68682I$ $b=-2.29689+1.76507I$	$-0.01102+2.45400I$	$-3.8556+17.4577I$
$u=\ \ 0.000211+0.414859I$ $a=\ \ 1.90598-0.30272I$ $b=\ \ 0.052743-0.664474I$	$1.04154+2.17510I$	$2.60677-4.61609I$
$u=\ \ 0.000211-0.414859I$ $a=\ \ 1.90598+0.30272I$ $b=\ \ 0.052743+0.664474I$	$1.04154-2.17510I$	$2.60677+4.61609I$
$u=\ \ 1.10596+1.14827I$ $a=-0.380345-0.527519I$ $b=-0.14580+1.46076I$	$4.41420+4.52899I$	0
$u=\ \ 1.10596-1.14827I$ $a=-0.380345+0.527519I$ $b=-0.14580-1.46076I$	$4.41420-4.52899I$	0
$u=-1.19012+1.07024I$ $a=-0.239452-0.671390I$ $b=-0.71402+2.29942I$	$-3.00982+6.94600I$	0
$u=-1.19012-1.07024I$ $a=-0.239452+0.671390I$ $b=-0.71402-2.29942I$	$-3.00982-6.94600I$	0
$u=\ \ 1.20410+1.08346I$ $a=-0.523565+0.396835I$ $b=-0.93756-1.71294I$	$5.22915+1.86813I$	0
$u=\ \ 1.20410-1.08346I$ $a=-0.523565-0.396835I$ $b=-0.93756+1.71294I$	$5.22915-1.86813I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.209563 + 0.308025I$ $a = -2.32011 - 0.47996I$ $b = 0.101894 + 0.624284I$	$0.62427 - 2.85549I$	$1.37496 + 1.53556I$
$u = 0.209563 - 0.308025I$ $a = -2.32011 + 0.47996I$ $b = 0.101894 - 0.624284I$	$0.62427 + 2.85549I$	$1.37496 - 1.53556I$
$u = 1.15661 + 1.15539I$ $a = -0.272255 + 0.878161I$ $b = -0.57135 - 2.24988I$	$8.4195 - 13.4799I$	0
$u = 1.15661 - 1.15539I$ $a = -0.272255 - 0.878161I$ $b = -0.57135 + 2.24988I$	$8.4195 + 13.4799I$	0
$u = -0.349753$ $a = -2.60555$ $b = 3.51569$	3.09971	-30.1780
$u = 1.20165 + 1.13913I$ $a = 0.250319 - 0.871083I$ $b = 0.54221 + 2.29559I$	$7.2064 - 19.5482I$	0
$u = 1.20165 - 1.13913I$ $a = 0.250319 + 0.871083I$ $b = 0.54221 - 2.29559I$	$7.2064 + 19.5482I$	0
$u = -0.300177 + 0.088480I$ $a = -0.35751 + 2.68856I$ $b = 0.74972 - 4.46124I$	$2.45673 - 2.54518I$	$-37.1451 - 19.2544I$
$u = -0.300177 - 0.088480I$ $a = -0.35751 - 2.68856I$ $b = 0.74972 + 4.46124I$	$2.45673 + 2.54518I$	$-37.1451 + 19.2544I$
$u = -0.40301 + 1.63903I$ $a = 0.289221 + 0.698596I$ $b = 0.59506 - 1.70803I$	$6.19530 + 3.43221I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.40301-1.63903I$ $a=\ \ 0.289221-0.698596I$ $b=\ \ 0.59506+1.70803I$	$6.19530-3.43221I$	0
$u=-0.24324+1.68667I$ $a=-0.290978-0.690325I$ $b=-0.55589+1.65264I$	$5.75964-2.41343I$	0
$u=-0.24324-1.68667I$ $a=-0.290978+0.690325I$ $b=-0.55589-1.65264I$	$5.75964+2.41343I$	0
$u=-1.27621+1.32563I$ $a=\ \ 0.245667+0.705611I$ $b=\ \ 0.56630-2.16228I$	$3.88678+7.08241I$	0
$u=-1.27621-1.32563I$ $a=\ \ 0.245667-0.705611I$ $b=\ \ 0.56630+2.16228I$	$3.88678-7.08241I$	0
$u=-1.35656+1.29152I$ $a=-0.236619-0.708219I$ $b=-0.53245+2.20027I$	$2.84254+12.99610I$	0
$u=-1.35656-1.29152I$ $a=-0.236619+0.708219I$ $b=-0.53245-2.20027I$	$2.84254-12.99610I$	0
$u=\ \ 1.73826+0.84266I$ $a=-0.532828+0.456968I$ $b=-0.56195-1.70610I$	$9.42374+0.00303I$	0
$u=\ \ 1.73826-0.84266I$ $a=-0.532828-0.456968I$ $b=-0.56195+1.70610I$	$9.42374-0.00303I$	0
$u=\ \ 1.80162+0.72379I$ $a=\ \ 0.529086-0.466468I$ $b=\ \ 0.50669+1.71976I$	$8.75351-5.95447I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.80162-0.72379I$		
$a=$	$0.529086+0.466468I$	$8.75351+5.95447I$	0
$b=$	$0.50669-1.71976I$		
$u=$	$1.18926+1.57654I$		
$a=$	$-0.581652+0.385364I$	$8.74385+4.24214I$	0
$b=$	$-0.87584-1.36218I$		
$u=$	$1.18926-1.57654I$		
$a=$	$-0.581652-0.385364I$	$8.74385-4.24214I$	0
$b=$	$-0.87584+1.36218I$		
$u=$	$1.10974+1.65453I$		
$a=$	$0.590549-0.378019I$	$7.89271+10.20530I$	0
$b=$	$0.88783+1.29999I$		
$u=$	$1.10974-1.65453I$		
$a=$	$0.590549+0.378019I$	$7.89271-10.20530I$	0
$b=$	$0.88783-1.29999I$		

II. $I_2^u = \langle -u^5b + 2u^5 + \cdots - b + 1,\ a,\ u^6 - u^5 - u^4 + 2u^3 - u + 1 \rangle$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^5b - u^4b + 2u^3b - bu + b \\ u^3b + 2b \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^3 \\ -2u^5 + 2u^3 + b - 2u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= 4u^5b + u^4b - 4u^5 - 9u^3b + 7u^4 + 3u^2b + 7u^3 + 5bu - 11u^2 - 3b - u + 6$

(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	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2$
c_7, c_{12}	$(u^6+u^5-u^4-2u^3+u+1)^2$
c_{10}, c_{11}	$(u^6-u^5-u^4+2u^3-u+1)^2$

(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_9	$(y^6+y^5+5y^4+6y^2+3y+1)^2$
c_7, c_{10}, c_{11} c_{12}	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=0$ $b=0.861379-0.162890I$	$-1.89061-1.10558I$	$-1.04064+1.99047I$
$u=-1.002190+0.295542I$ $a=0$ $b=-0.289622+0.827421I$	$-1.89061+2.95419I$	$-3.79900-4.11613I$
$u=-1.002190-0.295542I$ $a=0$ $b=0.861379+0.162890I$	$-1.89061+1.10558I$	$-1.04064-1.99047I$
$u=-1.002190-0.295542I$ $a=0$ $b=-0.289622-0.827421I$	$-1.89061-2.95419I$	$-3.79900+4.11613I$
$u=0.428243+0.664531I$ $a=0$ $b=0.74515+1.88172I$	$1.89061+2.95419I$	$11.02954-8.16480I$
$u=0.428243+0.664531I$ $a=0$ $b=1.25704-1.58618I$	$1.89061-1.10558I$	$-0.484082+0.231437I$
$u=0.428243-0.664531I$ $a=0$ $b=0.74515-1.88172I$	$1.89061-2.95419I$	$11.02954+8.16480I$
$u=0.428243-0.664531I$ $a=0$ $b=1.25704+1.58618I$	$1.89061+1.10558I$	$-0.484082-0.231437I$
$u=1.073950+0.558752I$ $a=0$ $b=0.446919+0.343418I$	$-3.66314I$	$-2.53591+3.55776I$
$u=1.073950+0.558752I$ $a=0$ $b=-0.520868+0.215334I$	$-7.72290I$	$2.83009+4.64337I$

	Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.073950-0.558752I$		
$a=$	0	$3.66314I$	$-2.53591-3.55776I$
$b=$	$0.446919-0.343418I$		
$u=$	$1.073950-0.558752I$		
$a=$	0	$7.72290I$	$2.83009-4.64337I$
$b=$	$-0.520868-0.215334I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$((u^2-u+1)^6)(u^{125}+41u^{124}+\cdots-145u-1)$
c_2	$((u^2+u+1)^6)(u^{125}+7u^{124}+\cdots-9u-1)$
c_3, c_8	$u^{12}(u^{125}-u^{124}+\cdots+20480u-4096)$
c_5	$((u^2-u+1)^6)(u^{125}+7u^{124}+\cdots-9u-1)$
c_6	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2$ $\cdot(u^{125}+9u^{124}+\cdots+391375u+25489)$
c_7	$(u^6+u^5-u^4-2u^3+u+1)^2$ $\cdot(u^{125}+3u^{124}+\cdots-6561489u+604147)$
c_9	$((u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2)(u^{125}-9u^{124}+\cdots-3u+1)$
c_{10}	$((u^6-u^5-u^4+2u^3-u+1)^2)(u^{125}+3u^{124}+\cdots+17u-1)$
c_{11}	$((u^6-u^5-u^4+2u^3-u+1)^2)(u^{125}-21u^{124}+\cdots-3u+1)$
c_{12}	$((u^6+u^5-u^4-2u^3+u+1)^2)(u^{125}+3u^{124}+\cdots+17u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^6)(y^{125}+93y^{124}+\cdots+5099y-1)$
c_2, c_5	$((y^2+y+1)^6)(y^{125}+41y^{124}+\cdots-145y-1)$
c_3, c_8	$y^{12}(y^{125}-65y^{124}+\cdots+3.01990\times10^8 y-1.67772\times10^7)$
c_6	$(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{125}-127y^{124}+\cdots+36942460527y-649689121)$
c_7	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{125}-91y^{124}+\cdots-24775319389441y-364993597609)$
c_9	$((y^6+y^5+5y^4+6y^2+3y+1)^2)(y^{125}+21y^{124}+\cdots-9y-1)$
c_{10}, c_{12}	$((y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2)(y^{125}-83y^{124}+\cdots-17y-1)$
c_{11}	$((y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2)(y^{125}-3y^{124}+\cdots-17y-1)$