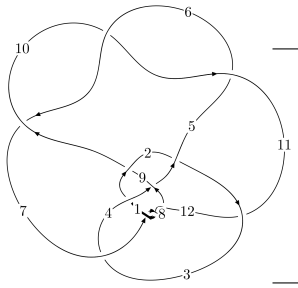
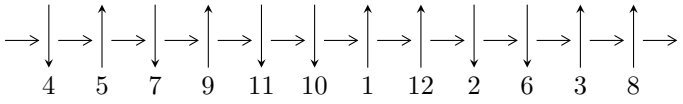
$12a_{0821}$ $(K12a_{0821})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.72675 \times 10^{263} u^{121} + 6.46926 \times 10^{262} u^{120} + \cdots + 5.79158 \times 10^{262} b + 2.48722 \times 10^{263}, \\ & - 8.49488 \times 10^{262} u^{121} - 4.05282 \times 10^{262} u^{120} + \cdots + 5.79158 \times 10^{262} a + 1.38533 \times 10^{264}, \\ & u^{122} + 60 u^{120} + \cdots - 18u + 1 \rangle \\ I_2^u = \langle & 1390 u^{25} - 2769 u^{24} + \cdots + 509 b - 880,\ 259 u^{25} - 1267 u^{24} + \cdots + 509 a - 4214, \\ & u^{26} - u^{25} + \cdots - 2u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 148 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. $\boldsymbol{I_1^u = \langle 1.73 \times 10^{263} u^{121} + 6.47 \times 10^{262} u^{120} + \cdots + 5.79 \times 10^{262} b + 2.49 \times 10^{263},\ -8.49 \times 10^{262} u^{121} - 4.05 \times 10^{262} u^{120} + \cdots + 5.79 \times 10^{262} a + 1.39 \times 10^{264},\ u^{122} + 60 u^{120} + \cdots - 18u + 1 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.46676u^{121} + 0.699777u^{120} + \cdots + 170.001u - 23.9197 \\ -2.98148u^{121} - 1.11701u^{120} + \cdots + 45.9338u - 4.29454 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.77570u^{121} - 0.496966u^{120} + \cdots + 227.064u - 28.9140 \\ -4.01873u^{121} - 3.76337u^{120} + \cdots + 67.7841u - 5.49129 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 8.98546u^{121} + 5.82372u^{120} + \cdots + 129.978u - 18.8375 \\ 7.95443u^{121} + 7.03759u^{120} + \cdots - 157.645u + 8.82072 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.62391u^{121} + 3.55481u^{120} + \cdots - 46.0186u + 11.4590 \\ -7.69569u^{121} + 7.64762u^{120} + \cdots - 100.145u + 6.26253 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 3.23207u^{121} + 0.625734u^{120} + \cdots + 214.441u - 27.8862 \\ -1.25329u^{121} - 2.67980u^{120} + \cdots + 72.6941u - 5.78329 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.31846u^{121} - 6.79592u^{120} + \cdots + 310.776u - 24.6475 \\ -3.19180u^{121} - 13.6438u^{120} + \cdots + 200.032u - 12.4801 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0220914u^{121} - 1.65462u^{120} + \cdots + 186.723u - 25.3586 \\ -2.95145u^{121} - 3.32993u^{120} + \cdots + 93.4416u - 6.90577 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.67507u^{121} + 0.727293u^{120} + \cdots + 484.082u - 41.7114$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{122} + 4u^{121} + \cdots - 88956u + 26901$
c_2	$u^{122} - 4u^{121} + \cdots + 88956u + 26901$
c_3	$u^{122} - 2u^{121} + \cdots + 565031u - 52219$
c_4	$u^{122} + u^{121} + \cdots + 68u^2 - 1$
c_5, c_6, c_{10}	$u^{122} + 60u^{120} + \cdots + 18u + 1$
c_7, c_8, c_{12}	$u^{122} + 60u^{120} + \cdots - 18u + 1$
c_9	$u^{122} - u^{121} + \cdots + 68u^2 - 1$
c_{11}	$u^{122} + 2u^{121} + \cdots - 565031u - 52219$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2	$y^{122} - 30y^{121} + \cdots - 23656173156y + 723663801$
c_3, c_{11}	$y^{122} - 18y^{121} + \cdots - 76906534499y + 2726823961$
c_4, c_9	$y^{122} + 21y^{121} + \cdots - 136y + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$y^{122} + 120y^{121} + \cdots - 222y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.838123 + 0.469947I$ $a = 0.818660 - 0.409892I$ $b = 0.283894 + 0.627860I$	$0.76614 + 4.56382I$	0
$u = 0.838123 - 0.469947I$ $a = 0.818660 + 0.409892I$ $b = 0.283894 - 0.627860I$	$0.76614 - 4.56382I$	0
$u = 0.841269 + 0.462133I$ $a = 0.777756 - 0.677243I$ $b = 0.178743 + 0.731523I$	$6.3817 + 14.0924I$	0
$u = 0.841269 - 0.462133I$ $a = 0.777756 + 0.677243I$ $b = 0.178743 - 0.731523I$	$6.3817 - 14.0924I$	0
$u = -0.838892 + 0.460556I$ $a = -0.832115 - 0.584852I$ $b = -0.209869 + 0.671328I$	$-9.93331I$	0
$u = -0.838892 - 0.460556I$ $a = -0.832115 + 0.584852I$ $b = -0.209869 - 0.671328I$	$9.93331I$	0
$u = -0.748963 + 0.730792I$ $a = -0.403585 + 0.258143I$ $b = 0.458631 + 0.520460I$	$-0.76614 + 4.56382I$	0
$u = -0.748963 - 0.730792I$ $a = -0.403585 - 0.258143I$ $b = 0.458631 - 0.520460I$	$-0.76614 - 4.56382I$	0
$u = 0.765545 + 0.715335I$ $a = 0.417658 + 0.229663I$ $b = -0.593332 + 0.425549I$	$5.65939 - 8.69735I$	0
$u = 0.765545 - 0.715335I$ $a = 0.417658 - 0.229663I$ $b = -0.593332 - 0.425549I$	$5.65939 + 8.69735I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.753448 + 0.757254I$ $a = 0.452640 + 0.269754I$ $b = -0.155081 + 0.532232I$	$0.859456I$	0
$u = 0.753448 - 0.757254I$ $a = 0.452640 - 0.269754I$ $b = -0.155081 - 0.532232I$	$-0.859456I$	0
$u = -0.791477 + 0.441571I$ $a = -0.533249 - 0.353695I$ $b = -0.410805 + 0.653910I$	$8.75467 - 1.57080I$	0
$u = -0.791477 - 0.441571I$ $a = -0.533249 + 0.353695I$ $b = -0.410805 - 0.653910I$	$8.75467 + 1.57080I$	0
$u = -0.503041 + 0.739634I$ $a = -0.336565 + 1.073680I$ $b = -0.015210 - 0.301055I$	$3.72560 - 4.59585I$	0
$u = -0.503041 - 0.739634I$ $a = -0.336565 - 1.073680I$ $b = -0.015210 + 0.301055I$	$3.72560 + 4.59585I$	0
$u = 0.774139 + 0.438683I$ $a = -0.226396 + 0.512883I$ $b = 0.159616 - 0.241386I$	$0.68901 + 2.32956I$	0
$u = 0.774139 - 0.438683I$ $a = -0.226396 - 0.512883I$ $b = 0.159616 + 0.241386I$	$0.68901 - 2.32956I$	0
$u = -0.823729 + 0.772937I$ $a = -0.297970 + 0.287398I$ $b = 0.0772759 - 0.0086507I$	$7.93258 - 3.68575I$	0
$u = -0.823729 - 0.772937I$ $a = -0.297970 - 0.287398I$ $b = 0.0772759 + 0.0086507I$	$7.93258 + 3.68575I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.197149+1.198090I$ $a=-0.391660+1.133070I$ $b=-0.066020+0.786727I$	$2.05232-3.09473I$	0
$u=-0.197149-1.198090I$ $a=-0.391660-1.133070I$ $b=-0.066020-0.786727I$	$2.05232+3.09473I$	0
$u=\ \ 0.368459+0.681988I$ $a=\ \ 0.333044+0.118458I$ $b=\ \ 0.411642+0.445181I$	$1.64135I$	0
$u=\ \ 0.368459-0.681988I$ $a=\ \ 0.333044-0.118458I$ $b=\ \ 0.411642-0.445181I$	$-1.64135I$	0
$u=\ \ 0.088735+1.239840I$ $a=-1.085920+0.666668I$ $b=-0.097880+0.543491I$	$4.34712-3.42917I$	0
$u=\ \ 0.088735-1.239840I$ $a=-1.085920-0.666668I$ $b=-0.097880-0.543491I$	$4.34712+3.42917I$	0
$u=-0.746540+0.095924I$ $a=-0.179409-0.123127I$ $b=-0.869086+0.200995I$	$5.88305+0.42236I$	0
$u=-0.746540-0.095924I$ $a=-0.179409+0.123127I$ $b=-0.869086-0.200995I$	$5.88305-0.42236I$	0
$u=\ \ 0.003647+1.266340I$ $a=-0.29736+1.76121I$ $b=-0.56996+2.78197I$	$-1.52569+1.86247I$	0
$u=\ \ 0.003647-1.266340I$ $a=-0.29736-1.76121I$ $b=-0.56996-2.78197I$	$-1.52569-1.86247I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002380+0.776849I$ $a=-0.120919+0.203444I$ $b=-0.0511940-0.0802179I$	$7.91219-3.65289I$	0
$u=-1.002380-0.776849I$ $a=-0.120919-0.203444I$ $b=-0.0511940+0.0802179I$	$7.91219+3.65289I$	0
$u=0.011904+1.269570I$ $a=0.64871+2.17404I$ $b=1.19618+3.55643I$	$4.40280-4.90152I$	0
$u=0.011904-1.269570I$ $a=0.64871-2.17404I$ $b=1.19618-3.55643I$	$4.40280+4.90152I$	0
$u=0.126163+1.271520I$ $a=0.026835+0.828486I$ $b=-0.674272+0.970458I$	$-2.39484+2.47343I$	0
$u=0.126163-1.271520I$ $a=0.026835-0.828486I$ $b=-0.674272-0.970458I$	$-2.39484-2.47343I$	0
$u=0.387895+0.597696I$ $a=0.165680+1.337830I$ $b=-0.149993-0.321583I$	$-1.18377+3.27789I$	$-7.72431-9.92436I$
$u=0.387895-0.597696I$ $a=0.165680-1.337830I$ $b=-0.149993+0.321583I$	$-1.18377-3.27789I$	$-7.72431+9.92436I$
$u=0.034387+1.288040I$ $a=0.469851+0.313970I$ $b=-0.454940+0.131391I$	$-2.11977+2.41437I$	0
$u=0.034387-1.288040I$ $a=0.469851-0.313970I$ $b=-0.454940-0.131391I$	$-2.11977-2.41437I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.591507 + 0.393541I$ $a = -0.692120 + 0.928039I$ $b = 0.454824 - 0.527439I$	$1.52569 + 1.86247I$	0
$u = 0.591507 - 0.393541I$ $a = -0.692120 - 0.928039I$ $b = 0.454824 + 0.527439I$	$1.52569 - 1.86247I$	0
$u = -0.559765 + 0.386642I$ $a = 0.475141 + 1.153770I$ $b = -0.108108 - 0.733708I$	$-1.67571 - 3.29126I$	$-7.51122 + 8.90970I$
$u = -0.559765 - 0.386642I$ $a = 0.475141 - 1.153770I$ $b = -0.108108 + 0.733708I$	$-1.67571 + 3.29126I$	$-7.51122 - 8.90970I$
$u = 0.668209$ $a = 0.293080$ $b = 0.741541$	1.02756	9.74990
$u = -0.223878 + 1.319960I$ $a = 0.348405 + 1.026390I$ $b = 1.14248 + 1.74084I$	$1.94229 + 0.21639I$	0
$u = -0.223878 - 1.319960I$ $a = 0.348405 - 1.026390I$ $b = 1.14248 - 1.74084I$	$1.94229 - 0.21639I$	0
$u = 0.094887 + 1.340650I$ $a = -0.54452 - 2.88908I$ $b = -0.85968 - 3.19953I$	$3.76570 + 7.21033I$	0
$u = 0.094887 - 1.340650I$ $a = -0.54452 + 2.88908I$ $b = -0.85968 + 3.19953I$	$3.76570 - 7.21033I$	0
$u = 0.572996 + 0.313961I$ $a = -0.573007 + 1.232680I$ $b = 0.029546 - 1.023280I$	$2.97533 + 5.05203I$	$2.55990 - 8.99574I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.572996 - 0.313961I$ $a = -0.573007 - 1.232680I$ $b = 0.029546 + 1.023280I$	$2.97533 - 5.05203I$	$2.55990 + 8.99574I$
$u = 0.211626 + 0.612080I$ $a = -0.181398 + 0.533514I$ $b = -0.45860 + 1.36493I$	$-0.68901 + 2.32956I$	$-6.85361 - 8.80115I$
$u = 0.211626 - 0.612080I$ $a = -0.181398 - 0.533514I$ $b = -0.45860 - 1.36493I$	$-0.68901 - 2.32956I$	$-6.85361 + 8.80115I$
$u = 0.281078 + 1.336330I$ $a = 0.930616 - 0.634656I$ $b = 1.29676 - 1.30744I$	$-1.94229 + 0.21639I$	0
$u = 0.281078 - 1.336330I$ $a = 0.930616 + 0.634656I$ $b = 1.29676 + 1.30744I$	$-1.94229 - 0.21639I$	0
$u = -0.102970 + 1.365190I$ $a = 0.555873 + 0.182955I$ $b = 2.00596 + 0.29788I$	$-2.97533 - 5.05203I$	0
$u = -0.102970 - 1.365190I$ $a = 0.555873 - 0.182955I$ $b = 2.00596 - 0.29788I$	$-2.97533 + 5.05203I$	0
$u = -0.597169 + 0.203460I$ $a = -2.29060 - 0.07482I$ $b = -0.219353 - 0.076676I$	$6.69507 + 3.24081I$	$7.82762 - 0.48317I$
$u = -0.597169 - 0.203460I$ $a = -2.29060 + 0.07482I$ $b = -0.219353 + 0.076676I$	$6.69507 - 3.24081I$	$7.82762 + 0.48317I$
$u = -0.405018 + 0.468237I$ $a = 0.292180 + 0.281700I$ $b = 0.72718 + 1.42275I$	$5.62384 - 6.30894I$	$0.86595 + 10.40267I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.405018-0.468237I$ $a=\ 0.292180-0.281700I$ $b=\ 0.72718-1.42275I$	$5.62384+6.30894I$	$0.86595-10.40267I$
$u=\ 0.016831+1.382940I$ $a=\ 0.366374-0.827698I$ $b=-0.61848-1.46951I$	$-2.05232+3.09473I$	0
$u=\ 0.016831-1.382940I$ $a=\ 0.366374+0.827698I$ $b=-0.61848+1.46951I$	$-2.05232-3.09473I$	0
$u=\ 0.118092+1.386860I$ $a=-0.907334+0.319639I$ $b=-2.59599+0.67827I$	$2.63743+7.92429I$	0
$u=\ 0.118092-1.386860I$ $a=-0.907334-0.319639I$ $b=-2.59599-0.67827I$	$2.63743-7.92429I$	0
$u=-0.078291+1.391230I$ $a=\ 0.92867-2.35012I$ $b=\ 1.01328-2.92847I$	$-3.72560-4.59585I$	0
$u=-0.078291-1.391230I$ $a=\ 0.92867+2.35012I$ $b=\ 1.01328+2.92847I$	$-3.72560+4.59585I$	0
$u=\ 0.033130+1.400890I$ $a=-1.05242-1.46627I$ $b=-0.63083-2.14230I$	$-5.88305+0.42236I$	0
$u=\ 0.033130-1.400890I$ $a=-1.05242+1.46627I$ $b=-0.63083+2.14230I$	$-5.88305-0.42236I$	0
$u=\ 0.21145+1.42791I$ $a=\ 0.15300-2.14751I$ $b=-0.57741-3.21135I$	$-2.63743+7.92429I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.21145 - 1.42791I$ $a = 0.15300 + 2.14751I$ $b = -0.57741 + 3.21135I$	$-2.63743 - 7.92429I$	0
$u = -0.28430 + 1.41809I$ $a = -0.611540 - 1.008500I$ $b = -0.62489 - 1.88264I$	$-6.69507 - 3.24081I$	0
$u = -0.28430 - 1.41809I$ $a = -0.611540 + 1.008500I$ $b = -0.62489 + 1.88264I$	$-6.69507 + 3.24081I$	0
$u = -0.512822 + 0.202337I$ $a = 1.029400 + 0.201671I$ $b = -0.507931 - 0.117189I$	$-1.54857 + 0.09873I$	$-6.52365 + 0.22723I$
$u = -0.512822 - 0.202337I$ $a = 1.029400 - 0.201671I$ $b = -0.507931 + 0.117189I$	$-1.54857 - 0.09873I$	$-6.52365 - 0.22723I$
$u = 0.541620 + 0.049842I$ $a = 1.57917 + 0.46289I$ $b = 0.395132 - 0.075128I$	$1.54857 + 0.09873I$	$6.52365 + 0.22723I$
$u = 0.541620 - 0.049842I$ $a = 1.57917 - 0.46289I$ $b = 0.395132 + 0.075128I$	$1.54857 - 0.09873I$	$6.52365 - 0.22723I$
$u = -0.20934 + 1.45200I$ $a = -0.15208 - 1.90295I$ $b = 0.41340 - 3.02350I$	$-7.61338 - 6.13503I$	0
$u = -0.20934 - 1.45200I$ $a = -0.15208 + 1.90295I$ $b = 0.41340 + 3.02350I$	$-7.61338 + 6.13503I$	0
$u = 0.22745 + 1.45151I$ $a = 0.50169 - 1.70373I$ $b = 0.15167 - 2.99070I$	$-4.40280 + 4.90152I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.22745 - 1.45151I$ $a = 0.50169 + 1.70373I$ $b = 0.15167 + 2.99070I$	$-4.40280 - 4.90152I$	0
$u = -0.14721 + 1.47595I$ $a = 1.43924 + 1.51730I$ $b = 1.07349 + 1.98141I$	$-0.68291 - 8.38710I$	0
$u = -0.14721 - 1.47595I$ $a = 1.43924 - 1.51730I$ $b = 1.07349 - 1.98141I$	$-0.68291 + 8.38710I$	0
$u = -0.10313 + 1.48416I$ $a = 0.51809 - 1.85788I$ $b = 0.81572 - 3.00333I$	$-4.34712 - 3.42917I$	0
$u = -0.10313 - 1.48416I$ $a = 0.51809 + 1.85788I$ $b = 0.81572 + 3.00333I$	$-4.34712 + 3.42917I$	0
$u = 0.15950 + 1.50706I$ $a = -0.33921 - 1.69479I$ $b = -0.84449 - 2.79461I$	$-8.01760 + 5.44098I$	0
$u = 0.15950 - 1.50706I$ $a = -0.33921 + 1.69479I$ $b = -0.84449 + 2.79461I$	$-8.01760 - 5.44098I$	0
$u = -0.003564 + 0.481131I$ $a = -0.90114 + 2.00705I$ $b = 0.593963 - 0.134342I$	$2.11977 - 2.41437I$	$-0.417958 + 1.258564I$
$u = -0.003564 - 0.481131I$ $a = -0.90114 - 2.00705I$ $b = 0.593963 + 0.134342I$	$2.11977 + 2.41437I$	$-0.417958 - 1.258564I$
$u = -0.27675 + 1.49874I$ $a = -0.03087 + 1.71174I$ $b = -0.37690 + 2.36519I$	$2.46634 - 5.42668I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.27675-1.49874I$ $a=-0.03087-1.71174I$ $b=-0.37690-2.36519I$	$2.46634+5.42668I$	0
$u=\ \ 0.29702+1.50535I$ $a=\ \ 0.093957-1.028920I$ $b=-0.26440-1.78844I$	$-5.62384+6.30894I$	0
$u=\ \ 0.29702-1.50535I$ $a=\ \ 0.093957+1.028920I$ $b=-0.26440+1.78844I$	$-5.62384-6.30894I$	0
$u=-0.30513+1.51162I$ $a=\ \ 0.01748+1.82265I$ $b=-0.37240+2.83356I$	$-6.3817-14.0924I$	0
$u=-0.30513-1.51162I$ $a=\ \ 0.01748-1.82265I$ $b=-0.37240-2.83356I$	$-6.3817+14.0924I$	0
$u=\ \ 0.30803+1.51176I$ $a=-0.00101+1.85616I$ $b=\ \ 0.48528+2.90856I$	$18.2741I$	0
$u=\ \ 0.30803-1.51176I$ $a=-0.00101-1.85616I$ $b=\ \ 0.48528-2.90856I$	$-18.2741I$	0
$u=\ \ 0.30070+1.51406I$ $a=-0.01505+1.77596I$ $b=\ \ 0.28514+2.67352I$	$-5.65939+8.69735I$	0
$u=\ \ 0.30070-1.51406I$ $a=-0.01505-1.77596I$ $b=\ \ 0.28514-2.67352I$	$-5.65939-8.69735I$	0
$u=\ \ 0.444045+0.017440I$ $a=-1.054550+0.880836I$ $b=-0.80489-1.30581I$	$8.01760+5.44098I$	$11.84308-5.29398I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.444045 - 0.017440I$ $a = -1.054550 - 0.880836I$ $b = -0.80489 + 1.30581I$	$8.01760 - 5.44098I$	$11.84308 + 5.29398I$
$u = 0.14067 + 1.55284I$ $a = -0.54774 + 1.69963I$ $b = -0.41708 + 2.22737I$	$-7.93258 + 3.68575I$	0
$u = 0.14067 - 1.55284I$ $a = -0.54774 - 1.69963I$ $b = -0.41708 - 2.22737I$	$-7.93258 - 3.68575I$	0
$u = -0.18374 + 1.55311I$ $a = 0.40161 - 1.45606I$ $b = 1.04761 - 2.52368I$	$-3.76570 - 7.21033I$	0
$u = -0.18374 - 1.55311I$ $a = 0.40161 + 1.45606I$ $b = 1.04761 + 2.52368I$	$-3.76570 + 7.21033I$	0
$u = 0.10216 + 1.56588I$ $a = -0.55103 + 2.11116I$ $b = -0.44359 + 2.57907I$	$-7.91219 + 3.65289I$	0
$u = 0.10216 - 1.56588I$ $a = -0.55103 - 2.11116I$ $b = -0.44359 - 2.57907I$	$-7.91219 - 3.65289I$	0
$u = -0.414540 + 0.099845I$ $a = -2.31360 + 2.12787I$ $b = -0.436622 - 0.246341I$	$1.67571 - 3.29126I$	$7.51122 + 8.90970I$
$u = -0.414540 - 0.099845I$ $a = -2.31360 - 2.12787I$ $b = -0.436622 + 0.246341I$	$1.67571 + 3.29126I$	$7.51122 - 8.90970I$
$u = -0.13898 + 1.57065I$ $a = 0.520682 + 1.204410I$ $b = 0.44191 + 1.80330I$	$-8.75467 + 1.57080I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.13898-1.57065I$ $a=0.520682-1.204410I$ $b=0.44191-1.80330I$	$-8.75467-1.57080I$	0
$u=0.381622+0.153038I$ $a=3.74983+2.22249I$ $b=0.396790-0.342833I$	$7.61338+6.13503I$	$12.1450-9.8024I$
$u=0.381622-0.153038I$ $a=3.74983-2.22249I$ $b=0.396790+0.342833I$	$7.61338-6.13503I$	$12.1450+9.8024I$
$u=-0.33714+1.56324I$ $a=0.107214-0.797190I$ $b=0.57846-1.34433I$	$0.68291-8.38710I$	0
$u=-0.33714-1.56324I$ $a=0.107214+0.797190I$ $b=0.57846+1.34433I$	$0.68291+8.38710I$	0
$u=0.13250+1.60991I$ $a=-0.471533+0.981639I$ $b=-0.45579+1.59734I$	$-2.46634-5.42668I$	0
$u=0.13250-1.60991I$ $a=-0.471533-0.981639I$ $b=-0.45579-1.59734I$	$-2.46634+5.42668I$	0
$u=-0.313695+0.118779I$ $a=1.43384+1.57346I$ $b=0.864812-0.896168I$	$1.18377-3.27789I$	$7.72431+9.92436I$
$u=-0.313695-0.118779I$ $a=1.43384-1.57346I$ $b=0.864812+0.896168I$	$1.18377+3.27789I$	$7.72431-9.92436I$
$u=0.317523+0.085220I$ $a=-2.52056-1.69319I$ $b=0.666836+0.066192I$	$2.39484-2.47343I$	$1.59037+1.05433I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.317523 - 0.085220I$		
$a = -2.52056 + 1.69319I$	$2.39484 + 2.47343I$	$1.59037 - 1.05433I$
$b = \quad 0.666836 - 0.066192I$		
$u = \quad 0.0747499$		
$a = -11.4868$	-1.02756	-9.74990
$b = -1.16381$		

II. $I_2^u = \langle 1390u^{25} - 2769u^{24} + \cdots + 509b - 880,\ 259u^{25} - 1267u^{24} + \cdots + 509a - 4214,\ u^{26} - u^{25} + \cdots - 2u + 1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.508841u^{25} + 2.48919u^{24} + \cdots - 13.5324u + 8.27898 \\ -2.73084u^{25} + 5.44008u^{24} + \cdots - 10.6798u + 1.72888 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.83890u^{25} + 5.75246u^{24} + \cdots - 19.7426u + 8.02750 \\ -5.69352u^{25} + 10.0413u^{24} + \cdots - 14.8762u + 2.66208 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.79961u^{25} - 5.91159u^{24} + \cdots - 3.73477u - 5.00982 \\ 5.58546u^{25} - 9.72888u^{24} + \cdots + 12.8134u - 5.36346 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.218075u^{25} - 0.0667976u^{24} + \cdots - 10.2004u + 7.45187 \\ -0.0903733u^{25} + 0.333988u^{24} + \cdots - 11.9980u + 1.74067 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -1.50884u^{25} + 3.48919u^{24} + \cdots - 20.5324u + 9.27898 \\ -3.73084u^{25} + 6.44008u^{24} + \cdots - 10.6798u + 1.72888 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2.05108u^{25} - 1.49312u^{24} + \cdots + 39.5206u - 0.722986 \\ -3.22200u^{25} + 4.95088u^{24} + \cdots - 3.14735u + 4.44990 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -3.78193u^{25} + 2.93320u^{24} + \cdots + 3.79961u - 11.5481 \\ -2.34578u^{25} + 2.79961u^{24} + \cdots + 5.39882u - 1.64440 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{806}{509}u^{25} + \frac{10034}{509}u^{24} + \cdots - \frac{35559}{509}u + \frac{13533}{509}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - 13u^{25} + \cdots - 16u + 1$
c_2	$u^{26} + 13u^{25} + \cdots + 16u + 1$
c_3	$u^{26} + 3u^{25} + \cdots + 3u + 1$
c_4	$u^{26} + 10u^{24} + \cdots + 10u^2 + 1$
c_5, c_6, c_{12}	$u^{26} + u^{25} + \cdots + 2u + 1$
c_7, c_8, c_{10}	$u^{26} - u^{25} + \cdots - 2u + 1$
c_9	$u^{26} + 10u^{24} + \cdots + 10u^2 + 1$
c_{11}	$u^{26} - 3u^{25} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2	$y^{26} + y^{25} + \cdots - 8y + 1$
c_3, c_{11}	$y^{26} + 9y^{25} + \cdots + 9y + 1$
c_4, c_9	$y^{26} + 20y^{25} + \cdots + 20y + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$y^{26} + 27y^{25} + \cdots + 26y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.656652+0.601454I$ $a=\ 0.154603-0.351243I$ $b=-0.323060-0.661061I$	$-1.46164I$	$0.+5.47579I$
$u=-0.656652-0.601454I$ $a=\ 0.154603+0.351243I$ $b=-0.323060+0.661061I$	$1.46164I$	$0.-5.47579I$
$u=\ 0.023427+1.136750I$ $a=\ 0.356316+0.181219I$ $b=\ 1.361400-0.237917I$	$-1.84045I$	$0.+2.56325I$
$u=\ 0.023427-1.136750I$ $a=\ 0.356316-0.181219I$ $b=\ 1.361400+0.237917I$	$1.84045I$	$0.-2.56325I$
$u=-0.548550+0.571374I$ $a=\ 0.292699+0.771107I$ $b=\ 0.171048-0.472022I$	$-0.39608-2.87985I$	$0.41340+6.09142I$
$u=-0.548550-0.571374I$ $a=\ 0.292699-0.771107I$ $b=\ 0.171048+0.472022I$	$-0.39608+2.87985I$	$0.41340-6.09142I$
$u=\ 0.043566+1.270810I$ $a=-0.019588+1.284810I$ $b=-0.89002+1.41278I$	$-2.34929+3.35419I$	$-1.98639-8.95457I$
$u=\ 0.043566-1.270810I$ $a=-0.019588-1.284810I$ $b=-0.89002-1.41278I$	$-2.34929-3.35419I$	$-1.98639+8.95457I$
$u=-0.012623+1.302060I$ $a=\ 0.35115+2.17846I$ $b=\ 1.24742+2.78823I$	$3.61843-5.68648I$	$0.53148+5.38067I$
$u=-0.012623-1.302060I$ $a=\ 0.35115-2.17846I$ $b=\ 1.24742-2.78823I$	$3.61843+5.68648I$	$0.53148-5.38067I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.051570 + 0.829687I$ $a = -0.0525139 + 0.0059226I$ $b = 0.028788 - 0.254691I$	$7.80244 + 3.71421I$	$-27.4171 - 22.5074I$
$u = 1.051570 - 0.829687I$ $a = -0.0525139 - 0.0059226I$ $b = 0.028788 + 0.254691I$	$7.80244 - 3.71421I$	$-27.4171 + 22.5074I$
$u = 0.082019 + 0.546474I$ $a = -0.672869 - 0.674063I$ $b = 0.482992 - 0.908611I$	$0.39608 - 2.87985I$	$-0.41340 + 6.09142I$
$u = 0.082019 - 0.546474I$ $a = -0.672869 + 0.674063I$ $b = 0.482992 + 0.908611I$	$0.39608 + 2.87985I$	$-0.41340 - 6.09142I$
$u = 0.18818 + 1.46320I$ $a = -0.11956 - 1.85596I$ $b = -0.74287 - 3.16990I$	$-3.61843 + 5.68648I$	$-0.53148 - 5.38067I$
$u = 0.18818 - 1.46320I$ $a = -0.11956 + 1.85596I$ $b = -0.74287 + 3.16990I$	$-3.61843 - 5.68648I$	$-0.53148 + 5.38067I$
$u = 0.402446 + 0.325171I$ $a = -0.45113 + 2.62360I$ $b = 0.016848 - 0.489250I$	$2.34929 + 3.35419I$	$1.98639 - 8.95457I$
$u = 0.402446 - 0.325171I$ $a = -0.45113 - 2.62360I$ $b = 0.016848 + 0.489250I$	$2.34929 - 3.35419I$	$1.98639 + 8.95457I$
$u = -0.20440 + 1.48760I$ $a = -0.00472 - 1.65053I$ $b = 0.45989 - 2.61404I$	$-6.97584 - 5.65667I$	$-2.83781 + 4.45015I$
$u = -0.20440 - 1.48760I$ $a = -0.00472 + 1.65053I$ $b = 0.45989 + 2.61404I$	$-6.97584 + 5.65667I$	$-2.83781 - 4.45015I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.18903 + 1.49678I$ $a = 0.198013 - 1.051980I$ $b = -0.40594 - 1.46231I$	$7.24615I$	$0. - 4.52705I$
$u = 0.18903 - 1.49678I$ $a = 0.198013 + 1.051980I$ $b = -0.40594 + 1.46231I$	$-7.24615I$	$0. + 4.52705I$
$u = -0.09435 + 1.58711I$ $a = -0.33912 - 2.15392I$ $b = -0.23547 - 2.60005I$	$-7.80244 - 3.71421I$	$27.4171 + 22.5074I$
$u = -0.09435 - 1.58711I$ $a = -0.33912 + 2.15392I$ $b = -0.23547 + 2.60005I$	$-7.80244 + 3.71421I$	$27.4171 - 22.5074I$
$u = 0.036336 + 0.368318I$ $a = 2.30672 - 1.76322I$ $b = -0.171019 - 1.088990I$	$6.97584 + 5.65667I$	$2.83781 - 4.45015I$
$u = 0.036336 - 0.368318I$ $a = 2.30672 + 1.76322I$ $b = -0.171019 + 1.088990I$	$6.97584 - 5.65667I$	$2.83781 + 4.45015I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{26}-13u^{25}+\cdots-16u+1)(u^{122}+4u^{121}+\cdots-88956u+26901)$
c_2	$(u^{26}+13u^{25}+\cdots+16u+1)(u^{122}-4u^{121}+\cdots+88956u+26901)$
c_3	$(u^{26}+3u^{25}+\cdots+3u+1)(u^{122}-2u^{121}+\cdots+565031u-52219)$
c_4	$(u^{26}+10u^{24}+\cdots+10u^2+1)(u^{122}+u^{121}+\cdots+68u^2-1)$
c_5, c_6	$(u^{26}+u^{25}+\cdots+2u+1)(u^{122}+60u^{120}+\cdots+18u+1)$
c_7, c_8	$(u^{26}-u^{25}+\cdots-2u+1)(u^{122}+60u^{120}+\cdots-18u+1)$
c_9	$(u^{26}+10u^{24}+\cdots+10u^2+1)(u^{122}-u^{121}+\cdots+68u^2-1)$
c_{10}	$(u^{26}-u^{25}+\cdots-2u+1)(u^{122}+60u^{120}+\cdots+18u+1)$
c_{11}	$(u^{26}-3u^{25}+\cdots-3u+1)(u^{122}+2u^{121}+\cdots-565031u-52219)$
c_{12}	$(u^{26}+u^{25}+\cdots+2u+1)(u^{122}+60u^{120}+\cdots-18u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2	$(y^{26} + y^{25} + \cdots - 8y + 1)$ $\cdot (y^{122} - 30y^{121} + \cdots - 23656173156y + 723663801)$
c_3, c_{11}	$(y^{26} + 9y^{25} + \cdots + 9y + 1)$ $\cdot (y^{122} - 18y^{121} + \cdots - 76906534499y + 2726823961)$
c_4, c_9	$(y^{26} + 20y^{25} + \cdots + 20y + 1)(y^{122} + 21y^{121} + \cdots - 136y + 1)$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$(y^{26} + 27y^{25} + \cdots + 26y + 1)(y^{122} + 120y^{121} + \cdots - 222y + 1)$