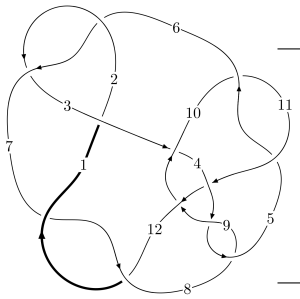
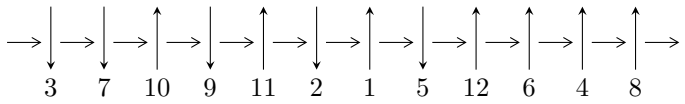
$12a_{0635}$ $(K12a_{0635})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -3.40397 \times 10^{99} u^{123} + 5.19308 \times 10^{98} u^{122} + \cdots + 3.43279 \times 10^{98} b + 2.80609 \times 10^{100}, \\ & - 2.32977 \times 10^{100} u^{123} + 3.31992 \times 10^{99} u^{122} + \cdots + 2.40295 \times 10^{99} a + 1.54517 \times 10^{101}, \\ & u^{124} - u^{123} + \cdots - 10u + 7 \rangle \\ I_2^u = \langle & -2u^{23} - 3u^{22} + \cdots + b + 3,\ -2u^{23} - 4u^{22} + \cdots + a + 4,\ u^{24} - 7u^{22} + \cdots - 3u^2 + 1 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle -3.40 \times 10^{99} u^{123} + 5.19 \times 10^{98} u^{122} + \cdots + 3.43 \times 10^{98} b + 2.81 \times 10^{100},\ -2.33 \times 10^{100} u^{123} + 3.32 \times 10^{99} u^{122} + \cdots + 2.40 \times 10^{99} a + 1.55 \times 10^{101},\ u^{124} - u^{123} + \cdots - 10u + 7 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 9.69545u^{123} - 1.38160u^{122} + \cdots + 17.6957u - 64.3030 \\ 9.91607u^{123} - 1.51279u^{122} + \cdots + 21.3533u - 81.7439 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.32214u^{123} - 1.03175u^{122} + \cdots - 10.3796u + 21.7586 \\ -4.74984u^{123} - 1.01744u^{122} + \cdots - 28.6100u + 51.0642 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - u^5 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 7.83332u^{123} - 1.40369u^{122} + \cdots + 17.0457u - 64.9290 \\ 8.05394u^{123} - 1.53487u^{122} + \cdots + 20.7033u - 82.3699 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -6.00946u^{123} + 0.590204u^{122} + \cdots - 16.6985u + 37.3812 \\ -0.870989u^{123} + 0.301695u^{122} + \cdots + 0.280302u + 4.54417 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^{10} + 2u^8 - u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 7.27947u^{123} - 1.24156u^{122} + \cdots + 12.2294u - 56.5649 \\ 9.78691u^{123} - 1.89303u^{122} + \cdots + 22.0872u - 94.9113 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -25.9880u^{123} + 7.91471u^{122} + \cdots - 61.1217u + 214.607$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{124} + 69u^{123} + \cdots + 324u + 49$
c_2, c_6	$u^{124} - u^{123} + \cdots - 10u + 7$
c_3	$u^{124} + 21u^{122} + \cdots + 39652872u + 5579953$
c_4, c_8	$u^{124} + 2u^{123} + \cdots + 1136u + 751$
c_5, c_{10}	$u^{124} + u^{123} + \cdots - 3985u + 173$
c_7, c_{12}	$u^{124} - 3u^{123} + \cdots - 14693u + 4312$
c_9	$u^{124} + 19u^{123} + \cdots + 33u + 1$
c_{11}	$u^{124} - 3u^{123} + \cdots - 9u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{124} - 21y^{123} + \cdots - 81456y + 2401$
c_2, c_6	$y^{124} - 69y^{123} + \cdots - 324y + 49$
c_3	$y^{124} + 42y^{123} + \cdots + 1234397237289356y + 31135875482209$
c_4, c_8	$y^{124} + 70y^{123} + \cdots + 4643906y + 564001$
c_5, c_{10}	$y^{124} + 97y^{123} + \cdots - 5851069y + 29929$
c_7, c_{12}	$y^{124} + 111y^{123} + \cdots - 621048393y + 18593344$
c_9	$y^{124} - 3y^{123} + \cdots + 405y + 1$
c_{11}	$y^{124} - y^{123} + \cdots + 71y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.889763+0.507744I$ $a=-1.78676+1.06679I$ $b=-0.76579+1.44957I$	$3.58375+6.97795I$	0
$u=-0.889763-0.507744I$ $a=-1.78676-1.06679I$ $b=-0.76579-1.44957I$	$3.58375-6.97795I$	0
$u=\ \ 0.945691+0.402211I$ $a=-1.29680-1.16543I$ $b=-0.89408-1.38943I$	$-0.16775-3.71028I$	0
$u=\ \ 0.945691-0.402211I$ $a=-1.29680+1.16543I$ $b=-0.89408+1.38943I$	$-0.16775+3.71028I$	0
$u=-0.876377+0.394634I$ $a=-1.93332-1.22206I$ $b=-2.20005+0.10005I$	$-2.76946+2.00721I$	0
$u=-0.876377-0.394634I$ $a=-1.93332+1.22206I$ $b=-2.20005-0.10005I$	$-2.76946-2.00721I$	0
$u=\ \ 1.002310+0.295642I$ $a=-0.82558-1.43356I$ $b=-0.89433-1.44500I$	$0.02006-3.75240I$	0
$u=\ \ 1.002310-0.295642I$ $a=-0.82558+1.43356I$ $b=-0.89433+1.44500I$	$0.02006+3.75240I$	0
$u=-0.823156+0.666752I$ $a=-0.746673-1.090280I$ $b=-1.47353-0.15266I$	$-1.72676+2.56150I$	0
$u=-0.823156-0.666752I$ $a=-0.746673+1.090280I$ $b=-1.47353+0.15266I$	$-1.72676-2.56150I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.853822+0.394425I$ $a=\ \ 1.21120-1.31062I$ $b=\ \ 1.31262-2.44704I$	$1.29001+5.01865I$	0
$u=-0.853822-0.394425I$ $a=\ \ 1.21120+1.31062I$ $b=\ \ 1.31262+2.44704I$	$1.29001-5.01865I$	0
$u=\ \ 0.768921+0.534067I$ $a=\ \ 0.46891-1.34274I$ $b=\ \ 0.921603-1.020550I$	$2.71627-2.21713I$	0
$u=\ \ 0.768921-0.534067I$ $a=\ \ 0.46891+1.34274I$ $b=\ \ 0.921603+1.020550I$	$2.71627+2.21713I$	0
$u=\ \ 0.996957+0.392353I$ $a=-2.20990-0.25684I$ $b=-1.85601-1.40774I$	$-1.51548-5.69067I$	0
$u=\ \ 0.996957-0.392353I$ $a=-2.20990+0.25684I$ $b=-1.85601+1.40774I$	$-1.51548+5.69067I$	0
$u=\ \ 0.764261+0.525513I$ $a=\ \ 1.33835-0.92085I$ $b=\ \ 1.383260-0.265113I$	$2.72829-2.08959I$	0
$u=\ \ 0.764261-0.525513I$ $a=\ \ 1.33835+0.92085I$ $b=\ \ 1.383260+0.265113I$	$2.72829+2.08959I$	0
$u=-1.044810+0.245038I$ $a=\ \ 0.019646-0.869080I$ $b=-0.552022+0.084685I$	$-2.52525+0.11799I$	0
$u=-1.044810-0.245038I$ $a=\ \ 0.019646+0.869080I$ $b=-0.552022-0.084685I$	$-2.52525-0.11799I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.942798+0.518681I$ $a=2.26119+0.22869I$ $b=2.51625-0.87136I$	$-3.45548+6.95335I$	0
$u=-0.942798-0.518681I$ $a=2.26119-0.22869I$ $b=2.51625+0.87136I$	$-3.45548-6.95335I$	0
$u=0.550493+0.735340I$ $a=-0.376700+1.173790I$ $b=-1.152420+0.198373I$	$1.38554-5.06519I$	0
$u=0.550493-0.735340I$ $a=-0.376700-1.173790I$ $b=-1.152420-0.198373I$	$1.38554+5.06519I$	0
$u=-0.890883+0.191319I$ $a=0.580557-0.563384I$ $b=0.052645-0.231219I$	$-1.53140+0.64514I$	0
$u=-0.890883-0.191319I$ $a=0.580557+0.563384I$ $b=0.052645+0.231219I$	$-1.53140-0.64514I$	0
$u=0.084174+0.906109I$ $a=-0.931218-0.602335I$ $b=0.300318-0.615097I$	$-5.86891+0.84019I$	0
$u=0.084174-0.906109I$ $a=-0.931218+0.602335I$ $b=0.300318+0.615097I$	$-5.86891-0.84019I$	0
$u=1.089000+0.057770I$ $a=-0.458899-0.176996I$ $b=-0.241678+1.036480I$	$-6.73622+1.56313I$	0
$u=1.089000-0.057770I$ $a=-0.458899+0.176996I$ $b=-0.241678-1.036480I$	$-6.73622-1.56313I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.841789 + 0.308490I$ $a = -0.253112 + 1.389370I$ $b = -1.010470 - 0.355714I$	$-3.35843 - 1.40319I$	0
$u = 0.841789 - 0.308490I$ $a = -0.253112 - 1.389370I$ $b = -1.010470 + 0.355714I$	$-3.35843 + 1.40319I$	0
$u = 0.850162 + 0.258786I$ $a = 2.34668 + 0.80322I$ $b = 2.63478 + 1.53622I$	$0.42242 + 1.57962I$	0
$u = 0.850162 - 0.258786I$ $a = 2.34668 - 0.80322I$ $b = 2.63478 - 1.53622I$	$0.42242 - 1.57962I$	0
$u = -0.165198 + 0.869947I$ $a = -1.108970 + 0.817177I$ $b = 0.461300 + 0.688223I$	$-5.64795 - 4.21433I$	0
$u = -0.165198 - 0.869947I$ $a = -1.108970 - 0.817177I$ $b = 0.461300 - 0.688223I$	$-5.64795 + 4.21433I$	0
$u = 0.129719 + 0.875650I$ $a = 1.39433 + 0.79952I$ $b = -0.315673 + 1.197660I$	$-4.74076 + 13.31180I$	0
$u = 0.129719 - 0.875650I$ $a = 1.39433 - 0.79952I$ $b = -0.315673 - 1.197660I$	$-4.74076 - 13.31180I$	0
$u = 0.535374 + 0.702510I$ $a = -0.70273 - 1.60720I$ $b = 0.701838 - 1.188810I$	$1.33621 + 7.70254I$	0
$u = 0.535374 - 0.702510I$ $a = -0.70273 + 1.60720I$ $b = 0.701838 + 1.188810I$	$1.33621 - 7.70254I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.963671 + 0.596228I$ $a = 1.93246 - 0.19022I$ $b = 2.12635 + 1.00542I$	$0.09405 - 12.64730I$	0
$u = 0.963671 - 0.596228I$ $a = 1.93246 + 0.19022I$ $b = 2.12635 - 1.00542I$	$0.09405 + 12.64730I$	0
$u = 0.031930 + 0.850171I$ $a = -1.286950 - 0.064024I$ $b = 0.384153 - 0.920669I$	$-5.65063 + 3.67795I$	$0. - 8.17604I$
$u = 0.031930 - 0.850171I$ $a = -1.286950 + 0.064024I$ $b = 0.384153 + 0.920669I$	$-5.65063 - 3.67795I$	$0. + 8.17604I$
$u = -0.101551 + 0.843765I$ $a = 1.38878 - 0.94054I$ $b = -0.214087 - 1.273220I$	$-7.69510 - 6.75726I$	$0. + 5.03105I$
$u = -0.101551 - 0.843765I$ $a = 1.38878 + 0.94054I$ $b = -0.214087 + 1.273220I$	$-7.69510 + 6.75726I$	$0. - 5.03105I$
$u = 0.837971 + 0.022047I$ $a = 1.64447 + 1.84336I$ $b = 0.67436 + 1.28251I$	$0.40219 + 3.27217I$	$-1.49425 - 6.49968I$
$u = 0.837971 - 0.022047I$ $a = 1.64447 - 1.84336I$ $b = 0.67436 - 1.28251I$	$0.40219 - 3.27217I$	$-1.49425 + 6.49968I$
$u = -1.057650 + 0.510566I$ $a = -0.398012 + 0.969133I$ $b = -0.25035 + 1.59862I$	$1.56493 + 2.71643I$	0
$u = -1.057650 - 0.510566I$ $a = -0.398012 - 0.969133I$ $b = -0.25035 - 1.59862I$	$1.56493 - 2.71643I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.989273 + 0.641767I$ $a = -0.793131 + 0.839980I$ $b = -1.43009 + 0.17053I$	$0.123254 - 0.138656I$	0
$u = \quad 0.989273 - 0.641767I$ $a = -0.793131 - 0.839980I$ $b = -1.43009 - 0.17053I$	$0.123254 + 0.138656I$	0
$u = -0.094510 + 0.807577I$ $a = -0.464865 - 0.390483I$ $b = -0.196403 + 1.239820I$	$0.06766 - 6.76111I$	$2.52940 + 6.55266I$
$u = -0.094510 - 0.807577I$ $a = -0.464865 + 0.390483I$ $b = -0.196403 - 1.239820I$	$0.06766 + 6.76111I$	$2.52940 - 6.55266I$
$u = -0.730434 + 0.350457I$ $a = -2.29314 + 1.56310I$ $b = -1.23330 + 0.78842I$	$1.69870 - 1.66163I$	$7.41455 - 1.08859I$
$u = -0.730434 - 0.350457I$ $a = -2.29314 - 1.56310I$ $b = -1.23330 - 0.78842I$	$1.69870 + 1.66163I$	$7.41455 + 1.08859I$
$u = -1.194320 + 0.015055I$ $a = -0.190612 - 0.231367I$ $b = \quad 0.047022 + 0.853370I$	$-4.49045 + 6.47677I$	0
$u = -1.194320 - 0.015055I$ $a = -0.190612 + 0.231367I$ $b = \quad 0.047022 - 0.853370I$	$-4.49045 - 6.47677I$	0
$u = \quad 0.030886 + 0.803159I$ $a = -0.381768 + 0.007558I$ $b = -0.222971 - 0.985008I$	$-3.41325 + 2.13889I$	$-0.30087 - 3.11100I$
$u = \quad 0.030886 - 0.803159I$ $a = -0.381768 - 0.007558I$ $b = -0.222971 + 0.985008I$	$-3.41325 - 2.13889I$	$-0.30087 + 3.11100I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.603352+0.525352I$ $a=\ 1.34188-0.48358I$ $b=\ 0.68124-1.48669I$	$4.39388-2.75837I$	$8.32431+1.65329I$
$u=-0.603352-0.525352I$ $a=\ 1.34188+0.48358I$ $b=\ 0.68124+1.48669I$	$4.39388+2.75837I$	$8.32431-1.65329I$
$u=-1.152550+0.380660I$ $a=-0.029035-0.952780I$ $b=-0.172822-0.501079I$	$-3.38514+0.72503I$	0
$u=-1.152550-0.380660I$ $a=-0.029035+0.952780I$ $b=-0.172822+0.501079I$	$-3.38514-0.72503I$	0
$u=-0.015556+0.785715I$ $a=-1.66867+0.26406I$ $b=\ 0.448769+0.777216I$	$-5.42277-0.55359I$	$-0.973571-0.814051I$
$u=-0.015556-0.785715I$ $a=-1.66867-0.26406I$ $b=\ 0.448769-0.777216I$	$-5.42277+0.55359I$	$-0.973571+0.814051I$
$u=-0.032020+0.781364I$ $a=\ 2.14449+0.28280I$ $b=\ 0.732638+0.220976I$	$-1.35725-3.79869I$	$1.65172+4.10455I$
$u=-0.032020-0.781364I$ $a=\ 2.14449-0.28280I$ $b=\ 0.732638-0.220976I$	$-1.35725+3.79869I$	$1.65172-4.10455I$
$u=\ 0.170088+0.730003I$ $a=-0.071230+0.676753I$ $b=-0.731808+0.468895I$	$0.37028+2.87213I$	$1.28510+0.62817I$
$u=\ 0.170088-0.730003I$ $a=-0.071230-0.676753I$ $b=-0.731808-0.468895I$	$0.37028-2.87213I$	$1.28510-0.62817I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.172590+0.435603I$ $a=\ \ 0.81891-1.24137I$ $b=\ \ 0.062991-0.825371I$	$-2.73012+1.51532I$	0
$u=-1.172590-0.435603I$ $a=\ \ 0.81891+1.24137I$ $b=\ \ 0.062991+0.825371I$	$-2.73012-1.51532I$	0
$u=-0.488087+0.554663I$ $a=-0.85842+2.10605I$ $b=\ \ 0.504340+1.307040I$	$-2.20840-2.63961I$	$0.25032+3.28418I$
$u=-0.488087-0.554663I$ $a=-0.85842-2.10605I$ $b=\ \ 0.504340-1.307040I$	$-2.20840+2.63961I$	$0.25032-3.28418I$
$u=\ \ 1.173020+0.480755I$ $a=-1.84719-0.48053I$ $b=-1.54303-1.18598I$	$-2.39613-6.88242I$	0
$u=\ \ 1.173020-0.480755I$ $a=-1.84719+0.48053I$ $b=-1.54303+1.18598I$	$-2.39613+6.88242I$	0
$u=\ \ 1.164020+0.504706I$ $a=-1.117050+0.657690I$ $b=-1.277680+0.300223I$	$-2.50842-7.51034I$	0
$u=\ \ 1.164020-0.504706I$ $a=-1.117050-0.657690I$ $b=-1.277680-0.300223I$	$-2.50842+7.51034I$	0
$u=-0.562348+0.453906I$ $a=-0.33839-1.87897I$ $b=-1.31334-0.66272I$	$-1.96835+1.60122I$	$-0.51057-4.13265I$
$u=-0.562348-0.453906I$ $a=-0.33839+1.87897I$ $b=-1.31334+0.66272I$	$-1.96835-1.60122I$	$-0.51057+4.13265I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.216150 + 0.409530I$ $a = -0.809824 - 0.995513I$ $b = 0.236122 - 1.216550I$	$-3.82762 + 2.56614I$	0
$u = 1.216150 - 0.409530I$ $a = -0.809824 + 0.995513I$ $b = 0.236122 + 1.216550I$	$-3.82762 - 2.56614I$	0
$u = 1.206620 + 0.442321I$ $a = -0.65156 - 1.85727I$ $b = -0.96275 - 2.66504I$	$-4.96595 - 0.54583I$	0
$u = 1.206620 - 0.442321I$ $a = -0.65156 + 1.85727I$ $b = -0.96275 + 2.66504I$	$-4.96595 + 0.54583I$	0
$u = 1.208230 + 0.450329I$ $a = 0.143311 - 0.112206I$ $b = 0.931908 + 1.029250I$	$-8.99309 - 3.85792I$	0
$u = 1.208230 - 0.450329I$ $a = 0.143311 + 0.112206I$ $b = 0.931908 - 1.029250I$	$-8.99309 + 3.85792I$	0
$u = -1.203870 + 0.469104I$ $a = 0.09329 + 1.65147I$ $b = -0.15745 + 2.52338I$	$-4.77346 + 8.32914I$	0
$u = -1.203870 - 0.469104I$ $a = 0.09329 - 1.65147I$ $b = -0.15745 - 2.52338I$	$-4.77346 - 8.32914I$	0
$u = -1.207550 + 0.462777I$ $a = 1.74836 - 0.92839I$ $b = 1.83396 - 2.26101I$	$-8.90383 + 5.05532I$	0
$u = -1.207550 - 0.462777I$ $a = 1.74836 + 0.92839I$ $b = 1.83396 + 2.26101I$	$-8.90383 - 5.05532I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.215380+0.442634I$ $a=-0.904898+0.542762I$ $b=-0.235963+0.654580I$	$-7.08584+2.27065I$	0
$u=-1.215380-0.442634I$ $a=-0.904898-0.542762I$ $b=-0.235963-0.654580I$	$-7.08584-2.27065I$	0
$u=1.212780+0.469577I$ $a=0.90744+1.19643I$ $b=0.30638+1.45771I$	$-6.89339-6.73073I$	0
$u=1.212780-0.469577I$ $a=0.90744-1.19643I$ $b=0.30638-1.45771I$	$-6.89339+6.73073I$	0
$u=1.250340+0.358838I$ $a=-0.154675+0.085690I$ $b=0.222334+1.125380I$	$-10.06870+0.09249I$	0
$u=1.250340-0.358838I$ $a=-0.154675-0.085690I$ $b=0.222334-1.125380I$	$-10.06870-0.09249I$	0
$u=1.239790+0.401403I$ $a=0.837353+0.127179I$ $b=0.201578-0.766582I$	$-11.77270+2.46110I$	0
$u=1.239790-0.401403I$ $a=0.837353-0.127179I$ $b=0.201578+0.766582I$	$-11.77270-2.46110I$	0
$u=-1.205740+0.496070I$ $a=0.98021-1.36199I$ $b=-0.01005-1.80166I$	$-3.21033+11.52210I$	0
$u=-1.205740-0.496070I$ $a=0.98021+1.36199I$ $b=-0.01005+1.80166I$	$-3.21033-11.52210I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.346470+0.598546I$ $a=1.56949+0.18723I$ $b=0.643607-0.281030I$	$3.57068+1.66346I$	$7.95681-0.97959I$
$u=-0.346470-0.598546I$ $a=1.56949-0.18723I$ $b=0.643607+0.281030I$	$3.57068-1.66346I$	$7.95681+0.97959I$
$u=-1.261730+0.381247I$ $a=0.550601-0.130699I$ $b=-0.158238+0.822053I$	$-9.06425-9.00214I$	0
$u=-1.261730-0.381247I$ $a=0.550601+0.130699I$ $b=-0.158238-0.822053I$	$-9.06425+9.00214I$	0
$u=-1.217400+0.506078I$ $a=-2.07512+1.15288I$ $b=-2.12363+2.21754I$	$-11.0212+11.6591I$	0
$u=-1.217400-0.506078I$ $a=-2.07512-1.15288I$ $b=-2.12363-2.21754I$	$-11.0212-11.6591I$	0
$u=-1.241340+0.444472I$ $a=-0.016637+0.324766I$ $b=0.887868-0.518383I$	$-9.48502+0.89689I$	0
$u=-1.241340-0.444472I$ $a=-0.016637-0.324766I$ $b=0.887868+0.518383I$	$-9.48502-0.89689I$	0
$u=0.097616+0.674455I$ $a=0.713694+0.416425I$ $b=-0.503777+1.132830I$	$0.65401+2.46549I$	$5.02445-1.80014I$
$u=0.097616-0.674455I$ $a=0.713694-0.416425I$ $b=-0.503777-1.132830I$	$0.65401-2.46549I$	$5.02445+1.80014I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.233200 + 0.477241I$ $a = 1.51555 + 1.07618I$ $b = 1.31004 + 2.29998I$	$-9.24636 - 8.43893I$	0
$u = 1.233200 - 0.477241I$ $a = 1.51555 - 1.07618I$ $b = 1.31004 - 2.29998I$	$-9.24636 + 8.43893I$	0
$u = -1.215910 + 0.536328I$ $a = 1.46121 - 0.53131I$ $b = 1.75921 - 1.56137I$	$-8.80606 + 9.34534I$	0
$u = -1.215910 - 0.536328I$ $a = 1.46121 + 0.53131I$ $b = 1.75921 + 1.56137I$	$-8.80606 - 9.34534I$	0
$u = 1.224110 + 0.524751I$ $a = -1.92450 - 1.07444I$ $b = -1.94585 - 2.26335I$	$-8.0296 - 18.3915I$	0
$u = 1.224110 - 0.524751I$ $a = -1.92450 + 1.07444I$ $b = -1.94585 + 2.26335I$	$-8.0296 + 18.3915I$	0
$u = -1.277340 + 0.411628I$ $a = -0.258038 - 0.020094I$ $b = 0.084685 - 0.846740I$	$-10.11280 + 3.75612I$	0
$u = -1.277340 - 0.411628I$ $a = -0.258038 + 0.020094I$ $b = 0.084685 + 0.846740I$	$-10.11280 - 3.75612I$	0
$u = 1.248000 + 0.508745I$ $a = 1.25587 + 0.67417I$ $b = 1.43654 + 1.48601I$	$-9.40797 - 5.92605I$	0
$u = 1.248000 - 0.508745I$ $a = 1.25587 - 0.67417I$ $b = 1.43654 - 1.48601I$	$-9.40797 + 5.92605I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.455083 + 0.372696I$		
$a = 1.44631 + 0.18307I$	$1.164220 + 0.197770I$	$8.79841 - 0.47962I$
$b = 0.768449 + 0.641571I$		
$u = 0.455083 - 0.372696I$		
$a = 1.44631 - 0.18307I$	$1.164220 - 0.197770I$	$8.79841 + 0.47962I$
$b = 0.768449 - 0.641571I$		
$u = 0.072835 + 0.491611I$		
$a = 1.335550 + 0.017512I$	$0.66958 + 2.38733I$	$2.94044 - 2.16417I$
$b = -0.529551 + 0.952438I$		
$u = 0.072835 - 0.491611I$		
$a = 1.335550 - 0.017512I$	$0.66958 - 2.38733I$	$2.94044 + 2.16417I$
$b = -0.529551 - 0.952438I$		

II. $I_2^u =$
$\langle -2u^{23}-3u^{22}+\cdots+b+3,\ -2u^{23}-4u^{22}+\cdots+a+4,\ u^{24}-7u^{22}+\cdots-3u^2+1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^{23}+4u^{22}+\cdots+12u^2-4 \\ 2u^{23}+3u^{22}+\cdots+8u^2-3 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{23}-u^{22}+\cdots-u+1 \\ -u^{22}+6u^{20}+\cdots-2u^2-2u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2u^{23}+3u^{22}+\cdots+10u^2-3 \\ 2u^{23}+2u^{22}+\cdots+6u^2-2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -2u^{23}-2u^{22}+\cdots+6u+4 \\ u^{23}-2u^{22}+\cdots+2u+4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^{10}+2u^8-u^6-2u^4+u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 2u^{23}+3u^{22}+\cdots+10u^2-4 \\ 2u^{23}+2u^{22}+\cdots+6u^2-3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -17u^{23}-u^{22}+112u^{21}+6u^{20}-355u^{19}-17u^{18}+649u^{17}+26u^{16}-700u^{15}-19u^{14}+333u^{13}-3u^{12}+164u^{11}+33u^{10}-370u^9-68u^8+212u^7+81u^6+2u^5-43u^4-60u^3-3u^2+26u+5$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 14u^{23} + \cdots - 6u + 1$
c_2	$u^{24} - 7u^{22} + \cdots - 3u^2 + 1$
c_3	$u^{24} + u^{23} + \cdots + 2u + 1$
c_4	$u^{24} + u^{23} + \cdots + 12u^2 + 1$
c_5	$u^{24} + 12u^{22} + \cdots - u + 1$
c_6	$u^{24} - 7u^{22} + \cdots - 3u^2 + 1$
c_7	$u^{24} + 9u^{22} + \cdots - 3u^2 + 1$
c_8	$u^{24} - u^{23} + \cdots + 12u^2 + 1$
c_9	$u^{24} - 2u^{22} + \cdots + 7u + 1$
c_{10}	$u^{24} + 12u^{22} + \cdots + u + 1$
c_{11}	$u^{24} - 2u^{23} + \cdots - u + 1$
c_{12}	$u^{24} + 9u^{22} + \cdots - 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 2y^{23} + \cdots - 10y + 1$
c_2, c_6	$y^{24} - 14y^{23} + \cdots - 6y + 1$
c_3	$y^{24} - 7y^{23} + \cdots + 2y + 1$
c_4, c_8	$y^{24} + 17y^{23} + \cdots + 24y + 1$
c_5, c_{10}	$y^{24} + 24y^{23} + \cdots + 17y + 1$
c_7, c_{12}	$y^{24} + 18y^{23} + \cdots - 6y + 1$
c_9	$y^{24} - 4y^{23} + \cdots - 9y + 1$
c_{11}	$y^{24} + 2y^{23} + \cdots - 7y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.830087 + 0.607865I$ $a = -0.787937 + 1.127550I$ $b = -1.48311 + 0.08212I$	$-1.31891 - 2.39167I$	$8.22171 + 0.99991I$
$u = \quad 0.830087 - 0.607865I$ $a = -0.787937 - 1.127550I$ $b = -1.48311 - 0.08212I$	$-1.31891 + 2.39167I$	$8.22171 - 0.99991I$
$u = \quad 0.999057 + 0.347047I$ $a = -1.36381 - 1.43525I$ $b = -1.19874 - 2.31003I$	$-0.26640 - 4.90016I$	$-0.41787 + 8.67235I$
$u = \quad 0.999057 - 0.347047I$ $a = -1.36381 + 1.43525I$ $b = -1.19874 + 2.31003I$	$-0.26640 + 4.90016I$	$-0.41787 - 8.67235I$
$u = -0.898344 + 0.216416I$ $a = -0.84851 - 1.49922I$ $b = -1.331090 + 0.161552I$	$-3.88873 + 0.99670I$	$-9.19138 + 1.06418I$
$u = -0.898344 - 0.216416I$ $a = -0.84851 + 1.49922I$ $b = -1.331090 - 0.161552I$	$-3.88873 - 0.99670I$	$-9.19138 - 1.06418I$
$u = -0.974569 + 0.527157I$ $a = -0.756267 - 0.173046I$ $b = -1.314500 + 0.356894I$	$0.995615 + 0.733801I$	$3.68845 - 1.75573I$
$u = -0.974569 - 0.527157I$ $a = -0.756267 + 0.173046I$ $b = -1.314500 - 0.356894I$	$0.995615 - 0.733801I$	$3.68845 + 1.75573I$
$u = \quad 0.070130 + 0.855176I$ $a = -1.284100 - 0.323500I$ $b = \quad 0.379137 - 0.657760I$	$-5.48258 + 2.65917I$	$0.432647 - 0.716337I$
$u = \quad 0.070130 - 0.855176I$ $a = -1.284100 + 0.323500I$ $b = \quad 0.379137 + 0.657760I$	$-5.48258 - 2.65917I$	$0.432647 + 0.716337I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.612663+0.473761I$ $a=\ \ 0.04247-1.73742I$ $b=-0.225243-0.783401I$	$2.10127+3.44984I$	$5.50500-5.25186I$
$u=-0.612663-0.473761I$ $a=\ \ 0.04247+1.73742I$ $b=-0.225243+0.783401I$	$2.10127-3.44984I$	$5.50500+5.25186I$
$u=\ \ 1.161630+0.417142I$ $a=-0.04559-1.76635I$ $b=\ \ 0.40212-1.45647I$	$-2.75004-0.15086I$	$2.66319-3.71566I$
$u=\ \ 1.161630-0.417142I$ $a=-0.04559+1.76635I$ $b=\ \ 0.40212+1.45647I$	$-2.75004+0.15086I$	$2.66319+3.71566I$
$u=-1.160360+0.486741I$ $a=\ \ 1.23692+0.81611I$ $b=\ \ 1.167500+0.316108I$	$-2.24622+8.08592I$	$2.57244-12.50899I$
$u=-1.160360-0.486741I$ $a=\ \ 1.23692-0.81611I$ $b=\ \ 1.167500-0.316108I$	$-2.24622-8.08592I$	$2.57244+12.50899I$
$u=\ \ 0.707470+0.179898I$ $a=\ \ 2.73022+2.10461I$ $b=\ \ 1.88663+1.35622I$	$0.97241+2.30300I$	$3.64056-4.71970I$
$u=\ \ 0.707470-0.179898I$ $a=\ \ 2.73022-2.10461I$ $b=\ \ 1.88663-1.35622I$	$0.97241-2.30300I$	$3.64056+4.71970I$
$u=-1.241630+0.425857I$ $a=\ \ 0.1166810+0.0396087I$ $b=\ \ 0.777120-0.932683I$	$-9.45240+1.79763I$	$-3.66132-2.97351I$
$u=-1.241630-0.425857I$ $a=\ \ 0.1166810-0.0396087I$ $b=\ \ 0.777120+0.932683I$	$-9.45240-1.79763I$	$-3.66132+2.97351I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.112951+0.674509I$		
$a=\ 0.137859+0.205443I$	$0.69686-3.66859I$	$5.64131+7.83145I$
$b=\ 1.066660+0.565024I$		
$u=-0.112951-0.674509I$		
$a=\ 0.137859-0.205443I$	$0.69686+3.66859I$	$5.64131-7.83145I$
$b=\ 1.066660-0.565024I$		
$u=\ 1.232150+0.493085I$		
$a=\ 1.32207+0.83590I$	$-8.96968-7.53432I$	$-2.09474+3.83158I$
$b=\ 1.37352+1.93665I$		
$u=\ 1.232150-0.493085I$		
$a=\ 1.32207-0.83590I$	$-8.96968+7.53432I$	$-2.09474-3.83158I$
$b=\ 1.37352-1.93665I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{24}-14u^{23}+\cdots-6u+1)(u^{124}+69u^{123}+\cdots+324u+49)$
c_2	$(u^{24}-7u^{22}+\cdots-3u^2+1)(u^{124}-u^{123}+\cdots-10u+7)$
c_3	$(u^{24}+u^{23}+\cdots+2u+1)$ $\cdot(u^{124}+21u^{122}+\cdots+39652872u+5579953)$
c_4	$(u^{24}+u^{23}+\cdots+12u^2+1)(u^{124}+2u^{123}+\cdots+1136u+751)$
c_5	$(u^{24}+12u^{22}+\cdots-u+1)(u^{124}+u^{123}+\cdots-3985u+173)$
c_6	$(u^{24}-7u^{22}+\cdots-3u^2+1)(u^{124}-u^{123}+\cdots-10u+7)$
c_7	$(u^{24}+9u^{22}+\cdots-3u^2+1)(u^{124}-3u^{123}+\cdots-14693u+4312)$
c_8	$(u^{24}-u^{23}+\cdots+12u^2+1)(u^{124}+2u^{123}+\cdots+1136u+751)$
c_9	$(u^{24}-2u^{22}+\cdots+7u+1)(u^{124}+19u^{123}+\cdots+33u+1)$
c_{10}	$(u^{24}+12u^{22}+\cdots+u+1)(u^{124}+u^{123}+\cdots-3985u+173)$
c_{11}	$(u^{24}-2u^{23}+\cdots-u+1)(u^{124}-3u^{123}+\cdots-9u+2)$
c_{12}	$(u^{24}+9u^{22}+\cdots-3u^2+1)(u^{124}-3u^{123}+\cdots-14693u+4312)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{24} - 2y^{23} + \cdots - 10y + 1)(y^{124} - 21y^{123} + \cdots - 81456y + 2401)$
c_2, c_6	$(y^{24} - 14y^{23} + \cdots - 6y + 1)(y^{124} - 69y^{123} + \cdots - 324y + 49)$
c_3	$(y^{24} - 7y^{23} + \cdots + 2y + 1)$ $\cdot (y^{124} + 42y^{123} + \cdots + 1234397237289356y + 31135875482209)$
c_4, c_8	$(y^{24} + 17y^{23} + \cdots + 24y + 1)$ $\cdot (y^{124} + 70y^{123} + \cdots + 4643906y + 564001)$
c_5, c_{10}	$(y^{24} + 24y^{23} + \cdots + 17y + 1)$ $\cdot (y^{124} + 97y^{123} + \cdots - 5851069y + 29929)$
c_7, c_{12}	$(y^{24} + 18y^{23} + \cdots - 6y + 1)$ $\cdot (y^{124} + 111y^{123} + \cdots - 621048393y + 18593344)$
c_9	$(y^{24} - 4y^{23} + \cdots - 9y + 1)(y^{124} - 3y^{123} + \cdots + 405y + 1)$
c_{11}	$(y^{24} + 2y^{23} + \cdots - 7y + 1)(y^{124} - y^{123} + \cdots + 71y + 4)$