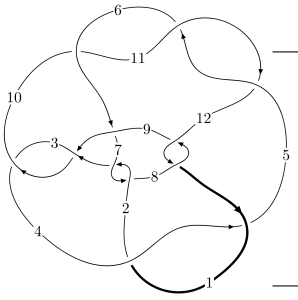
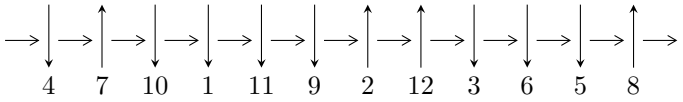
$12a_{1090}$ $(K12a_{1090})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.10479 \times 10^{362} u^{116} + 1.89977 \times 10^{362} u^{115} + \cdots + 7.75796 \times 10^{363} b + 1.93597 \times 10^{364}, \\ & 1.94516 \times 10^{364} u^{116} + 1.50624 \times 10^{364} u^{115} + \cdots + 7.29248 \times 10^{365} a + 2.94268 \times 10^{365}, \\ & u^{117} + u^{116} + \cdots + 124u + 47 \rangle \\ I_2^u = \langle & 20149292u^{29} - 20623955u^{28} + \cdots + 99034091b + 23108758, \\ & - 366097415u^{29} + 204883942u^{28} + \cdots + 792272728a - 2378612097,\ u^{30} + 20u^{28} + \cdots + 2u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 147 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. $\boldsymbol{I_1^u = \langle 1.10 \times 10^{362} u^{116} + 1.90 \times 10^{362} u^{115} + \cdots + 7.76 \times 10^{363} b + 1.94 \times 10^{364},\ 1.95 \times 10^{364} u^{116} + 1.51 \times 10^{364} u^{115} + \cdots + 7.29 \times 10^{365} a + 2.94 \times 10^{365},\ u^{117} + u^{116} + \cdots + 124u + 47 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0266735u^{116} - 0.0206547u^{115} + \cdots - 19.9608u - 0.403523 \\ -0.0142407u^{116} - 0.0244880u^{115} + \cdots + 0.591814u - 2.49546 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0409142u^{116} - 0.0451426u^{115} + \cdots - 19.3690u - 2.89898 \\ -0.0142407u^{116} - 0.0244880u^{115} + \cdots + 0.591814u - 2.49546 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00104818u^{116} + 0.0000285478u^{115} + \cdots + 23.6582u - 0.194678 \\ 0.000577895u^{116} - 0.00548604u^{115} + \cdots + 3.54854u - 0.813912 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0378466u^{116} + 0.0626004u^{115} + \cdots + 26.8224u + 9.09236 \\ 0.0394917u^{116} + 0.0258151u^{115} + \cdots + 4.33627u + 3.49687 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0510015u^{116} - 0.0497058u^{115} + \cdots - 13.6495u - 3.84875 \\ -0.0278995u^{116} - 0.0302454u^{115} + \cdots - 5.89036u - 2.37136 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0408163u^{116} - 0.0556002u^{115} + \cdots - 1.82172u + 0.570663 \\ -0.0448536u^{116} - 0.0160504u^{115} + \cdots - 4.25598u - 2.61750 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.00647050u^{116} - 0.00436844u^{115} + \cdots + 19.2576u + 0.614457 \\ 0.000350157u^{116} - 0.00369785u^{115} + \cdots + 3.03710u - 1.22651 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.126931u^{116} + 0.0615865u^{115} + \cdots + 15.3051u + 14.4162$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{117} - 5u^{116} + \cdots - 1550u + 337$
c_2, c_7	$u^{117} + u^{116} + \cdots - 522928u + 122248$
c_3, c_9	$u^{117} + u^{116} + \cdots + 8557u + 3421$
c_5, c_{10}, c_{11}	$u^{117} + u^{116} + \cdots + 124u + 47$
c_6	$u^{117} - 3u^{116} + \cdots + 5055780u - 844876$
c_8, c_{12}	$u^{117} - 3u^{116} + \cdots + 34u + 31$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{117} + 73y^{116} + \cdots - 8150992y - 113569$
c_2, c_7	$y^{117} + 93y^{116} + \cdots - 163687062112y - 14944573504$
c_3, c_9	$y^{117} - 65y^{116} + \cdots + 196939293y - 11703241$
c_5, c_{10}, c_{11}	$y^{117} + 123y^{116} + \cdots - 54748y - 2209$
c_6	$y^{117} - 27y^{116} + \cdots - 13642460366432y - 713815455376$
c_8, c_{12}	$y^{117} + 61y^{116} + \cdots - 60038y - 961$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.450430+0.874019I$ $a=-0.155942-1.219730I$ $b=-0.988758+0.419017I$	$1.31804+2.76130I$	0
$u=-0.450430-0.874019I$ $a=-0.155942+1.219730I$ $b=-0.988758-0.419017I$	$1.31804-2.76130I$	0
$u=0.375495+0.837694I$ $a=-0.724013-1.058100I$ $b=1.164760-0.072289I$	$-2.40578-0.38438I$	0
$u=0.375495-0.837694I$ $a=-0.724013+1.058100I$ $b=1.164760+0.072289I$	$-2.40578+0.38438I$	0
$u=-0.709889+0.552874I$ $a=0.198170-0.374731I$ $b=0.366559+0.453634I$	$0.98855+2.99976I$	0
$u=-0.709889-0.552874I$ $a=0.198170+0.374731I$ $b=0.366559-0.453634I$	$0.98855-2.99976I$	0
$u=-0.980561+0.521676I$ $a=-0.304385-1.010160I$ $b=-1.32872+0.50810I$	$-6.2327+13.1746I$	0
$u=-0.980561-0.521676I$ $a=-0.304385+1.010160I$ $b=-1.32872-0.50810I$	$-6.2327-13.1746I$	0
$u=-0.581326+0.958709I$ $a=-0.160347-1.077050I$ $b=-0.997335+0.399940I$	$1.30976+2.75887I$	0
$u=-0.581326-0.958709I$ $a=-0.160347+1.077050I$ $b=-0.997335-0.399940I$	$1.30976-2.75887I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.727403+0.481710I$ $a=\ \ 0.84632+1.34115I$ $b=\ \ 1.254570-0.443656I$	$-9.34800+6.57460I$	0
$u=-0.727403-0.481710I$ $a=\ \ 0.84632-1.34115I$ $b=\ \ 1.254570+0.443656I$	$-9.34800-6.57460I$	0
$u=\ \ 0.842085+0.187380I$ $a=-0.425383+0.368443I$ $b=-1.228440+0.302698I$	$-3.96197+3.71063I$	0
$u=\ \ 0.842085-0.187380I$ $a=-0.425383-0.368443I$ $b=-1.228440-0.302698I$	$-3.96197-3.71063I$	0
$u=-0.522458+0.678849I$ $a=-0.293846-0.577453I$ $b=-1.122850-0.348363I$	$-8.82823-2.11501I$	0
$u=-0.522458-0.678849I$ $a=-0.293846+0.577453I$ $b=-1.122850+0.348363I$	$-8.82823+2.11501I$	0
$u=\ \ 0.448800+0.716787I$ $a=\ \ 1.36941-1.49722I$ $b=-0.449149+0.727366I$	$-0.91557+3.36877I$	0
$u=\ \ 0.448800-0.716787I$ $a=\ \ 1.36941+1.49722I$ $b=-0.449149-0.727366I$	$-0.91557-3.36877I$	0
$u=\ \ 0.747868+0.368257I$ $a=\ \ 0.076550-0.857149I$ $b=\ \ 0.007519+1.070980I$	$-2.03502-7.66434I$	0
$u=\ \ 0.747868-0.368257I$ $a=\ \ 0.076550+0.857149I$ $b=\ \ 0.007519-1.070980I$	$-2.03502+7.66434I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.819476+0.021910I$ $a=\ \ 0.175354+0.611821I$ $b=\ \ 1.41065-0.44823I$	$-6.62732-2.00391I$	0
$u=-0.819476-0.021910I$ $a=\ \ 0.175354-0.611821I$ $b=\ \ 1.41065+0.44823I$	$-6.62732+2.00391I$	0
$u=\ \ 1.149070+0.322405I$ $a=\ \ 0.624379-0.506587I$ $b=\ \ 0.964612+0.314051I$	$-0.55784-6.19834I$	0
$u=\ \ 1.149070-0.322405I$ $a=\ \ 0.624379+0.506587I$ $b=\ \ 0.964612-0.314051I$	$-0.55784+6.19834I$	0
$u=\ \ 0.301498+1.162040I$ $a=-0.26659-1.45212I$ $b=\ \ 0.974297+0.217920I$	$-0.995060-0.963784I$	0
$u=\ \ 0.301498-1.162040I$ $a=-0.26659+1.45212I$ $b=\ \ 0.974297-0.217920I$	$-0.995060+0.963784I$	0
$u=-0.273778+1.174630I$ $a=\ \ 1.114810-0.139072I$ $b=-1.55406-0.07468I$	$-3.14135+6.02194I$	0
$u=-0.273778-1.174630I$ $a=\ \ 1.114810+0.139072I$ $b=-1.55406+0.07468I$	$-3.14135-6.02194I$	0
$u=\ \ 0.600730+0.462863I$ $a=-0.568147+0.467016I$ $b=-0.003909-0.811777I$	$-5.54773-2.01439I$	0
$u=\ \ 0.600730-0.462863I$ $a=-0.568147-0.467016I$ $b=-0.003909+0.811777I$	$-5.54773+2.01439I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.589429 + 0.475259I$ $a = 0.487315 - 1.272170I$ $b = 1.34874 + 0.54161I$	$-2.94157 - 7.60929I$	0
$u = 0.589429 - 0.475259I$ $a = 0.487315 + 1.272170I$ $b = 1.34874 - 0.54161I$	$-2.94157 + 7.60929I$	0
$u = 0.733472 + 0.162116I$ $a = -1.090300 - 0.048396I$ $b = -1.141370 - 0.125034I$	$-4.04433 - 2.86679I$	0
$u = 0.733472 - 0.162116I$ $a = -1.090300 + 0.048396I$ $b = -1.141370 + 0.125034I$	$-4.04433 + 2.86679I$	0
$u = 0.265307 + 0.697351I$ $a = 0.095698 - 0.802970I$ $b = -0.453016 + 0.737857I$	$2.93848 + 1.49224I$	0
$u = 0.265307 - 0.697351I$ $a = 0.095698 + 0.802970I$ $b = -0.453016 - 0.737857I$	$2.93848 - 1.49224I$	0
$u = -0.419354 + 1.202530I$ $a = 0.63820 - 1.90195I$ $b = -1.208690 + 0.724572I$	$-2.84569 + 2.44067I$	0
$u = -0.419354 - 1.202530I$ $a = 0.63820 + 1.90195I$ $b = -1.208690 - 0.724572I$	$-2.84569 - 2.44067I$	0
$u = 0.708999 + 0.154308I$ $a = -0.801573 + 0.266034I$ $b = -1.314790 - 0.330863I$	$-4.59994 - 3.42538I$	0
$u = 0.708999 - 0.154308I$ $a = -0.801573 - 0.266034I$ $b = -1.314790 + 0.330863I$	$-4.59994 + 3.42538I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.077026+1.275020I$ $a=-0.38863-2.02126I$ $b=\ \ 0.17592+1.53970I$	$4.66408+0.01829I$	0
$u=-0.077026-1.275020I$ $a=-0.38863+2.02126I$ $b=\ \ 0.17592-1.53970I$	$4.66408-0.01829I$	0
$u=-0.043378+1.282440I$ $a=\ \ 0.081358-1.174000I$ $b=-1.165260+0.435563I$	$1.86498+2.15332I$	0
$u=-0.043378-1.282440I$ $a=\ \ 0.081358+1.174000I$ $b=-1.165260-0.435563I$	$1.86498-2.15332I$	0
$u=\ \ 0.099081+1.287910I$ $a=-0.239261-1.096180I$ $b=-0.137029+0.846959I$	$3.68040+1.59802I$	0
$u=\ \ 0.099081-1.287910I$ $a=-0.239261+1.096180I$ $b=-0.137029-0.846959I$	$3.68040-1.59802I$	0
$u=-1.038490+0.800183I$ $a=-0.192780+0.089886I$ $b=\ \ 1.244190+0.324174I$	$-5.58201-6.62080I$	0
$u=-1.038490-0.800183I$ $a=-0.192780-0.089886I$ $b=\ \ 1.244190-0.324174I$	$-5.58201+6.62080I$	0
$u=-0.202146+1.297420I$ $a=-0.862714-0.338807I$ $b=\ \ 1.36307+0.39085I$	$-3.82100-0.00691I$	0
$u=-0.202146-1.297420I$ $a=-0.862714+0.338807I$ $b=\ \ 1.36307-0.39085I$	$-3.82100+0.00691I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.130018 + 1.308590I$ $a = -0.16741 - 1.68093I$ $b = 1.32311 + 0.49998I$	$-0.68976 - 6.56572I$	0
$u = 0.130018 - 1.308590I$ $a = -0.16741 + 1.68093I$ $b = 1.32311 - 0.49998I$	$-0.68976 + 6.56572I$	0
$u = -0.073373 + 1.335250I$ $a = -0.95421 + 2.09276I$ $b = 1.09403 - 0.94824I$	$-4.70547 + 3.68035I$	0
$u = -0.073373 - 1.335250I$ $a = -0.95421 - 2.09276I$ $b = 1.09403 + 0.94824I$	$-4.70547 - 3.68035I$	0
$u = 0.075591 + 1.344550I$ $a = 0.56822 + 1.44412I$ $b = 0.982176 - 0.233908I$	$3.39050 - 5.09084I$	0
$u = 0.075591 - 1.344550I$ $a = 0.56822 - 1.44412I$ $b = 0.982176 + 0.233908I$	$3.39050 + 5.09084I$	0
$u = -0.009716 + 1.351280I$ $a = 0.40036 + 2.17036I$ $b = -0.978172 - 0.538795I$	$3.58630 - 0.68309I$	0
$u = -0.009716 - 1.351280I$ $a = 0.40036 - 2.17036I$ $b = -0.978172 + 0.538795I$	$3.58630 + 0.68309I$	0
$u = 0.313950 + 1.326390I$ $a = -0.46213 - 1.41679I$ $b = 1.42704 + 0.56925I$	$-0.03050 - 7.14266I$	0
$u = 0.313950 - 1.326390I$ $a = -0.46213 + 1.41679I$ $b = 1.42704 - 0.56925I$	$-0.03050 + 7.14266I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.138272+1.403470I$ $a=\ \ 0.78007+1.92070I$ $b=-0.54097-1.36641I$	$6.33685+3.23861I$	0
$u=-0.138272-1.403470I$ $a=\ \ 0.78007-1.92070I$ $b=-0.54097+1.36641I$	$6.33685-3.23861I$	0
$u=-0.10252+1.41744I$ $a=-0.002532-1.090080I$ $b=-0.064504+0.844052I$	$5.24852+2.32596I$	0
$u=-0.10252-1.41744I$ $a=-0.002532+1.090080I$ $b=-0.064504-0.844052I$	$5.24852-2.32596I$	0
$u=-0.099852+0.562885I$ $a=\ \ 2.63496-0.09861I$ $b=-1.207410+0.189869I$	$-3.07410+5.41375I$	$-5.35612-7.94146I$
$u=-0.099852-0.562885I$ $a=\ \ 2.63496+0.09861I$ $b=-1.207410-0.189869I$	$-3.07410-5.41375I$	$-5.35612+7.94146I$
$u=\ \ 0.25945+1.40490I$ $a=\ \ 0.022269-1.111400I$ $b=\ \ 1.227000+0.327360I$	$1.01487-6.41189I$	0
$u=\ \ 0.25945-1.40490I$ $a=\ \ 0.022269+1.111400I$ $b=\ \ 1.227000-0.327360I$	$1.01487+6.41189I$	0
$u=-0.554995$ $a=\ \ 1.16749$ $b=\ \ 0.966054$	-1.57202	-6.03670
$u=\ \ 0.09543+1.45877I$ $a=\ \ 1.22275+1.52303I$ $b=-0.703801-0.618070I$	$4.46906-3.93892I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.09543 - 1.45877I$ $a = 1.22275 - 1.52303I$ $b = -0.703801 + 0.618070I$	$4.46906 + 3.93892I$	0
$u = 0.19897 + 1.47815I$ $a = 0.53821 - 1.35946I$ $b = -0.098526 + 0.941329I$	$0.74413 - 4.89630I$	0
$u = 0.19897 - 1.47815I$ $a = 0.53821 + 1.35946I$ $b = -0.098526 - 0.941329I$	$0.74413 + 4.89630I$	0
$u = 0.28618 + 1.46620I$ $a = -0.57918 + 1.63059I$ $b = 0.256407 - 1.233710I$	$3.88237 - 11.43810I$	0
$u = 0.28618 - 1.46620I$ $a = -0.57918 - 1.63059I$ $b = 0.256407 + 1.233710I$	$3.88237 + 11.43810I$	0
$u = -0.62749 + 1.35615I$ $a = 0.394025 + 0.520974I$ $b = 0.851823 - 0.208270I$	$2.03680 + 3.48302I$	0
$u = -0.62749 - 1.35615I$ $a = 0.394025 - 0.520974I$ $b = 0.851823 + 0.208270I$	$2.03680 - 3.48302I$	0
$u = 0.09690 + 1.50425I$ $a = -0.139924 + 1.215190I$ $b = -0.938027 - 0.195120I$	$5.81927 + 0.05975I$	0
$u = 0.09690 - 1.50425I$ $a = -0.139924 - 1.215190I$ $b = -0.938027 + 0.195120I$	$5.81927 - 0.05975I$	0
$u = 0.22766 + 1.49243I$ $a = 0.61626 + 1.78167I$ $b = -1.33599 - 0.74145I$	$3.45424 - 10.68360I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.22766 - 1.49243I$ $a = 0.61626 - 1.78167I$ $b = -1.33599 + 0.74145I$	$3.45424 + 10.68360I$	0
$u = -0.18996 + 1.52109I$ $a = -0.23643 + 1.59858I$ $b = 1.074740 - 0.587991I$	$8.58646 + 5.45534I$	0
$u = -0.18996 - 1.52109I$ $a = -0.23643 - 1.59858I$ $b = 1.074740 + 0.587991I$	$8.58646 - 5.45534I$	0
$u = -0.25317 + 1.51414I$ $a = 0.488031 + 0.976107I$ $b = -0.401827 - 0.789339I$	$7.65566 + 6.55277I$	0
$u = -0.25317 - 1.51414I$ $a = 0.488031 - 0.976107I$ $b = -0.401827 + 0.789339I$	$7.65566 - 6.55277I$	0
$u = 0.10620 + 1.53503I$ $a = -0.65948 + 1.28065I$ $b = 0.586181 - 0.867383I$	$10.25010 - 0.05158I$	0
$u = 0.10620 - 1.53503I$ $a = -0.65948 - 1.28065I$ $b = 0.586181 + 0.867383I$	$10.25010 + 0.05158I$	0
$u = -0.09462 + 1.53964I$ $a = -1.81044 + 0.47340I$ $b = 0.891179 - 0.098940I$	$4.02410 + 6.53798I$	0
$u = -0.09462 - 1.53964I$ $a = -1.81044 - 0.47340I$ $b = 0.891179 + 0.098940I$	$4.02410 - 6.53798I$	0
$u = -0.26442 + 1.52778I$ $a = 0.30286 - 1.81813I$ $b = -1.260250 + 0.542162I$	$-2.76127 + 10.22880I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.26442-1.52778I$ $a=\ \ 0.30286+1.81813I$ $b=-1.260250-0.542162I$	$-2.76127-10.22880I$	0
$u=-0.409139+0.183611I$ $a=-0.888076-0.914368I$ $b=\ \ 0.163317-0.385322I$	$-0.041487+0.899415I$	$-5.54590-2.88281I$
$u=-0.409139-0.183611I$ $a=-0.888076+0.914368I$ $b=\ \ 0.163317+0.385322I$	$-0.041487-0.899415I$	$-5.54590+2.88281I$
$u=\ \ 0.38774+1.51379I$ $a=-0.00838+1.42222I$ $b=-1.110590-0.531468I$	$5.44898-11.49510I$	0
$u=\ \ 0.38774-1.51379I$ $a=-0.00838-1.42222I$ $b=-1.110590+0.531468I$	$5.44898+11.49510I$	0
$u=-0.35908+1.55169I$ $a=-0.42158+1.71495I$ $b=\ \ 1.32623-0.65321I$	$0.4325+18.0415I$	0
$u=-0.35908-1.55169I$ $a=-0.42158-1.71495I$ $b=\ \ 1.32623+0.65321I$	$0.4325-18.0415I$	0
$u=-0.268966+0.302008I$ $a=\ \ 0.105572-0.514416I$ $b=\ \ 0.123980-0.354069I$	$-0.209150+0.909601I$	$-4.39421-7.12298I$
$u=-0.268966-0.302008I$ $a=\ \ 0.105572+0.514416I$ $b=\ \ 0.123980+0.354069I$	$-0.209150-0.909601I$	$-4.39421+7.12298I$
$u=-0.356625+0.188528I$ $a=-1.60015+0.09608I$ $b=-1.153770-0.610054I$	$-8.60209-2.45635I$	$-16.0611+6.6590I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.356625-0.188528I$ $a=-1.60015-0.09608I$ $b=-1.153770+0.610054I$	$-8.60209+2.45635I$	$-16.0611-6.6590I$
$u=-0.355049+0.165204I$ $a=-0.610336-0.761423I$ $b=\ \ 0.188371+1.275600I$	$1.16558+1.38257I$	$-11.21918-8.31396I$
$u=-0.355049-0.165204I$ $a=-0.610336+0.761423I$ $b=\ \ 0.188371-1.275600I$	$1.16558-1.38257I$	$-11.21918+8.31396I$
$u=\ \ 0.353449+0.152564I$ $a=\ \ 3.73188+2.36884I$ $b=-0.455130-0.084418I$	$-0.65243+3.84094I$	$-1.80561+1.36241I$
$u=\ \ 0.353449-0.152564I$ $a=\ \ 3.73188-2.36884I$ $b=-0.455130+0.084418I$	$-0.65243-3.84094I$	$-1.80561-1.36241I$
$u=\ \ 0.03094+1.62767I$ $a=\ \ 1.079140+0.787419I$ $b=-0.903970-0.131309I$	$6.08971-1.56536I$	0
$u=\ \ 0.03094-1.62767I$ $a=\ \ 1.079140-0.787419I$ $b=-0.903970+0.131309I$	$6.08971+1.56536I$	0
$u=\ \ 0.01559+1.63752I$ $a=-1.04384+1.89289I$ $b=\ \ 0.821989-0.570989I$	$7.46072+2.27989I$	0
$u=\ \ 0.01559-1.63752I$ $a=-1.04384-1.89289I$ $b=\ \ 0.821989+0.570989I$	$7.46072-2.27989I$	0
$u=\ \ 0.234930+0.224021I$ $a=-1.46320-3.37689I$ $b=\ \ 0.892114+0.510916I$	$-1.23554-2.69044I$	$-8.66837+2.81646I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.234930 - 0.224021I$ $a = -1.46320 + 3.37689I$ $b = 0.892114 - 0.510916I$	$-1.23554 + 2.69044I$	$-8.66837 - 2.81646I$
$u = 0.34300 + 1.66695I$ $a = -0.503702 - 0.026674I$ $b = 0.880520 - 0.178412I$	$2.04445 - 1.53951I$	0
$u = 0.34300 - 1.66695I$ $a = -0.503702 + 0.026674I$ $b = 0.880520 + 0.178412I$	$2.04445 + 1.53951I$	0
$u = 0.020227 + 0.236909I$ $a = 1.53045 - 6.39344I$ $b = 0.773472 - 0.179454I$	$-0.401572 + 0.767401I$	$-4.86669 + 1.90492I$
$u = 0.020227 - 0.236909I$ $a = 1.53045 + 6.39344I$ $b = 0.773472 + 0.179454I$	$-0.401572 - 0.767401I$	$-4.86669 - 1.90492I$
$u = 0.18740 + 1.97141I$ $a = 0.148327 + 0.445165I$ $b = -0.895295 - 0.163794I$	$4.98690 - 0.82450I$	0
$u = 0.18740 - 1.97141I$ $a = 0.148327 - 0.445165I$ $b = -0.895295 + 0.163794I$	$4.98690 + 0.82450I$	0

II.

$\boldsymbol{I_2^u = \langle 2.01\times 10^7 u^{29} - 2.06\times 10^7 u^{28} + \cdots + 9.90\times 10^7 b + 2.31\times 10^7,\ -3.66\times 10^8 u^{29} + 2.05\times 10^8 u^{28} + \cdots + 7.92\times 10^8 a - 2.38\times 10^9,\ u^{30} + 20u^{28} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.462085u^{29} - 0.258603u^{28} + \cdots + 10.7659u + 3.00226 \\ -0.203458u^{29} + 0.208251u^{28} + \cdots - 5.90108u - 0.233341 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.258627u^{29} - 0.0503517u^{28} + \cdots + 4.86485u + 2.76892 \\ -0.203458u^{29} + 0.208251u^{28} + \cdots - 5.90108u - 0.233341 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.588528u^{29} - 0.284464u^{28} + \cdots + 11.4886u + 1.30432 \\ -0.161449u^{29} - 0.888548u^{28} + \cdots - 0.804083u + 1.27292 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.328862u^{29} - 0.0854813u^{28} + \cdots + 3.90404u + 0.0647015 \\ -1.28669u^{29} + 0.00395292u^{28} + \cdots - 1.03047u + 0.230098 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.409579u^{29} + 0.560735u^{28} + \cdots + 3.12594u + 0.844122 \\ -0.311634u^{29} - 0.726602u^{28} + \cdots - 4.05885u - 1.60330 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.260986u^{29} + 1.32534u^{28} + \cdots - 6.97117u + 2.15368 \\ -0.417867u^{29} - 1.21955u^{28} + \cdots - 3.12685u - 3.03369 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.350707u^{29} + 0.220390u^{28} + \cdots + 10.4421u + 0.172289 \\ -0.360379u^{29} - 0.743997u^{28} + \cdots - 0.555988u + 1.36712 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{1432778273}{792272728}u^{29} - \frac{609802127}{99034091}u^{28} + \cdots - \frac{10670121873}{396136364}u - \frac{4657685801}{792272728}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 4u^{29} + \cdots + 2u + 1$
c_2	$u^{30} + 15u^{28} + \cdots + 6u + 1$
c_3	$u^{30} - 6u^{28} + \cdots - u + 1$
c_4	$u^{30} + 4u^{29} + \cdots - 2u + 1$
c_5	$u^{30} + 20u^{28} + \cdots - 2u + 1$
c_6	$u^{30} - 8u^{29} + \cdots - 24u + 4$
c_7	$u^{30} + 15u^{28} + \cdots - 6u + 1$
c_8	$u^{30} - 2u^{29} + \cdots - 2u + 1$
c_9	$u^{30} - 6u^{28} + \cdots + u + 1$
c_{10}, c_{11}	$u^{30} + 20u^{28} + \cdots + 2u + 1$
c_{12}	$u^{30} + 2u^{29} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{30} + 26y^{29} + \cdots + 24y + 1$
c_2, c_7	$y^{30} + 30y^{29} + \cdots + 24y + 1$
c_3, c_9	$y^{30} - 12y^{29} + \cdots - 17y + 1$
c_5, c_{10}, c_{11}	$y^{30} + 40y^{29} + \cdots + 40y + 1$
c_6	$y^{30} - 2y^{29} + \cdots + 216y + 16$
c_8, c_{12}	$y^{30} + 18y^{29} + \cdots + 18y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.268514 + 0.838060I$ $a = 0.26131 + 2.10231I$ $b = -0.922005 - 0.395305I$	$-0.09312 - 1.84219I$	$-3.10578 + 3.59676I$
$u = 0.268514 - 0.838060I$ $a = 0.26131 - 2.10231I$ $b = -0.922005 + 0.395305I$	$-0.09312 + 1.84219I$	$-3.10578 - 3.59676I$
$u = -0.395499 + 1.112110I$ $a = -0.074001 + 0.660065I$ $b = 1.099590 - 0.346663I$	$0.23488 + 3.85614I$	$-5.33634 - 5.49670I$
$u = -0.395499 - 1.112110I$ $a = -0.074001 - 0.660065I$ $b = 1.099590 + 0.346663I$	$0.23488 - 3.85614I$	$-5.33634 + 5.49670I$
$u = 0.007957 + 0.788384I$ $a = 0.90746 + 1.99487I$ $b = -0.887450 - 0.459788I$	$-0.05854 - 1.88210I$	$-2.92001 + 1.78878I$
$u = 0.007957 - 0.788384I$ $a = 0.90746 - 1.99487I$ $b = -0.887450 + 0.459788I$	$-0.05854 + 1.88210I$	$-2.92001 - 1.78878I$
$u = -0.107800 + 1.235570I$ $a = -0.90226 + 2.09351I$ $b = 1.12882 - 0.90134I$	$-5.56087 + 3.60723I$	$-9.83841 - 2.75515I$
$u = -0.107800 - 1.235570I$ $a = -0.90226 - 2.09351I$ $b = 1.12882 + 0.90134I$	$-5.56087 - 3.60723I$	$-9.83841 + 2.75515I$
$u = 0.000843 + 1.278140I$ $a = 0.26740 + 1.85027I$ $b = -0.02148 - 1.44231I$	$4.95866 + 1.01012I$	$2.62849 - 5.70276I$
$u = 0.000843 - 1.278140I$ $a = 0.26740 - 1.85027I$ $b = -0.02148 + 1.44231I$	$4.95866 - 1.01012I$	$2.62849 + 5.70276I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.602754 + 0.296743I$ $a = -0.131548 - 1.113730I$ $b = 1.282810 - 0.234265I$	$-4.13736 + 4.81625I$	$-10.28012 - 5.84108I$
$u = 0.602754 - 0.296743I$ $a = -0.131548 + 1.113730I$ $b = 1.282810 + 0.234265I$	$-4.13736 - 4.81625I$	$-10.28012 + 5.84108I$
$u = 0.235565 + 1.311010I$ $a = 0.279297 + 1.284900I$ $b = -1.45477 - 0.46807I$	$-0.58616 - 7.66545I$	$-6.70515 + 11.81939I$
$u = 0.235565 - 1.311010I$ $a = 0.279297 - 1.284900I$ $b = -1.45477 + 0.46807I$	$-0.58616 + 7.66545I$	$-6.70515 - 11.81939I$
$u = -0.258284 + 0.503428I$ $a = -0.532758 - 0.639668I$ $b = -1.064150 - 0.535091I$	$-8.19198 - 2.33006I$	$2.78435 + 1.63029I$
$u = -0.258284 - 0.503428I$ $a = -0.532758 + 0.639668I$ $b = -1.064150 + 0.535091I$	$-8.19198 + 2.33006I$	$2.78435 - 1.63029I$
$u = -0.473277 + 0.223928I$ $a = -0.01163 + 2.94740I$ $b = 0.672105 - 0.144050I$	$-0.97809 + 4.37635I$	$-8.06368 - 9.14814I$
$u = -0.473277 - 0.223928I$ $a = -0.01163 - 2.94740I$ $b = 0.672105 + 0.144050I$	$-0.97809 - 4.37635I$	$-8.06368 + 9.14814I$
$u = -0.11966 + 1.48951I$ $a = 1.53664 - 0.81617I$ $b = -0.474432 + 0.135969I$	$4.93136 + 6.27182I$	$0. - 5.14247I$
$u = -0.11966 - 1.48951I$ $a = 1.53664 + 0.81617I$ $b = -0.474432 - 0.135969I$	$4.93136 - 6.27182I$	$0. + 5.14247I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.00090+1.51975I$ $a=-0.406356-1.278250I$ $b=-0.019536+0.702598I$	$7.81407-1.01052I$	0
$u=-0.00090-1.51975I$ $a=-0.406356+1.278250I$ $b=-0.019536-0.702598I$	$7.81407+1.01052I$	0
$u=\ \ 0.37283+1.55175I$ $a=-0.159676-0.641401I$ $b=\ \ 0.770461-0.001463I$	$2.29777-2.35183I$	0
$u=\ \ 0.37283-1.55175I$ $a=-0.159676+0.641401I$ $b=\ \ 0.770461+0.001463I$	$2.29777+2.35183I$	0
$u=\ \ 0.00790+1.60618I$ $a=-1.06317-1.87051I$ $b=\ \ 0.818803+0.519257I$	$7.89667-2.14784I$	$7.15170+0.I$
$u=\ \ 0.00790-1.60618I$ $a=-1.06317+1.87051I$ $b=\ \ 0.818803-0.519257I$	$7.89667+2.14784I$	$7.15170+0.I$
$u=\ \ 0.000088+0.258473I$ $a=\ \ 1.79961+2.00370I$ $b=\ \ 0.008869-1.037600I$	$1.51134-1.01430I$	$0.71406-2.60520I$
$u=\ \ 0.000088-0.258473I$ $a=\ \ 1.79961-2.00370I$ $b=\ \ 0.008869+1.037600I$	$1.51134+1.01430I$	$0.71406+2.60520I$
$u=-0.14104+1.92583I$ $a=\ \ 0.229680-0.530720I$ $b=-0.937625+0.127843I$	$4.76577+0.60391I$	0
$u=-0.14104-1.92583I$ $a=\ \ 0.229680+0.530720I$ $b=-0.937625-0.127843I$	$4.76577-0.60391I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-4u^{29}+\cdots+2u+1)(u^{117}-5u^{116}+\cdots-1550u+337)$
c_2	$(u^{30}+15u^{28}+\cdots+6u+1)(u^{117}+u^{116}+\cdots-522928u+122248)$
c_3	$(u^{30}-6u^{28}+\cdots-u+1)(u^{117}+u^{116}+\cdots+8557u+3421)$
c_4	$(u^{30}+4u^{29}+\cdots-2u+1)(u^{117}-5u^{116}+\cdots-1550u+337)$
c_5	$(u^{30}+20u^{28}+\cdots-2u+1)(u^{117}+u^{116}+\cdots+124u+47)$
c_6	$(u^{30}-8u^{29}+\cdots-24u+4)(u^{117}-3u^{116}+\cdots+5055780u-844876)$
c_7	$(u^{30}+15u^{28}+\cdots-6u+1)(u^{117}+u^{116}+\cdots-522928u+122248)$
c_8	$(u^{30}-2u^{29}+\cdots-2u+1)(u^{117}-3u^{116}+\cdots+34u+31)$
c_9	$(u^{30}-6u^{28}+\cdots+u+1)(u^{117}+u^{116}+\cdots+8557u+3421)$
c_{10}, c_{11}	$(u^{30}+20u^{28}+\cdots+2u+1)(u^{117}+u^{116}+\cdots+124u+47)$
c_{12}	$(u^{30}+2u^{29}+\cdots+2u+1)(u^{117}-3u^{116}+\cdots+34u+31)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{30}+26y^{29}+\cdots+24y+1)$ $\cdot(y^{117}+73y^{116}+\cdots-8150992y-113569)$
c_2, c_7	$(y^{30}+30y^{29}+\cdots+24y+1)$ $\cdot(y^{117}+93y^{116}+\cdots-163687062112y-14944573504)$
c_3, c_9	$(y^{30}-12y^{29}+\cdots-17y+1)$ $\cdot(y^{117}-65y^{116}+\cdots+196939293y-11703241)$
c_5, c_{10}, c_{11}	$(y^{30}+40y^{29}+\cdots+40y+1)(y^{117}+123y^{116}+\cdots-54748y-2209)$
c_6	$(y^{30}-2y^{29}+\cdots+216y+16)$ $\cdot(y^{117}-27y^{116}+\cdots-13642460366432y-713815455376)$
c_8, c_{12}	$(y^{30}+18y^{29}+\cdots+18y+1)(y^{117}+61y^{116}+\cdots-60038y-961)$