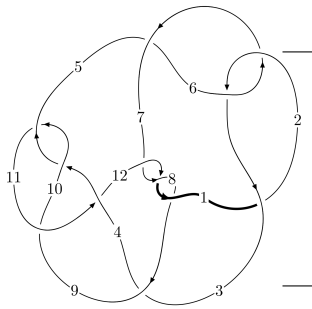
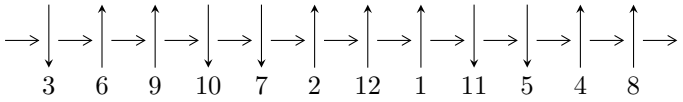
$12a_{0383}$ $(K12a_{0383})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5.33267 \times 10^{48} u^{94} - 1.54204 \times 10^{49} u^{93} + \cdots + 2.05960 \times 10^{49} b - 5.95868 \times 10^{49},$$
$$3.22494 \times 10^{49} u^{94} - 8.97885 \times 10^{49} u^{93} + \cdots + 2.05960 \times 10^{49} a - 1.16528 \times 10^{50},\ u^{95} - u^{94} + \cdots + 4u - 4\rangle$$
$$I_2^u = \langle -u^2 a + u^3 + 2b - u,\ -2u^3 a - 2u^2 a + 2a^2 - 3u^2 + 4a - 2u + 2,\ u^4 - 2u^2 + 2\rangle$$

$$I_1^v = \langle a,\ b + v - 1,\ v^2 - v + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 105 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.

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$\boldsymbol{I_1^u = \langle 5.33\times 10^{48}u^{94} - 1.54\times 10^{49}u^{93} + \cdots + 2.06\times 10^{49}b - 5.96\times 10^{49},\ 3.22\times 10^{49}u^{94} - 8.98\times 10^{49}u^{93} + \cdots + 2.06\times 10^{49}a - 1.17\times 10^{50},\ u^{95} - u^{94} + \cdots + 4u - 4\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.56581u^{94} + 4.35950u^{93} + \cdots - 9.90902u + 5.65780 \\ -0.258917u^{94} + 0.748705u^{93} + \cdots - 2.82171u + 2.89312 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.56581u^{94} - 4.35950u^{93} + \cdots + 9.90902u - 5.65780 \\ 1.44889u^{94} - 3.28930u^{93} + \cdots + 14.6163u - 8.28166 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.889379u^{94} + 2.45028u^{93} + \cdots - 3.06760u + 0.899810 \\ -0.103345u^{94} + 0.549833u^{93} + \cdots + 1.95019u - 0.333613 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2.23950u^{94} - 4.57433u^{93} + \cdots + 17.7650u - 8.24809 \\ -0.0601778u^{94} + 0.125437u^{93} + \cdots + 7.37150u - 3.67966 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^8 - u^6 + u^4 + 1 \\ u^{10} - 2u^8 + 3u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.848568u^{94} - 2.62471u^{93} + \cdots - 1.58235u + 0.136500 \\ 1.77604u^{94} - 3.58781u^{93} + \cdots + 13.9026u - 7.98027 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.840232u^{94} + 2.50685u^{93} + \cdots - 10.3269u + 17.5066$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{95} + 30u^{94} + \cdots - 34u - 25$
c_2, c_6	$u^{95} - 2u^{94} + \cdots + 4u + 5$
c_3	$u^{95} + u^{94} + \cdots - 82980u - 39988$
c_4, c_{10}	$u^{95} - u^{94} + \cdots + 4u - 4$
c_7, c_8, c_{12}	$u^{95} - 3u^{94} + \cdots - 21u - 1$
c_9	$u^{95} + 45u^{94} + \cdots + 80u + 16$
c_{11}	$u^{95} - 3u^{94} + \cdots + 3028u + 44$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{95} + 78y^{94} + \cdots + 72906y - 625$
c_2, c_6	$y^{95} + 30y^{94} + \cdots - 34y - 25$
c_3	$y^{95} - 45y^{94} + \cdots - 7805590896y - 1599040144$
c_4, c_{10}	$y^{95} - 45y^{94} + \cdots + 80y - 16$
c_7, c_8, c_{12}	$y^{95} - 95y^{94} + \cdots + 7y - 1$
c_9	$y^{95} + 15y^{94} + \cdots - 1792y - 256$
c_{11}	$y^{95} + 15y^{94} + \cdots + 8655568y - 1936$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00736$ $a = -3.08178$ $b = -1.34759$	2.55128	0
$u = 0.906317 + 0.441368I$ $a = 0.010348 + 0.509452I$ $b = -0.555426 - 0.799270I$	$1.64328 - 4.28747I$	0
$u = 0.906317 - 0.441368I$ $a = 0.010348 - 0.509452I$ $b = -0.555426 + 0.799270I$	$1.64328 + 4.28747I$	0
$u = -0.924960 + 0.357461I$ $a = 3.42367 - 1.34161I$ $b = 0.64189 - 1.65711I$	$0.71162 + 3.57000I$	0
$u = -0.924960 - 0.357461I$ $a = 3.42367 + 1.34161I$ $b = 0.64189 + 1.65711I$	$0.71162 - 3.57000I$	0
$u = 0.634715 + 0.755350I$ $a = -0.338265 + 0.155743I$ $b = -2.09428 - 0.75954I$	$12.0289 - 8.1472I$	0
$u = 0.634715 - 0.755350I$ $a = -0.338265 - 0.155743I$ $b = -2.09428 + 0.75954I$	$12.0289 + 8.1472I$	0
$u = -1.010690 + 0.149709I$ $a = -0.690553 + 0.017344I$ $b = -0.652018 + 0.557209I$	$-0.044130 + 0.757058I$	0
$u = -1.010690 - 0.149709I$ $a = -0.690553 - 0.017344I$ $b = -0.652018 - 0.557209I$	$-0.044130 - 0.757058I$	0
$u = -0.606918 + 0.766435I$ $a = 0.336205 + 0.129569I$ $b = 2.16957 - 0.72542I$	$12.72790 + 1.81622I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.606918-0.766435I$ $a=\ \ 0.336205-0.129569I$ $b=\ \ 2.16957+0.72542I$	$12.72790-1.81622I$	0
$u=-0.887368+0.329507I$ $a=-0.140385+0.401837I$ $b=\ \ 0.065765-1.021190I$	$0.884083-0.672783I$	0
$u=-0.887368-0.329507I$ $a=-0.140385-0.401837I$ $b=\ \ 0.065765+1.021190I$	$0.884083+0.672783I$	0
$u=-1.006420+0.394031I$ $a=-0.708247+0.660629I$ $b=-0.288734+0.665580I$	$-1.66102+1.68609I$	0
$u=-1.006420-0.394031I$ $a=-0.708247-0.660629I$ $b=-0.288734-0.665580I$	$-1.66102-1.68609I$	0
$u=-0.397656+0.826000I$ $a=\ \ 0.298214-0.035388I$ $b=\ \ 2.52801-0.23592I$	$11.54030-5.00777I$	$9.51836+0.I$
$u=-0.397656-0.826000I$ $a=\ \ 0.298214+0.035388I$ $b=\ \ 2.52801+0.23592I$	$11.54030+5.00777I$	$9.51836+0.I$
$u=-1.066830+0.202202I$ $a=\ \ 3.41852+0.12892I$ $b=\ \ 1.71327-0.62864I$	$-1.00370-2.82785I$	0
$u=-1.066830-0.202202I$ $a=\ \ 3.41852-0.12892I$ $b=\ \ 1.71327+0.62864I$	$-1.00370+2.82785I$	0
$u=\ \ 0.374259+0.830094I$ $a=-0.291796-0.051261I$ $b=-2.53758-0.16345I$	$10.5514+11.2514I$	$8.02405-5.87365I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.374259 - 0.830094I$ $a = -0.291796 + 0.051261I$ $b = -2.53758 + 0.16345I$	$10.5514 - 11.2514I$	$8.02405 + 5.87365I$
$u = 1.083220 + 0.170356I$ $a = 0.843048 - 0.029442I$ $b = 0.691071 + 0.592578I$	$-0.67601 + 4.68464I$	0
$u = 1.083220 - 0.170356I$ $a = 0.843048 + 0.029442I$ $b = 0.691071 - 0.592578I$	$-0.67601 - 4.68464I$	0
$u = -0.473838 + 0.746948I$ $a = 0.275238 + 0.041417I$ $b = 2.59227 - 0.60856I$	$7.63537 - 1.35628I$	$10.70410 + 0.43713I$
$u = -0.473838 - 0.746948I$ $a = 0.275238 - 0.041417I$ $b = 2.59227 + 0.60856I$	$7.63537 + 1.35628I$	$10.70410 - 0.43713I$
$u = -0.538924 + 0.699491I$ $a = 0.044940 + 0.780648I$ $b = -0.237329 + 0.267193I$	$4.81550 + 4.38791I$	$7.51480 - 5.64431I$
$u = -0.538924 - 0.699491I$ $a = 0.044940 - 0.780648I$ $b = -0.237329 - 0.267193I$	$4.81550 - 4.38791I$	$7.51480 + 5.64431I$
$u = 1.086530 + 0.303121I$ $a = 1.064310 + 0.311816I$ $b = 0.609869 + 0.789216I$	$-5.45074 - 0.28618I$	0
$u = 1.086530 - 0.303121I$ $a = 1.064310 - 0.311816I$ $b = 0.609869 - 0.789216I$	$-5.45074 + 0.28618I$	0
$u = 0.491332 + 0.709669I$ $a = -0.088786 + 0.815141I$ $b = 0.221359 + 0.254814I$	$4.93908 + 1.43224I$	$8.06908 - 0.15779I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.491332 - 0.709669I$ $a = -0.088786 - 0.815141I$ $b = 0.221359 - 0.254814I$	$4.93908 - 1.43224I$	$8.06908 + 0.15779I$
$u = -0.403533 + 0.760268I$ $a = 0.267521 - 0.560532I$ $b = -1.022550 + 0.002110I$	$4.09803 - 6.88748I$	$5.98803 + 5.67360I$
$u = -0.403533 - 0.760268I$ $a = 0.267521 + 0.560532I$ $b = -1.022550 - 0.002110I$	$4.09803 + 6.88748I$	$5.98803 - 5.67360I$
$u = 0.435479 + 0.738565I$ $a = -0.340386 - 0.585466I$ $b = 0.976190 - 0.056007I$	$4.63832 + 1.02745I$	$7.43624 - 0.48061I$
$u = 0.435479 - 0.738565I$ $a = -0.340386 + 0.585466I$ $b = 0.976190 + 0.056007I$	$4.63832 - 1.02745I$	$7.43624 + 0.48061I$
$u = 0.512317 + 0.677131I$ $a = -0.239608 + 0.088733I$ $b = -2.59699 - 0.96252I$	$4.13421 - 2.73861I$	$6.93438 + 3.68187I$
$u = 0.512317 - 0.677131I$ $a = -0.239608 - 0.088733I$ $b = -2.59699 + 0.96252I$	$4.13421 + 2.73861I$	$6.93438 - 3.68187I$
$u = 0.400729 + 0.738352I$ $a = -0.245520 - 0.002118I$ $b = -2.82388 - 0.39352I$	$3.54410 + 5.00424I$	$5.43059 - 4.10488I$
$u = 0.400729 - 0.738352I$ $a = -0.245520 + 0.002118I$ $b = -2.82388 + 0.39352I$	$3.54410 - 5.00424I$	$5.43059 + 4.10488I$
$u = -1.102880 + 0.367477I$ $a = -0.344266 + 0.652241I$ $b = -0.121331 - 0.257026I$	$-2.50115 + 3.66582I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.102880-0.367477I$ $a=-0.344266-0.652241I$ $b=-0.121331+0.257026I$	$-2.50115-3.66582I$	0
$u=1.098210+0.403695I$ $a=1.22363+0.99160I$ $b=0.259870+1.162480I$	$-2.86030-5.69493I$	0
$u=1.098210-0.403695I$ $a=1.22363-0.99160I$ $b=0.259870-1.162480I$	$-2.86030+5.69493I$	0
$u=1.054610+0.509286I$ $a=-0.029310+1.008540I$ $b=-0.757250+0.151276I$	$-0.74422-4.71578I$	0
$u=1.054610-0.509286I$ $a=-0.029310-1.008540I$ $b=-0.757250-0.151276I$	$-0.74422+4.71578I$	0
$u=0.968501+0.660448I$ $a=-0.27020-2.62071I$ $b=1.67638-1.12462I$	$11.03630+2.80075I$	0
$u=0.968501-0.660448I$ $a=-0.27020+2.62071I$ $b=1.67638+1.12462I$	$11.03630-2.80075I$	0
$u=0.713458+0.401814I$ $a=-2.02379-0.84772I$ $b=0.143402-0.776861I$	$2.20608+0.61401I$	$7.47589+1.44021I$
$u=0.713458-0.401814I$ $a=-2.02379+0.84772I$ $b=0.143402+0.776861I$	$2.20608-0.61401I$	$7.47589-1.44021I$
$u=-1.025040+0.588917I$ $a=-0.364367+0.806386I$ $b=-0.196063+0.316449I$	$3.37390+0.57283I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.025040-0.588917I$ $a=-0.364367-0.806386I$ $b=-0.196063-0.316449I$	$3.37390-0.57283I$	0
$u=1.175180+0.136636I$ $a=-3.02288+0.27797I$ $b=-1.86228-0.23548I$	$6.23088+2.43913I$	0
$u=1.175180-0.136636I$ $a=-3.02288-0.27797I$ $b=-1.86228+0.23548I$	$6.23088-2.43913I$	0
$u=1.040210+0.573890I$ $a=0.06136-4.10879I$ $b=2.46970-1.68079I$	$2.56909-2.11335I$	0
$u=1.040210-0.573890I$ $a=0.06136+4.10879I$ $b=2.46970+1.68079I$	$2.56909+2.11335I$	0
$u=-1.094740+0.465086I$ $a=-0.46059+1.49298I$ $b=0.548757+0.938106I$	$-2.46376+1.65618I$	0
$u=-1.094740-0.465086I$ $a=-0.46059-1.49298I$ $b=0.548757-0.938106I$	$-2.46376-1.65618I$	0
$u=-0.993124+0.657208I$ $a=0.10713-2.75718I$ $b=-1.80551-1.12242I$	$11.57820+3.55082I$	0
$u=-0.993124-0.657208I$ $a=0.10713+2.75718I$ $b=-1.80551+1.12242I$	$11.57820-3.55082I$	0
$u=-1.184950+0.164320I$ $a=3.03036+0.36882I$ $b=1.92298-0.26030I$	$5.34278-8.49470I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.184950-0.164320I$ $a=\ \ 3.03036-0.36882I$ $b=\ \ 1.92298+0.26030I$	$5.34278+8.49470I$	0
$u=\ \ 0.022735+0.799824I$ $a=-0.015779+1.180600I$ $b=\ \ 0.009766+0.228412I$	$5.58912-2.89667I$	$8.09026+2.86755I$
$u=\ \ 0.022735-0.799824I$ $a=-0.015779-1.180600I$ $b=\ \ 0.009766-0.228412I$	$5.58912+2.89667I$	$8.09026-2.86755I$
$u=\ \ 1.054030+0.586974I$ $a=\ \ 0.368656+0.817874I$ $b=\ \ 0.189198+0.289956I$	$3.27294-6.41274I$	0
$u=\ \ 1.054030-0.586974I$ $a=\ \ 0.368656-0.817874I$ $b=\ \ 0.189198-0.289956I$	$3.27294+6.41274I$	0
$u=\ \ 1.117380+0.496941I$ $a=\ \ 0.365386+0.805784I$ $b=\ \ 0.098800+0.116809I$	$-1.61590-3.87546I$	0
$u=\ \ 1.117380-0.496941I$ $a=\ \ 0.365386-0.805784I$ $b=\ \ 0.098800-0.116809I$	$-1.61590+3.87546I$	0
$u=-1.103910+0.530704I$ $a=\ \ 0.304974+1.288360I$ $b=\ \ 1.144840+0.388579I$	$-3.92090+7.05751I$	0
$u=-1.103910-0.530704I$ $a=\ \ 0.304974-1.288360I$ $b=\ \ 1.144840-0.388579I$	$-3.92090-7.05751I$	0
$u=-1.069590+0.601922I$ $a=-0.70243-3.59618I$ $b=-2.53564-1.15017I$	$5.86909+6.48356I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.069590-0.601922I$ $a=-0.70243+3.59618I$ $b=-2.53564+1.15017I$	$5.86909-6.48356I$	0
$u=1.084910+0.589192I$ $a=-0.469396+0.981001I$ $b=-1.280000+0.072585I$	$2.72115-6.08579I$	0
$u=1.084910-0.589192I$ $a=-0.469396-0.981001I$ $b=-1.280000-0.072585I$	$2.72115+6.08579I$	0
$u=1.098680+0.580905I$ $a=1.39365-3.79866I$ $b=2.94518-0.91850I$	$1.49118-10.02840I$	0
$u=1.098680-0.580905I$ $a=1.39365+3.79866I$ $b=2.94518+0.91850I$	$1.49118+10.02840I$	0
$u=-1.103030+0.589063I$ $a=0.529023+1.031450I$ $b=1.333430+0.124726I$	$2.03210+11.99530I$	0
$u=-1.103030-0.589063I$ $a=0.529023-1.031450I$ $b=1.333430-0.124726I$	$2.03210-11.99530I$	0
$u=-0.612756+0.421387I$ $a=-0.078506+0.406547I$ $b=-0.368771+0.268543I$	$-0.54710+1.59075I$	$0.20356-5.77263I$
$u=-0.612756-0.421387I$ $a=-0.078506-0.406547I$ $b=-0.368771-0.268543I$	$-0.54710-1.59075I$	$0.20356+5.77263I$
$u=-1.197400+0.420007I$ $a=-0.424767+0.739784I$ $b=-0.256018-0.055789I$	$1.92597+7.18036I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.197400-0.420007I$ $a=-0.424767-0.739784I$ $b=-0.256018+0.055789I$	$1.92597-7.18036I$	0
$u=1.194270+0.444123I$ $a=0.417217+0.758396I$ $b=0.241409-0.015942I$	$2.09042-1.53105I$	0
$u=1.194270-0.444123I$ $a=0.417217-0.758396I$ $b=0.241409+0.015942I$	$2.09042+1.53105I$	0
$u=-0.295628+0.656995I$ $a=0.233407-0.299723I$ $b=-0.836111+0.261445I$	$-1.62780-2.45074I$	$-1.21302+4.58964I$
$u=-0.295628-0.656995I$ $a=0.233407+0.299723I$ $b=-0.836111-0.261445I$	$-1.62780+2.45074I$	$-1.21302-4.58964I$
$u=-1.125270+0.611077I$ $a=-1.42590-3.06717I$ $b=-2.60872-0.57625I$	$9.36612+10.36270I$	0
$u=-1.125270-0.611077I$ $a=-1.42590+3.06717I$ $b=-2.60872+0.57625I$	$9.36612-10.36270I$	0
$u=1.135380+0.604145I$ $a=1.59739-3.01825I$ $b=2.65956-0.47148I$	$8.2775-16.5876I$	0
$u=1.135380-0.604145I$ $a=1.59739+3.01825I$ $b=2.65956+0.47148I$	$8.2775+16.5876I$	0
$u=0.403168+0.525934I$ $a=-0.565182+0.008925I$ $b=0.488522+0.053919I$	$1.114630+0.455666I$	$8.78049-1.93868I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.403168 - 0.525934I$ $a = -0.565182 - 0.008925I$ $b = 0.488522 - 0.053919I$	$1.114630 - 0.455666I$	$8.78049 + 1.93868I$
$u = 0.198800 + 0.620043I$ $a = -0.323351 + 1.208370I$ $b = 0.097754 + 0.148173I$	$0.929200 - 0.474927I$	$3.13486 + 0.05006I$
$u = 0.198800 - 0.620043I$ $a = -0.323351 - 1.208370I$ $b = 0.097754 - 0.148173I$	$0.929200 + 0.474927I$	$3.13486 - 0.05006I$
$u = -0.062646 + 0.547105I$ $a = 0.0309643 - 0.1334880I$ $b = -0.328550 + 0.882002I$	$0.15393 + 2.22597I$	$0.01912 - 3.45127I$
$u = -0.062646 - 0.547105I$ $a = 0.0309643 + 0.1334880I$ $b = -0.328550 - 0.882002I$	$0.15393 - 2.22597I$	$0.01912 + 3.45127I$

II.

$$\boldsymbol{I_2^u = \langle -u^2a+u^3+2b-u,\ -2u^3a-2u^2a+2a^2-3u^2+4a-2u+2,\ u^4-2u^2+2\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} a \\ \frac{1}{2}u^2a - \frac{1}{2}u^3 + \frac{1}{2}u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 \\ -u^3+u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3+a \\ \frac{1}{2}u^2a - \frac{3}{2}u^3 + \frac{3}{2}u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3+a \\ \frac{1}{2}u^2a - \frac{3}{2}u^3 + \frac{3}{2}u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{2}u^3a - \frac{1}{2}u^3 + \cdots + a + \frac{7}{2} \\ \frac{1}{2}u^3a - \frac{1}{2}u^3 + \cdots + \frac{1}{2}u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 \\ u^3-u \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^2a + 2u^3 + 4u^2 - 2u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$(u^2-u+1)^4$
c_3, c_{11}	$(u^4+2u^2+2)^2$
c_4, c_{10}	$(u^4-2u^2+2)^2$
c_6	$(u^2+u+1)^4$
c_7, c_8	$(u-1)^8$
c_9	$(u^2-2u+2)^4$
c_{12}	$(u+1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6	$(y^2+y+1)^4$
c_3, c_{11}	$(y^2+2y+2)^4$
c_4, c_{10}	$(y^2-2y+2)^4$
c_7, c_8, c_{12}	$(y-1)^8$
c_9	$(y^2+4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.098680 + 0.455090I$ $a = -1.044230 + 0.410862I$ $b = -0.500000 - 0.866025I$	$-0.82247 - 5.69375I$	$2.00000 + 7.46410I$
$u = 1.098680 + 0.455090I$ $a = 0.68782 + 2.14291I$ $b = -0.500000 + 0.866025I$	$-0.82247 - 1.63398I$	$2.00000 + 0.53590I$
$u = 1.098680 - 0.455090I$ $a = -1.044230 - 0.410862I$ $b = -0.500000 + 0.866025I$	$-0.82247 + 5.69375I$	$2.00000 - 7.46410I$
$u = 1.098680 - 0.455090I$ $a = 0.68782 - 2.14291I$ $b = -0.500000 - 0.866025I$	$-0.82247 + 1.63398I$	$2.00000 - 0.53590I$
$u = -1.098680 + 0.455090I$ $a = 0.044228 - 0.589138I$ $b = -0.500000 - 0.866025I$	$-0.82247 + 1.63398I$	$2.00000 - 0.53590I$
$u = -1.098680 + 0.455090I$ $a = -1.68782 + 1.14291I$ $b = -0.500000 + 0.866025I$	$-0.82247 + 5.69375I$	$2.00000 - 7.46410I$
$u = -1.098680 - 0.455090I$ $a = 0.044228 + 0.589138I$ $b = -0.500000 + 0.866025I$	$-0.82247 - 1.63398I$	$2.00000 + 0.53590I$
$u = -1.098680 - 0.455090I$ $a = -1.68782 - 1.14291I$ $b = -0.500000 - 0.866025I$	$-0.82247 - 5.69375I$	$2.00000 + 7.46410I$

III. $I_1^v = \langle a,\ b+v-1,\ v^2-v+1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ -v+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} v \\ v-1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -v \\ -v+1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -v \end{pmatrix}$$
$$a_9 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ v-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4v + 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6	$u^2 - u + 1$
c_2	$u^2 + u + 1$
c_3, c_4, c_9 c_{10}, c_{11}	u^2
c_7, c_8	$(u+1)^2$
c_{12}	$(u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6	$y^2 + y + 1$
c_3, c_4, c_9 c_{10}, c_{11}	y^2
c_7, c_8, c_{12}	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v=$	$0.500000+0.866025I$		
$a=$	0	$1.64493+2.02988I$	$6.00000-3.46410I$
$b=$	$0.500000-0.866025I$		
$v=$	$0.500000-0.866025I$		
$a=$	0	$1.64493-2.02988I$	$6.00000+3.46410I$
$b=$	$0.500000+0.866025I$		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2-u+1)^5)(u^{95}+30u^{94}+\cdots-34u-25)$
c_2	$((u^2-u+1)^4)(u^2+u+1)(u^{95}-2u^{94}+\cdots+4u+5)$
c_3	$u^2(u^4+2u^2+2)^2(u^{95}+u^{94}+\cdots-82980u-39988)$
c_4, c_{10}	$u^2(u^4-2u^2+2)^2(u^{95}-u^{94}+\cdots+4u-4)$
c_6	$(u^2-u+1)(u^2+u+1)^4(u^{95}-2u^{94}+\cdots+4u+5)$
c_7, c_8	$((u-1)^8)(u+1)^2(u^{95}-3u^{94}+\cdots-21u-1)$
c_9	$u^2(u^2-2u+2)^4(u^{95}+45u^{94}+\cdots+80u+16)$
c_{11}	$u^2(u^4+2u^2+2)^2(u^{95}-3u^{94}+\cdots+3028u+44)$
c_{12}	$((u-1)^2)(u+1)^8(u^{95}-3u^{94}+\cdots-21u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^5)(y^{95}+78y^{94}+\cdots+72906y-625)$
c_2, c_6	$((y^2+y+1)^5)(y^{95}+30y^{94}+\cdots-34y-25)$
c_3	$y^2(y^2+2y+2)^4(y^{95}-45y^{94}+\cdots-7.80559\times10^9y-1.59904\times10^9)$
c_4, c_{10}	$y^2(y^2-2y+2)^4(y^{95}-45y^{94}+\cdots+80y-16)$
c_7, c_8, c_{12}	$((y-1)^{10})(y^{95}-95y^{94}+\cdots+7y-1)$
c_9	$y^2(y^2+4)^4(y^{95}+15y^{94}+\cdots-1792y-256)$
c_{11}	$y^2(y^2+2y+2)^4(y^{95}+15y^{94}+\cdots+8655568y-1936)$