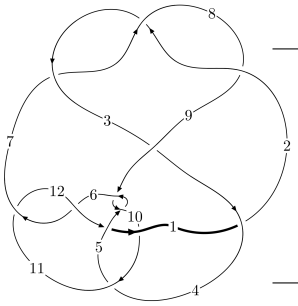
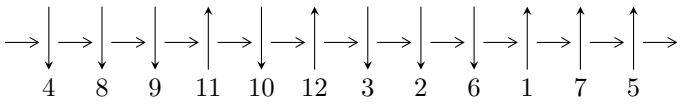
$12a_{1143}$ $(K12a_{1143})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.26077 \times 10^{467} u^{123} + 4.32011 \times 10^{467} u^{122} + \cdots + 2.45681 \times 10^{468} b + 2.19615 \times 10^{470}, \\ & 9.69556 \times 10^{471} u^{123} - 1.56547 \times 10^{472} u^{122} + \cdots + 3.26731 \times 10^{472} a + 4.84843 \times 10^{474}, \\ & u^{124} - 2u^{123} + \cdots - 5614u + 1364 \rangle \\ I_2^u = \langle & -u^{21} - u^{20} + \cdots + b - 2u,\ -10u^{21} - 10u^{20} + \cdots + a + 1,\ u^{22} + u^{21} + \cdots + 11u^2 + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 146 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. $\boldsymbol{I_1^u = \langle -1.26 \times 10^{467} u^{123} + 4.32 \times 10^{467} u^{122} + \cdots + 2.46 \times 10^{468} b + 2.20 \times 10^{470},\ 9.70 \times 10^{471} u^{123} - 1.57 \times 10^{472} u^{122} + \cdots + 3.27 \times 10^{472} a + 4.85 \times 10^{474},\ u^{124} - 2u^{123} + \cdots - 5614u + 1364 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -0.296744u^{123} + 0.479132u^{122} + \cdots + 78.4664u - 148.392 \\ 0.0513172u^{123} - 0.175842u^{122} + \cdots + 506.859u - 89.3903 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.263856u^{123} - 0.445950u^{122} + \cdots + 418.848u - 27.0755 \\ 0.107261u^{123} - 0.307184u^{122} + \cdots + 677.350u - 134.544 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0329429u^{123} + 0.00314808u^{122} + \cdots + 13.4976u - 5.87222 \\ -0.112479u^{123} + 0.430289u^{122} + \cdots - 1616.41u + 354.133 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.226699u^{123} - 0.407802u^{122} + \cdots + 447.589u - 58.3829 \\ 0.0544174u^{123} - 0.110292u^{122} + \cdots + 117.960u - 7.49864 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.165608u^{123} - 0.460201u^{122} + \cdots + 1639.89u - 362.844 \\ -0.122116u^{123} + 0.393698u^{122} + \cdots - 1282.66u + 267.260 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0804638u^{123} - 0.0954324u^{122} + \cdots + 889.846u - 304.518 \\ 0.112857u^{123} - 0.223252u^{122} + \cdots + 280.121u - 14.1022 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.348061u^{123} + 0.654974u^{122} + \cdots - 428.392u - 59.0017 \\ 0.0513172u^{123} - 0.175842u^{122} + \cdots + 506.859u - 89.3903 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.164071u^{123} - 0.393500u^{122} + \cdots + 615.316u - 105.535 \\ -0.0882862u^{123} + 0.0113354u^{122} + \cdots + 806.973u - 229.648 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.298290u^{123} + 0.622766u^{122} + \cdots - 296.136u - 18.3046$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{124} - 25u^{123} + \cdots - 112353915u + 5993827$
c_2, c_7, c_8	$u^{124} - u^{123} + \cdots - 25u + 7$
c_3	$u^{124} + u^{123} + \cdots - 130387u + 20503$
c_4	$u^{124} - 3u^{122} + \cdots + 161u + 13$
c_5, c_9	$u^{124} + 2u^{123} + \cdots + 5614u + 1364$
c_6, c_{11}	$u^{124} + u^{123} + \cdots + 23u^2 + 1$
c_{10}	$u^{124} + 15u^{123} + \cdots + 55987u + 6721$
c_{12}	$u^{124} - 7u^{123} + \cdots + 4u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{124} + 63y^{123} + \cdots + 431798753106101y + 35925962105929$
c_2, c_7, c_8	$y^{124} + 115y^{123} + \cdots - 611y + 49$
c_3	$y^{124} + 21y^{123} + \cdots + 4053965961y + 420373009$
c_4	$y^{124} - 6y^{123} + \cdots - 1091y + 169$
c_5, c_9	$y^{124} + 84y^{123} + \cdots + 69263508y + 1860496$
c_6, c_{11}	$y^{124} + 75y^{123} + \cdots + 46y + 1$
c_{10}	$y^{124} - 39y^{123} + \cdots + 13491579y + 45171841$
c_{12}	$y^{124} - 9y^{123} + \cdots + 764y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.429038+0.902009I$ $a=1.68525-0.38916I$ $b=-0.311918-0.444710I$	$-1.32425+6.17844I$	0
$u=-0.429038-0.902009I$ $a=1.68525+0.38916I$ $b=-0.311918+0.444710I$	$-1.32425-6.17844I$	0
$u=0.462532+0.888982I$ $a=-1.76445-0.60323I$ $b=0.303288-0.490179I$	$4.02276-9.56251I$	0
$u=0.462532-0.888982I$ $a=-1.76445+0.60323I$ $b=0.303288+0.490179I$	$4.02276+9.56251I$	0
$u=-0.700036+0.709979I$ $a=0.229510+0.746472I$ $b=0.124354+0.576117I$	$3.94855+2.83097I$	0
$u=-0.700036-0.709979I$ $a=0.229510-0.746472I$ $b=0.124354-0.576117I$	$3.94855-2.83097I$	0
$u=0.981319+0.236471I$ $a=-0.783751-0.565134I$ $b=-0.617900-0.966488I$	$-2.59935+5.08228I$	0
$u=0.981319-0.236471I$ $a=-0.783751+0.565134I$ $b=-0.617900+0.966488I$	$-2.59935-5.08228I$	0
$u=0.086681+0.973158I$ $a=-0.00243+1.90093I$ $b=0.030909+1.238560I$	$2.62831-4.26746I$	0
$u=0.086681-0.973158I$ $a=-0.00243-1.90093I$ $b=0.030909-1.238560I$	$2.62831+4.26746I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.095969 + 1.021210I$ $a = 0.220373 - 0.630602I$ $b = -1.72011 - 1.08206I$	$2.69663 - 0.68082I$	0
$u = 0.095969 - 1.021210I$ $a = 0.220373 + 0.630602I$ $b = -1.72011 + 1.08206I$	$2.69663 + 0.68082I$	0
$u = 0.370950 + 0.971281I$ $a = -1.241830 - 0.070439I$ $b = 0.371399 - 0.335424I$	$0.09413 - 2.84309I$	0
$u = 0.370950 - 0.971281I$ $a = -1.241830 + 0.070439I$ $b = 0.371399 + 0.335424I$	$0.09413 + 2.84309I$	0
$u = 0.313151 + 0.906275I$ $a = -1.54848 + 0.35133I$ $b = 0.262555 - 0.312852I$	$0.11097 - 3.14486I$	0
$u = 0.313151 - 0.906275I$ $a = -1.54848 - 0.35133I$ $b = 0.262555 + 0.312852I$	$0.11097 + 3.14486I$	0
$u = -0.164015 + 1.040220I$ $a = -0.054409 - 0.616648I$ $b = 1.58232 - 1.32724I$	$1.24453 + 5.17092I$	0
$u = -0.164015 - 1.040220I$ $a = -0.054409 + 0.616648I$ $b = 1.58232 + 1.32724I$	$1.24453 - 5.17092I$	0
$u = -0.212093 + 0.914220I$ $a = 1.20372 + 0.90772I$ $b = -0.201605 - 0.220439I$	$-2.33446 + 0.04536I$	0
$u = -0.212093 - 0.914220I$ $a = 1.20372 - 0.90772I$ $b = -0.201605 + 0.220439I$	$-2.33446 - 0.04536I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.804822+0.421468I$ $a=-0.378791-1.325140I$ $b=-0.884556-0.459821I$	$5.66189+7.24435I$	0
$u=-0.804822-0.421468I$ $a=-0.378791+1.325140I$ $b=-0.884556+0.459821I$	$5.66189-7.24435I$	0
$u=0.198160+1.075310I$ $a=-0.017029-0.668357I$ $b=-1.45606-1.33338I$	$6.92773-9.08534I$	0
$u=0.198160-1.075310I$ $a=-0.017029+0.668357I$ $b=-1.45606+1.33338I$	$6.92773+9.08534I$	0
$u=0.148724+0.891560I$ $a=-1.00500+1.31466I$ $b=0.137345-0.196084I$	$2.53652+3.22819I$	0
$u=0.148724-0.891560I$ $a=-1.00500-1.31466I$ $b=0.137345+0.196084I$	$2.53652-3.22819I$	0
$u=-0.086394+0.891345I$ $a=0.01279+1.90669I$ $b=-0.028215+1.210280I$	$-2.79053+1.40664I$	0
$u=-0.086394-0.891345I$ $a=0.01279-1.90669I$ $b=-0.028215-1.210280I$	$-2.79053-1.40664I$	0
$u=0.022631+0.891353I$ $a=0.678765-0.708120I$ $b=-1.63314-0.40873I$	$2.07163+0.00309I$	0
$u=0.022631-0.891353I$ $a=0.678765+0.708120I$ $b=-1.63314+0.40873I$	$2.07163-0.00309I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.585165 + 0.655216I$ $a = -0.02505 + 1.56182I$ $b = 0.197316 + 1.012240I$	$3.36567 + 5.34298I$	0
$u = 0.585165 - 0.655216I$ $a = -0.02505 - 1.56182I$ $b = 0.197316 - 1.012240I$	$3.36567 - 5.34298I$	0
$u = -0.500010 + 1.005970I$ $a = 1.076970 - 0.838445I$ $b = -0.498140 - 0.541028I$	$5.50091 + 1.31479I$	0
$u = -0.500010 - 1.005970I$ $a = 1.076970 + 0.838445I$ $b = -0.498140 + 0.541028I$	$5.50091 - 1.31479I$	0
$u = -0.027819 + 1.125170I$ $a = -0.189806 - 0.869996I$ $b = 1.39218 - 1.00783I$	$9.87166 - 0.88998I$	0
$u = -0.027819 - 1.125170I$ $a = -0.189806 + 0.869996I$ $b = 1.39218 + 1.00783I$	$9.87166 + 0.88998I$	0
$u = 0.484087 + 1.046120I$ $a = -0.532918 - 0.890610I$ $b = 0.761211 - 0.508120I$	$0.82050 - 3.27711I$	0
$u = 0.484087 - 1.046120I$ $a = -0.532918 + 0.890610I$ $b = 0.761211 + 0.508120I$	$0.82050 + 3.27711I$	0
$u = -0.805587 + 0.255045I$ $a = 0.835929 - 0.540608I$ $b = 0.560971 - 1.075010I$	$-6.01541 - 1.74622I$	0
$u = -0.805587 - 0.255045I$ $a = 0.835929 + 0.540608I$ $b = 0.560971 + 1.075010I$	$-6.01541 + 1.74622I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.272926 + 0.770151I$ $a = -0.07991 + 1.85151I$ $b = 0.077707 + 1.153040I$	$-0.494017 + 0.400897I$	0
$u = 0.272926 - 0.770151I$ $a = -0.07991 - 1.85151I$ $b = 0.077707 - 1.153040I$	$-0.494017 - 0.400897I$	0
$u = 0.875095 + 0.798824I$ $a = 0.258542 - 1.033790I$ $b = 0.992694 - 0.413905I$	$6.18916 + 1.08773I$	0
$u = 0.875095 - 0.798824I$ $a = 0.258542 + 1.033790I$ $b = 0.992694 + 0.413905I$	$6.18916 - 1.08773I$	0
$u = 1.184150 + 0.060077I$ $a = -0.724908 - 0.563543I$ $b = -0.598421 - 0.796681I$	$-1.57972 + 4.09540I$	0
$u = 1.184150 - 0.060077I$ $a = -0.724908 + 0.563543I$ $b = -0.598421 + 0.796681I$	$-1.57972 - 4.09540I$	0
$u = -0.781131 + 0.900945I$ $a = -0.140088 - 0.946832I$ $b = -0.977580 - 0.378701I$	$0.91229 + 1.62358I$	0
$u = -0.781131 - 0.900945I$ $a = -0.140088 + 0.946832I$ $b = -0.977580 + 0.378701I$	$0.91229 - 1.62358I$	0
$u = -0.514731 + 0.616656I$ $a = 0.13083 + 1.57981I$ $b = -0.132112 + 1.014200I$	$-2.11748 - 2.25181I$	0
$u = -0.514731 - 0.616656I$ $a = 0.13083 - 1.57981I$ $b = -0.132112 - 1.014200I$	$-2.11748 + 2.25181I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.443758+1.113810I$ $a=\ \ 0.535403-1.156400I$ $b=-0.809563-0.717437I$	$4.63131+5.69550I$	0
$u=-0.443758-1.113810I$ $a=\ \ 0.535403+1.156400I$ $b=-0.809563+0.717437I$	$4.63131-5.69550I$	0
$u=-0.650787+0.458753I$ $a=-0.116154+1.229630I$ $b=-0.265439+0.755719I$	$3.97357+3.16961I$	0
$u=-0.650787-0.458753I$ $a=-0.116154-1.229630I$ $b=-0.265439-0.755719I$	$3.97357-3.16961I$	0
$u=\ \ 0.375770+1.178470I$ $a=\ \ 0.401548+0.683189I$ $b=-1.40008+1.27787I$	$0.72861-2.29224I$	0
$u=\ \ 0.375770-1.178470I$ $a=\ \ 0.401548-0.683189I$ $b=-1.40008-1.27787I$	$0.72861+2.29224I$	0
$u=\ \ 0.660459+0.349683I$ $a=\ \ 0.40515-1.46038I$ $b=\ \ 0.838795-0.404745I$	$0.27121-4.07907I$	0
$u=\ \ 0.660459-0.349683I$ $a=\ \ 0.40515+1.46038I$ $b=\ \ 0.838795+0.404745I$	$0.27121+4.07907I$	0
$u=-1.263940+0.063468I$ $a=\ \ 0.681095+0.548580I$ $b=\ \ 0.566060+0.715758I$	$4.84240+1.94421I$	0
$u=-1.263940-0.063468I$ $a=\ \ 0.681095-0.548580I$ $b=\ \ 0.566060-0.715758I$	$4.84240-1.94421I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.259080+0.136328I$ $a=\ 0.738363-0.540497I$ $b=\ 0.662306-0.785058I$	$-2.53324-8.07258I$	0
$u=-1.259080-0.136328I$ $a=\ 0.738363+0.540497I$ $b=\ 0.662306+0.785058I$	$-2.53324+8.07258I$	0
$u=-0.320939+1.233930I$ $a=\ 0.350226-1.229280I$ $b=-0.957171-0.893803I$	$5.42700+3.81877I$	0
$u=-0.320939-1.233930I$ $a=\ 0.350226+1.229280I$ $b=-0.957171+0.893803I$	$5.42700-3.81877I$	0
$u=\ 0.556229+0.441771I$ $a=-0.414046+1.292080I$ $b=-0.021503+0.905843I$	$-1.44502-0.93498I$	$0.+4.22793I$
$u=\ 0.556229-0.441771I$ $a=-0.414046-1.292080I$ $b=-0.021503-0.905843I$	$-1.44502+0.93498I$	$0.-4.22793I$
$u=-0.460116+1.205690I$ $a=-0.389158+0.823343I$ $b=\ 1.31109+1.18753I$	$-3.01169+6.43216I$	0
$u=-0.460116-1.205690I$ $a=-0.389158-0.823343I$ $b=\ 1.31109-1.18753I$	$-3.01169-6.43216I$	0
$u=\ 0.622901+0.331989I$ $a=-0.877964-0.412394I$ $b=-0.530054-1.225180I$	$-1.98271-1.58289I$	$-6.10488+2.48235I$
$u=\ 0.622901-0.331989I$ $a=-0.877964+0.412394I$ $b=-0.530054+1.225180I$	$-1.98271+1.58289I$	$-6.10488-2.48235I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.007556 + 0.697885I$ $a = -1.18651 - 1.10695I$ $b = 1.297920 - 0.129233I$	$-0.07084 - 3.87346I$	$-2.00000 + 3.83412I$
$u = 0.007556 - 0.697885I$ $a = -1.18651 + 1.10695I$ $b = 1.297920 + 0.129233I$	$-0.07084 + 3.87346I$	$-2.00000 - 3.83412I$
$u = 0.277441 + 1.276370I$ $a = -0.290324 - 1.231730I$ $b = 0.993460 - 0.946714I$	$11.76340 - 1.43261I$	0
$u = 0.277441 - 1.276370I$ $a = -0.290324 + 1.231730I$ $b = 0.993460 + 0.946714I$	$11.76340 + 1.43261I$	0
$u = 0.368108 + 1.260320I$ $a = -0.370276 - 1.281850I$ $b = 0.902550 - 0.916519I$	$4.70148 - 7.74112I$	0
$u = 0.368108 - 1.260320I$ $a = -0.370276 + 1.281850I$ $b = 0.902550 + 0.916519I$	$4.70148 + 7.74112I$	0
$u = 1.317750 + 0.145363I$ $a = -0.739652 - 0.526848I$ $b = -0.686263 - 0.758316I$	$3.16742 + 11.59570I$	0
$u = 1.317750 - 0.145363I$ $a = -0.739652 + 0.526848I$ $b = -0.686263 + 0.758316I$	$3.16742 - 11.59570I$	0
$u = -0.376776 + 1.291150I$ $a = 0.354574 - 1.313210I$ $b = -0.891912 - 0.948404I$	$10.4608 + 11.1461I$	0
$u = -0.376776 - 1.291150I$ $a = 0.354574 + 1.313210I$ $b = -0.891912 + 0.948404I$	$10.4608 - 11.1461I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.524787 + 1.243110I$ $a = 0.342414 + 0.924406I$ $b = -1.25693 + 1.15170I$	$0.61612 - 10.46510I$	0
$u = 0.524787 - 1.243110I$ $a = 0.342414 - 0.924406I$ $b = -1.25693 - 1.15170I$	$0.61612 + 10.46510I$	0
$u = -0.384048 + 1.299600I$ $a = 0.143405 - 0.019199I$ $b = -0.704801 - 0.004449I$	$5.01205 + 2.43417I$	0
$u = -0.384048 - 1.299600I$ $a = 0.143405 + 0.019199I$ $b = -0.704801 + 0.004449I$	$5.01205 - 2.43417I$	0
$u = 0.078120 + 1.358980I$ $a = 0.036327 + 0.505445I$ $b = -0.41338 + 1.66529I$	$4.22892 - 2.38024I$	0
$u = 0.078120 - 1.358980I$ $a = 0.036327 - 0.505445I$ $b = -0.41338 - 1.66529I$	$4.22892 + 2.38024I$	0
$u = -0.619910 + 0.031832I$ $a = -0.600655 + 1.206700I$ $b = -0.582431 + 0.448450I$	$1.68669 - 1.74339I$	$-1.63098 + 4.10289I$
$u = -0.619910 - 0.031832I$ $a = -0.600655 - 1.206700I$ $b = -0.582431 - 0.448450I$	$1.68669 + 1.74339I$	$-1.63098 - 4.10289I$
$u = 0.841258 + 1.098000I$ $a = 0.218330 - 0.717943I$ $b = 1.014160 - 0.304108I$	$3.50862 - 3.52331I$	0
$u = 0.841258 - 1.098000I$ $a = 0.218330 + 0.717943I$ $b = 1.014160 + 0.304108I$	$3.50862 + 3.52331I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.494120 + 0.303968I$ $a = 0.311730 + 0.937039I$ $b = 0.292452 + 0.485896I$	$-1.098610 - 0.581768I$	$-7.07223 + 1.77255I$
$u = 0.494120 - 0.303968I$ $a = 0.311730 - 0.937039I$ $b = 0.292452 - 0.485896I$	$-1.098610 + 0.581768I$	$-7.07223 - 1.77255I$
$u = 0.032606 + 0.567236I$ $a = 1.76400 - 1.43740I$ $b = -1.159970 - 0.006433I$	$5.16188 + 7.48943I$	$3.17866 - 3.66859I$
$u = 0.032606 - 0.567236I$ $a = 1.76400 + 1.43740I$ $b = -1.159970 + 0.006433I$	$5.16188 - 7.48943I$	$3.17866 + 3.66859I$
$u = -0.17927 + 1.44242I$ $a = -0.022651 + 0.593242I$ $b = 0.74742 + 1.29047I$	$11.01550 + 5.42605I$	0
$u = -0.17927 - 1.44242I$ $a = -0.022651 - 0.593242I$ $b = 0.74742 - 1.29047I$	$11.01550 - 5.42605I$	0
$u = 0.58095 + 1.34867I$ $a = 0.202222 + 1.000290I$ $b = -1.19889 + 1.13701I$	$2.45556 - 10.22880I$	0
$u = 0.58095 - 1.34867I$ $a = 0.202222 - 1.000290I$ $b = -1.19889 - 1.13701I$	$2.45556 + 10.22880I$	0
$u = -0.05846 + 1.48456I$ $a = 0.029784 + 0.470756I$ $b = 0.374264 + 0.598156I$	$4.31761 - 2.04256I$	0
$u = -0.05846 - 1.48456I$ $a = 0.029784 - 0.470756I$ $b = 0.374264 - 0.598156I$	$4.31761 + 2.04256I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.68990 + 1.31887I$ $a = 0.161766 - 0.386469I$ $b = 0.970188 - 0.140538I$	$2.41585 - 1.90654I$	0
$u = 0.68990 - 1.31887I$ $a = 0.161766 + 0.386469I$ $b = 0.970188 + 0.140538I$	$2.41585 + 1.90654I$	0
$u = -0.61893 + 1.35399I$ $a = -0.193399 + 1.046750I$ $b = 1.19720 + 1.12548I$	$1.3424 + 14.5629I$	0
$u = -0.61893 - 1.35399I$ $a = -0.193399 - 1.046750I$ $b = 1.19720 - 1.12548I$	$1.3424 - 14.5629I$	0
$u = -0.55138 + 1.39704I$ $a = -0.144196 + 0.964221I$ $b = 1.17922 + 1.14302I$	$9.44295 + 8.14107I$	0
$u = -0.55138 - 1.39704I$ $a = -0.144196 - 0.964221I$ $b = 1.17922 - 1.14302I$	$9.44295 - 8.14107I$	0
$u = 0.63721 + 1.37032I$ $a = 0.171878 + 1.067290I$ $b = -1.19325 + 1.12131I$	$7.0861 - 18.3127I$	0
$u = 0.63721 - 1.37032I$ $a = 0.171878 - 1.067290I$ $b = -1.19325 - 1.12131I$	$7.0861 + 18.3127I$	0
$u = -0.79995 + 1.28963I$ $a = -0.254587 - 0.492084I$ $b = -1.030060 - 0.192373I$	$2.04419 + 5.21190I$	0
$u = -0.79995 - 1.28963I$ $a = -0.254587 + 0.492084I$ $b = -1.030060 + 0.192373I$	$2.04419 - 5.21190I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.02842 + 1.52838I$ $a = -0.068403 + 0.471779I$ $b = -0.542764 + 0.674113I$	$10.43590 + 5.24037I$	0
$u = \ 0.02842 - 1.52838I$ $a = -0.068403 - 0.471779I$ $b = -0.542764 - 0.674113I$	$10.43590 - 5.24037I$	0
$u = \ 0.17949 + 1.53829I$ $a = -0.029573 + 0.477876I$ $b = -0.183723 + 0.535048I$	$4.37166 - 2.10439I$	0
$u = \ 0.17949 - 1.53829I$ $a = -0.029573 - 0.477876I$ $b = -0.183723 - 0.535048I$	$4.37166 + 2.10439I$	0
$u = -0.70469 + 1.39938I$ $a = -0.240422 - 0.321828I$ $b = -1.009830 - 0.093936I$	$8.13178 - 0.72885I$	0
$u = -0.70469 - 1.39938I$ $a = -0.240422 + 0.321828I$ $b = -1.009830 + 0.093936I$	$8.13178 + 0.72885I$	0
$u = \ 0.83522 + 1.33470I$ $a = \ 0.314352 - 0.469320I$ $b = \ 1.063130 - 0.177636I$	$7.64868 - 8.28578I$	0
$u = \ 0.83522 - 1.33470I$ $a = \ 0.314352 + 0.469320I$ $b = \ 1.063130 + 0.177636I$	$7.64868 + 8.28578I$	0
$u = -0.369196 + 0.183259I$ $a = -1.11240 - 1.95462I$ $b = -0.747649 - 0.207144I$	$1.35199 + 0.88919I$	$3.39091 - 0.08903I$
$u = -0.369196 - 0.183259I$ $a = -1.11240 + 1.95462I$ $b = -0.747649 + 0.207144I$	$1.35199 - 0.88919I$	$3.39091 + 0.08903I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.24460+1.69324I$		
$a=\ 0.038762+0.455089I$	$10.60140+5.23335I$	0
$b=\ 0.109759+0.495776I$		
$u=-0.24460-1.69324I$		
$a=\ 0.038762-0.455089I$	$10.60140-5.23335I$	0
$b=\ 0.109759-0.495776I$		
$u=\ 0.141668+0.204783I$		
$a=\ 0.94653-4.87240I$	$7.11783+0.87669I$	$8.03399-1.15662I$
$b=\ 0.831213-0.064363I$		
$u=\ 0.141668-0.204783I$		
$a=\ 0.94653+4.87240I$	$7.11783-0.87669I$	$8.03399+1.15662I$
$b=\ 0.831213+0.064363I$		

II. $I_2^u =$
$\langle -u^{21}-u^{20}+\cdots+b-2u,\ -10u^{21}-10u^{20}+\cdots+a+1,\ u^{22}+u^{21}+\cdots+11u^2+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 10u^{21} + 10u^{20} + \cdots + 58u - 1 \\ u^{21} + u^{20} + \cdots + 9u^3 + 2u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -48u^{21} - 47u^{20} + \cdots - 202u + 11 \\ -u^{21} - u^{20} + \cdots - u^2 - 10u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -10u^{21} - 49u^{20} + \cdots - 59u - 153 \\ -u^{20} - u^{19} + \cdots - u - 9 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -211u^{21} - 172u^{20} + \cdots - 571u + 153 \\ -29u^{21} - 28u^{20} + \cdots - 103u + 9 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -11u^{21} - 57u^{20} + \cdots - 68u - 183 \\ -u^{21} - 8u^{20} + \cdots - 9u - 32 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 308u^{21} + 377u^{20} + \cdots + 850u + 148 \\ 79u^{21} + 116u^{20} + \cdots + 226u + 79 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 9u^{21} + 9u^{20} + \cdots + 56u - 1 \\ u^{21} + u^{20} + \cdots + 9u^3 + 2u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{21} + 10u^{20} + \cdots + 12u + 57 \\ u^{20} + u^{19} + \cdots + 10u^2 + 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 19u^{21} + 19u^{20} + 162u^{19} + 120u^{18} + 591u^{17} + 309u^{16} + 1272u^{15} + 391u^{14} + 1757u^{13} + 124u^{12} + 1428u^{11} - 538u^{10} + 434u^9 - 1057u^8 - 536u^7 - 1012u^6 - 720u^5 - 583u^4 - 430u^3 - 187u^2 - 91u - 33$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22}+6u^{21}+\cdots+4u+1$
c_2	$u^{22}+11u^{20}+\cdots-2u+1$
c_3	$u^{22}+2u^{20}+\cdots-3u^2+1$
c_4	$u^{22}+u^{21}+\cdots-2u+1$
c_5	$u^{22}+u^{21}+\cdots+11u^2+1$
c_6	$u^{22}+11u^{20}+\cdots-u+1$
c_7, c_8	$u^{22}+11u^{20}+\cdots+2u+1$
c_9	$u^{22}-u^{21}+\cdots+11u^2+1$
c_{10}	$u^{22}-6u^{20}+\cdots+10u+1$
c_{11}	$u^{22}+11u^{20}+\cdots+u+1$
c_{12}	$u^{22}+2u^{21}+\cdots-u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} + 10y^{21} + \cdots + 10y + 1$
c_2, c_7, c_8	$y^{22} + 22y^{21} + \cdots - 6y + 1$
c_3	$y^{22} + 4y^{21} + \cdots - 6y + 1$
c_4	$y^{22} - 3y^{21} + \cdots - 2y + 1$
c_5, c_9	$y^{22} + 19y^{21} + \cdots + 22y + 1$
c_6, c_{11}	$y^{22} + 22y^{21} + \cdots + 19y + 1$
c_{10}	$y^{22} - 12y^{21} + \cdots - 8y + 1$
c_{12}	$y^{22} - 2y^{21} + \cdots - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.340337 + 1.001630I$ $a = -0.398638 - 0.426371I$ $b = 1.51038 - 0.24981I$	$1.87630 - 1.59707I$	$1.15780 + 3.70396I$
$u = 0.340337 - 1.001630I$ $a = -0.398638 + 0.426371I$ $b = 1.51038 + 0.24981I$	$1.87630 + 1.59707I$	$1.15780 - 3.70396I$
$u = -0.419510 + 0.842237I$ $a = 0.706205 - 0.731152I$ $b = -1.102950 + 0.134654I$	$-0.26177 + 5.19653I$	$-3.06421 - 8.10176I$
$u = -0.419510 - 0.842237I$ $a = 0.706205 + 0.731152I$ $b = -1.102950 - 0.134654I$	$-0.26177 - 5.19653I$	$-3.06421 + 8.10176I$
$u = -0.677823 + 0.845900I$ $a = 0.128108 - 1.065530I$ $b = -0.789050 - 0.079226I$	$6.63530 + 0.42922I$	$4.90333 - 3.13326I$
$u = -0.677823 - 0.845900I$ $a = 0.128108 + 1.065530I$ $b = -0.789050 + 0.079226I$	$6.63530 - 0.42922I$	$4.90333 + 3.13326I$
$u = 0.451026 + 0.770459I$ $a = -0.839247 - 0.992023I$ $b = 0.948079 + 0.182922I$	$5.01746 - 8.71032I$	$2.25837 + 8.31806I$
$u = 0.451026 - 0.770459I$ $a = -0.839247 + 0.992023I$ $b = 0.948079 - 0.182922I$	$5.01746 + 8.71032I$	$2.25837 - 8.31806I$
$u = 0.644739 + 0.990832I$ $a = -0.136257 - 0.805367I$ $b = 0.848966 - 0.216285I$	$1.34285 - 2.47156I$	$-0.11229 + 3.24313I$
$u = 0.644739 - 0.990832I$ $a = -0.136257 + 0.805367I$ $b = 0.848966 + 0.216285I$	$1.34285 + 2.47156I$	$-0.11229 - 3.24313I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.066527 + 0.668555I$ $a = -0.81933 + 1.67139I$ $b = 0.302997 + 1.150940I$	$-0.41425 - 1.43318I$	$-0.97365 + 4.31956I$
$u = 0.066527 - 0.668555I$ $a = -0.81933 - 1.67139I$ $b = 0.302997 - 1.150940I$	$-0.41425 + 1.43318I$	$-0.97365 - 4.31956I$
$u = -0.033510 + 0.622115I$ $a = 0.57836 + 2.47870I$ $b = -0.122784 + 1.004720I$	$-3.46211 - 0.94572I$	$-11.35490 + 0.43033I$
$u = -0.033510 - 0.622115I$ $a = 0.57836 - 2.47870I$ $b = -0.122784 - 1.004720I$	$-3.46211 + 0.94572I$	$-11.35490 - 0.43033I$
$u = -0.774968 + 1.158860I$ $a = -0.036843 - 0.668688I$ $b = -0.692821 - 0.332086I$	$4.94732 + 3.59571I$	$6.06414 - 7.04675I$
$u = -0.774968 - 1.158860I$ $a = -0.036843 + 0.668688I$ $b = -0.692821 + 0.332086I$	$4.94732 - 3.59571I$	$6.06414 + 7.04675I$
$u = 0.031403 + 0.593218I$ $a = -0.66469 + 3.02925I$ $b = 0.100511 + 0.908168I$	$1.52935 + 3.79602I$	$-5.69472 - 2.78460I$
$u = 0.031403 - 0.593218I$ $a = -0.66469 - 3.02925I$ $b = 0.100511 - 0.908168I$	$1.52935 - 3.79602I$	$-5.69472 + 2.78460I$
$u = 0.12665 + 1.48894I$ $a = -0.018753 - 0.376762I$ $b = 0.258428 - 1.158700I$	$3.78359 - 2.27838I$	$-8.74297 + 3.33558I$
$u = 0.12665 - 1.48894I$ $a = -0.018753 + 0.376762I$ $b = 0.258428 + 1.158700I$	$3.78359 + 2.27838I$	$-8.74297 - 3.33558I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.25487+1.67606I$		
$a=\ \ 0.001094-0.398599I$	$10.25970+5.43299I$	$-6.44089-7.39131I$
$b=-0.261755-0.832709I$		
$u=-0.25487-1.67606I$		
$a=\ \ 0.001094+0.398599I$	$10.25970-5.43299I$	$-6.44089+7.39131I$
$b=-0.261755+0.832709I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{22}+6u^{21}+\cdots+4u+1)$ $\cdot(u^{124}-25u^{123}+\cdots-112353915u+5993827)$
c_2	$(u^{22}+11u^{20}+\cdots-2u+1)(u^{124}-u^{123}+\cdots-25u+7)$
c_3	$(u^{22}+2u^{20}+\cdots-3u^2+1)(u^{124}+u^{123}+\cdots-130387u+20503)$
c_4	$(u^{22}+u^{21}+\cdots-2u+1)(u^{124}-3u^{122}+\cdots+161u+13)$
c_5	$(u^{22}+u^{21}+\cdots+11u^2+1)(u^{124}+2u^{123}+\cdots+5614u+1364)$
c_6	$(u^{22}+11u^{20}+\cdots-u+1)(u^{124}+u^{123}+\cdots+23u^2+1)$
c_7, c_8	$(u^{22}+11u^{20}+\cdots+2u+1)(u^{124}-u^{123}+\cdots-25u+7)$
c_9	$(u^{22}-u^{21}+\cdots+11u^2+1)(u^{124}+2u^{123}+\cdots+5614u+1364)$
c_{10}	$(u^{22}-6u^{20}+\cdots+10u+1)(u^{124}+15u^{123}+\cdots+55987u+6721)$
c_{11}	$(u^{22}+11u^{20}+\cdots+u+1)(u^{124}+u^{123}+\cdots+23u^2+1)$
c_{12}	$(u^{22}+2u^{21}+\cdots-u+1)(u^{124}-7u^{123}+\cdots+4u+5)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{22}+10y^{21}+\cdots+10y+1)$ $\cdot(y^{124}+63y^{123}+\cdots+431798753106101y+35925962105929)$
c_2, c_7, c_8	$(y^{22}+22y^{21}+\cdots-6y+1)(y^{124}+115y^{123}+\cdots-611y+49)$
c_3	$(y^{22}+4y^{21}+\cdots-6y+1)$ $\cdot(y^{124}+21y^{123}+\cdots+4053965961y+420373009)$
c_4	$(y^{22}-3y^{21}+\cdots-2y+1)(y^{124}-6y^{123}+\cdots-1091y+169)$
c_5, c_9	$(y^{22}+19y^{21}+\cdots+22y+1)$ $\cdot(y^{124}+84y^{123}+\cdots+69263508y+1860496)$
c_6, c_{11}	$(y^{22}+22y^{21}+\cdots+19y+1)(y^{124}+75y^{123}+\cdots+46y+1)$
c_{10}	$(y^{22}-12y^{21}+\cdots-8y+1)$ $\cdot(y^{124}-39y^{123}+\cdots+13491579y+45171841)$
c_{12}	$(y^{22}-2y^{21}+\cdots-3y+1)(y^{124}-9y^{123}+\cdots+764y+25)$