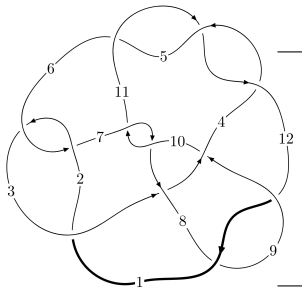
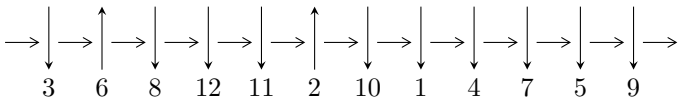
$12a_{0339}$ $(K12a_{0339})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -8.07878 \times 10^{237} u^{106} - 5.69593 \times 10^{238} u^{105} + \cdots + 1.02698 \times 10^{240} b - 4.14748 \times 10^{240},$$
$$- 1.16910 \times 10^{241} u^{106} - 1.12816 \times 10^{239} u^{105} + \cdots + 1.95127 \times 10^{241} a + 9.47218 \times 10^{241},$$
$$u^{107} + 18u^{105} + \cdots - 24u + 19 \rangle$$
$$I_2^u = \langle 2130709u^{29} + 9442748u^{28} + \cdots + 3960308b - 4255385,$$
$$29240837u^{29} + 79392300u^{28} + \cdots + 3960308a + 20834703,\ u^{30} + 3u^{29} + \cdots + 3u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 137 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. $\boldsymbol{I_1^u = \langle -8.08 \times 10^{237} u^{106} - 5.70 \times 10^{238} u^{105} + \cdots + 1.03 \times 10^{240} b - 4.15 \times 10^{240},\ -1.17 \times 10^{241} u^{106} - 1.13 \times 10^{239} u^{105} + \cdots + 1.95 \times 10^{241} a + 9.47 \times 10^{241},\ u^{107} + 18 u^{105} + \cdots - 24u + 19 \rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.599149u^{106} + 0.00578167u^{105} + \cdots + 103.443u - 4.85437 \\ 0.00786652u^{106} + 0.0554628u^{105} + \cdots + 0.975711u + 4.03851 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.348441u^{106} + 0.156526u^{105} + \cdots + 29.4128u + 21.6924 \\ -0.124729u^{106} + 0.120186u^{105} + \cdots - 23.9076u + 11.2074 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.639779u^{106} + 0.0436662u^{105} + \cdots + 4.19949u + 9.11629 \\ -0.386630u^{106} - 0.0480225u^{105} + \cdots - 21.3738u - 3.87734 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.607015u^{106} + 0.0612445u^{105} + \cdots + 104.419u - 0.815863 \\ 0.00786652u^{106} + 0.0554628u^{105} + \cdots + 0.975711u + 4.03851 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0125601u^{106} - 0.317357u^{105} + \cdots + 10.5566u - 28.4105 \\ 0.0872593u^{106} - 0.0226541u^{105} + \cdots + 18.7313u - 5.60808 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.871461u^{106} + 0.0699016u^{105} + \cdots + 16.2492u + 13.5251 \\ 0.0417297u^{106} - 0.0636946u^{105} + \cdots + 15.8940u - 0.754748 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0195297u^{106} - 0.335972u^{105} + \cdots + 11.9948u - 29.6475 \\ 0.0902868u^{106} + 0.0286647u^{105} + \cdots + 14.7293u - 1.68637 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.29735u^{106} + 0.145247u^{105} + \cdots + 65.0366u + 28.0789$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{107} + 36u^{106} + \cdots - 16866u - 361$
c_2, c_6	$u^{107} + 18u^{105} + \cdots - 24u + 19$
c_3	$u^{107} - u^{106} + \cdots + 875682u + 270676$
c_4, c_5, c_{11}	$u^{107} + u^{106} + \cdots - 3823u + 653$
c_7, c_{10}	$u^{107} - 5u^{106} + \cdots - 1215u + 43$
c_8, c_{12}	$u^{107} + 3u^{106} + \cdots + 90u + 68$
c_9	$u^{107} + u^{106} + \cdots + 33976041u + 5654997$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{107} + 84y^{106} + \cdots + 71806242y - 130321$
c_2, c_6	$y^{107} + 36y^{106} + \cdots - 16866y - 361$
c_3	$y^{107} + 45y^{106} + \cdots - 2480148075396y - 73265496976$
c_4, c_5, c_{11}	$y^{107} + 123y^{106} + \cdots - 13417961y - 426409$
c_7, c_{10}	$y^{107} + 87y^{106} + \cdots + 85175y - 1849$
c_8, c_{12}	$y^{107} + 85y^{106} + \cdots - 46708y - 4624$
c_9	$y^{107} + 57y^{106} + \cdots - 1085652345824199y - 31978991070009$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.062374 + 1.007540I$ $a = -0.796736 + 1.058810I$ $b = 0.457334 - 0.922934I$	$-1.40043 + 2.59202I$	0
$u = 0.062374 - 1.007540I$ $a = -0.796736 - 1.058810I$ $b = 0.457334 + 0.922934I$	$-1.40043 - 2.59202I$	0
$u = -0.539561 + 0.857006I$ $a = -0.873556 + 1.018200I$ $b = 1.183120 - 0.066566I$	$-1.44165 - 2.15650I$	0
$u = -0.539561 - 0.857006I$ $a = -0.873556 - 1.018200I$ $b = 1.183120 + 0.066566I$	$-1.44165 + 2.15650I$	0
$u = 0.025107 + 1.017280I$ $a = 1.248120 - 0.139495I$ $b = -0.634688 - 0.196469I$	$-0.98241 + 1.99627I$	0
$u = 0.025107 - 1.017280I$ $a = 1.248120 + 0.139495I$ $b = -0.634688 + 0.196469I$	$-0.98241 - 1.99627I$	0
$u = -0.023639 + 0.981626I$ $a = 0.21172 + 2.86791I$ $b = -0.262160 - 1.223870I$	$9.97282 + 1.63565I$	0
$u = -0.023639 - 0.981626I$ $a = 0.21172 - 2.86791I$ $b = -0.262160 + 1.223870I$	$9.97282 - 1.63565I$	0
$u = 0.440244 + 0.921461I$ $a = -1.74646 + 0.37111I$ $b = 0.722740 - 0.643120I$	$0.12974 + 4.17616I$	0
$u = 0.440244 - 0.921461I$ $a = -1.74646 - 0.37111I$ $b = 0.722740 + 0.643120I$	$0.12974 - 4.17616I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.335229 + 0.981009I$ $a = 0.625167 - 0.886501I$ $b = 0.128421 + 0.366660I$	$-0.492891 + 1.302360I$	0
$u = 0.335229 - 0.981009I$ $a = 0.625167 + 0.886501I$ $b = 0.128421 - 0.366660I$	$-0.492891 - 1.302360I$	0
$u = -0.740295 + 0.736422I$ $a = 0.577824 - 0.329961I$ $b = 0.229242 - 1.359360I$	$4.06992 + 2.18050I$	0
$u = -0.740295 - 0.736422I$ $a = 0.577824 + 0.329961I$ $b = 0.229242 + 1.359360I$	$4.06992 - 2.18050I$	0
$u = -0.183798 + 1.050840I$ $a = 1.064820 + 0.644412I$ $b = -0.643115 + 0.334320I$	$4.91950 - 5.29302I$	0
$u = -0.183798 - 1.050840I$ $a = 1.064820 - 0.644412I$ $b = -0.643115 - 0.334320I$	$4.91950 + 5.29302I$	0
$u = 0.717457 + 0.794911I$ $a = -0.695148 - 0.695475I$ $b = 0.174245 - 1.299920I$	$3.27155 + 2.99011I$	0
$u = 0.717457 - 0.794911I$ $a = -0.695148 + 0.695475I$ $b = 0.174245 + 1.299920I$	$3.27155 - 2.99011I$	0
$u = -0.754984 + 0.759752I$ $a = -0.286261 - 0.133543I$ $b = 0.20941 - 1.47485I$	$14.9857 + 1.0909I$	0
$u = -0.754984 - 0.759752I$ $a = -0.286261 + 0.133543I$ $b = 0.20941 + 1.47485I$	$14.9857 - 1.0909I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.320021 + 0.864903I$ $a = 0.772355 - 0.100355I$ $b = -0.169769 + 0.018359I$	$-0.51833 + 1.44971I$	0
$u = 0.320021 - 0.864903I$ $a = 0.772355 + 0.100355I$ $b = -0.169769 - 0.018359I$	$-0.51833 - 1.44971I$	0
$u = -0.848993 + 0.680119I$ $a = -1.115690 + 0.835412I$ $b = 0.477548 - 0.044794I$	$10.26980 - 3.73972I$	0
$u = -0.848993 - 0.680119I$ $a = -1.115690 - 0.835412I$ $b = 0.477548 + 0.044794I$	$10.26980 + 3.73972I$	0
$u = -0.264816 + 0.872136I$ $a = -1.55071 + 0.39752I$ $b = 0.812011 + 0.520055I$	$-2.66738 - 2.02745I$	0
$u = -0.264816 - 0.872136I$ $a = -1.55071 - 0.39752I$ $b = 0.812011 - 0.520055I$	$-2.66738 + 2.02745I$	0
$u = -0.711644 + 0.568814I$ $a = 0.301387 - 0.564582I$ $b = -0.821388 + 0.195331I$	$4.22158 + 2.73839I$	0
$u = -0.711644 - 0.568814I$ $a = 0.301387 + 0.564582I$ $b = -0.821388 - 0.195331I$	$4.22158 - 2.73839I$	0
$u = 0.780037 + 0.764920I$ $a = -0.051617 + 0.552311I$ $b = -0.69530 - 1.68565I$	$15.4381 + 2.3856I$	0
$u = 0.780037 - 0.764920I$ $a = -0.051617 - 0.552311I$ $b = -0.69530 + 1.68565I$	$15.4381 - 2.3856I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.975917+0.501487I$ $a=\ \ 0.128420-0.091770I$ $b=-0.125010+1.406920I$	$10.94160-0.16306I$	0
$u=-0.975917-0.501487I$ $a=\ \ 0.128420+0.091770I$ $b=-0.125010-1.406920I$	$10.94160+0.16306I$	0
$u=\ \ 0.736986+0.814530I$ $a=-1.49735-0.88050I$ $b=-0.007446-1.276350I$	$7.29276+0.16570I$	0
$u=\ \ 0.736986-0.814530I$ $a=-1.49735+0.88050I$ $b=-0.007446+1.276350I$	$7.29276-0.16570I$	0
$u=\ \ 0.907815+0.621230I$ $a=\ \ 0.129498-0.217483I$ $b=\ \ 0.45306+1.65969I$	$11.97390-4.84056I$	0
$u=\ \ 0.907815-0.621230I$ $a=\ \ 0.129498+0.217483I$ $b=\ \ 0.45306-1.65969I$	$11.97390+4.84056I$	0
$u=-0.875911+0.669880I$ $a=-0.254070+0.531762I$ $b=-0.277866+1.343060I$	$9.02317+6.53228I$	0
$u=-0.875911-0.669880I$ $a=-0.254070-0.531762I$ $b=-0.277866-1.343060I$	$9.02317-6.53228I$	0
$u=-0.023624+0.893109I$ $a=\ \ 1.43160+0.33505I$ $b=-0.427467-1.146070I$	$2.59924-1.36437I$	0
$u=-0.023624-0.893109I$ $a=\ \ 1.43160-0.33505I$ $b=-0.427467+1.146070I$	$2.59924+1.36437I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.764211+0.800673I$ $a=\ \ 1.54670-0.47986I$ $b=-0.52662-1.32113I$	$7.48729-2.49327I$	0
$u=-0.764211-0.800673I$ $a=\ \ 1.54670+0.47986I$ $b=-0.52662+1.32113I$	$7.48729+2.49327I$	0
$u=\ \ 0.806818+0.762402I$ $a=\ \ 0.932992+1.027070I$ $b=-1.298740-0.344084I$	$11.37510-4.50217I$	0
$u=\ \ 0.806818-0.762402I$ $a=\ \ 0.932992-1.027070I$ $b=-1.298740+0.344084I$	$11.37510+4.50217I$	0
$u=-0.703610+0.865980I$ $a=\ \ 1.131380-0.349386I$ $b=-0.633257+0.178207I$	$5.57129-2.70061I$	0
$u=-0.703610-0.865980I$ $a=\ \ 1.131380+0.349386I$ $b=-0.633257-0.178207I$	$5.57129+2.70061I$	0
$u=\ \ 0.726133+0.873262I$ $a=-1.31851-1.10584I$ $b=\ \ 1.67613+0.13892I$	$5.43661+2.76949I$	0
$u=\ \ 0.726133-0.873262I$ $a=-1.31851+1.10584I$ $b=\ \ 1.67613-0.13892I$	$5.43661-2.76949I$	0
$u=\ \ 0.688472+0.473096I$ $a=-0.199022-0.665762I$ $b=-0.211697+0.099066I$	$3.72379+0.67463I$	0
$u=\ \ 0.688472-0.473096I$ $a=-0.199022+0.665762I$ $b=-0.211697-0.099066I$	$3.72379-0.67463I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.719491 + 0.924050I$ $a = 0.804282 + 0.829297I$ $b = -0.117343 + 1.380920I$	$6.95460 + 5.38684I$	0
$u = 0.719491 - 0.924050I$ $a = 0.804282 - 0.829297I$ $b = -0.117343 - 1.380920I$	$6.95460 - 5.38684I$	0
$u = 0.704822 + 0.935335I$ $a = 1.285040 + 0.272947I$ $b = -0.065644 + 1.227300I$	$2.83607 + 2.46285I$	0
$u = 0.704822 - 0.935335I$ $a = 1.285040 - 0.272947I$ $b = -0.065644 - 1.227300I$	$2.83607 - 2.46285I$	0
$u = -0.627669 + 1.016570I$ $a = 0.957118 - 0.642842I$ $b = -0.925935 - 0.125369I$	$2.89976 - 7.88337I$	0
$u = -0.627669 - 1.016570I$ $a = 0.957118 + 0.642842I$ $b = -0.925935 + 0.125369I$	$2.89976 + 7.88337I$	0
$u = 1.078200 + 0.516103I$ $a = 0.312864 + 0.366963I$ $b = -0.127842 + 1.201690I$	$7.45884 + 1.96382I$	0
$u = 1.078200 - 0.516103I$ $a = 0.312864 - 0.366963I$ $b = -0.127842 - 1.201690I$	$7.45884 - 1.96382I$	0
$u = -0.708192 + 0.970538I$ $a = -1.55393 + 0.30428I$ $b = 0.42556 + 1.41768I$	$3.36549 - 7.71269I$	0
$u = -0.708192 - 0.970538I$ $a = -1.55393 - 0.30428I$ $b = 0.42556 - 1.41768I$	$3.36549 + 7.71269I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.743599+0.944448I$ $a=-0.409508-0.163918I$ $b=-0.30345+1.38705I$	$7.04718-3.21757I$	0
$u=-0.743599-0.944448I$ $a=-0.409508+0.163918I$ $b=-0.30345-1.38705I$	$7.04718+3.21757I$	0
$u=-0.713232+0.971192I$ $a=-2.14749-0.16533I$ $b=\ \ 0.265095+1.319150I$	$14.3327-6.6828I$	0
$u=-0.713232-0.971192I$ $a=-2.14749+0.16533I$ $b=\ \ 0.265095-1.319150I$	$14.3327+6.6828I$	0
$u=\ \ 0.587429+1.064290I$ $a=\ \ 0.006483+0.463539I$ $b=-0.0760179+0.1019750I$	$1.99866+4.27946I$	0
$u=\ \ 0.587429-1.064290I$ $a=\ \ 0.006483-0.463539I$ $b=-0.0760179-0.1019750I$	$1.99866-4.27946I$	0
$u=\ \ 0.730979+0.973848I$ $a=\ \ 2.16693-0.00922I$ $b=-0.82519+1.51811I$	$14.7938+3.3348I$	0
$u=\ \ 0.730979-0.973848I$ $a=\ \ 2.16693+0.00922I$ $b=-0.82519-1.51811I$	$14.7938-3.3348I$	0
$u=\ \ 0.749141+0.979656I$ $a=\ \ 1.37421+0.69699I$ $b=-1.41804+0.13113I$	$10.7084+10.3555I$	0
$u=\ \ 0.749141-0.979656I$ $a=\ \ 1.37421-0.69699I$ $b=-1.41804-0.13113I$	$10.7084-10.3555I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.048608 + 0.750751I$ $a = -1.38279 - 1.56458I$ $b = 0.779034 - 0.538606I$	$1.68546 + 0.16765I$	$-8.00000 + 0.I$
$u = 0.048608 - 0.750751I$ $a = -1.38279 + 1.56458I$ $b = 0.779034 + 0.538606I$	$1.68546 - 0.16765I$	$-8.00000 + 0.I$
$u = 0.233771 + 1.227040I$ $a = 0.899341 - 0.630264I$ $b = -0.357995 + 1.042710I$	$1.45365 + 5.80199I$	0
$u = 0.233771 - 1.227040I$ $a = 0.899341 + 0.630264I$ $b = -0.357995 - 1.042710I$	$1.45365 - 5.80199I$	0
$u = 1.055390 + 0.671932I$ $a = 0.016625 + 0.154982I$ $b = -0.45093 - 1.53503I$	$17.4631 - 10.5485I$	0
$u = 1.055390 - 0.671932I$ $a = 0.016625 - 0.154982I$ $b = -0.45093 + 1.53503I$	$17.4631 + 10.5485I$	0
$u = 0.294195 + 0.676992I$ $a = -1.22935 - 1.04561I$ $b = 0.652001 + 0.964062I$	$1.07815 - 1.00344I$	0
$u = 0.294195 - 0.676992I$ $a = -1.22935 + 1.04561I$ $b = 0.652001 - 0.964062I$	$1.07815 + 1.00344I$	0
$u = -0.749047 + 1.044310I$ $a = 1.53319 - 0.33817I$ $b = -0.38115 - 1.41268I$	$7.8840 - 12.5635I$	0
$u = -0.749047 - 1.044310I$ $a = 1.53319 + 0.33817I$ $b = -0.38115 + 1.41268I$	$7.8840 + 12.5635I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.120559+1.279760I$ $a=-0.47126-1.61592I$ $b=\ \ 0.237383+1.271990I$	$4.59560-3.27389I$	0
$u=-0.120559-1.279760I$ $a=-0.47126+1.61592I$ $b=\ \ 0.237383-1.271990I$	$4.59560+3.27389I$	0
$u=-0.774879+1.033690I$ $a=-0.876089+0.146350I$ $b=\ \ 0.735854-0.243311I$	$9.21759-2.32867I$	0
$u=-0.774879-1.033690I$ $a=-0.876089-0.146350I$ $b=\ \ 0.735854+0.243311I$	$9.21759+2.32867I$	0
$u=\ \ 0.743217+1.078610I$ $a=-1.91151+0.20399I$ $b=\ \ 0.63523-1.61393I$	$10.5811+10.9341I$	0
$u=\ \ 0.743217-1.078610I$ $a=-1.91151-0.20399I$ $b=\ \ 0.63523+1.61393I$	$10.5811-10.9341I$	0
$u=\ \ 0.809651+1.122980I$ $a=\ \ 1.72454-0.09217I$ $b=-0.57794+1.52854I$	$16.0137+17.2862I$	0
$u=\ \ 0.809651-1.122980I$ $a=\ \ 1.72454+0.09217I$ $b=-0.57794-1.52854I$	$16.0137-17.2862I$	0
$u=-0.776522+1.151580I$ $a=\ \ 1.44249+0.27410I$ $b=-0.303897-1.263650I$	$9.01377-6.21436I$	0
$u=-0.776522-1.151580I$ $a=\ \ 1.44249-0.27410I$ $b=-0.303897+1.263650I$	$9.01377+6.21436I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.86831 + 1.12947I$ $a = -0.811002 + 0.025216I$ $b = 0.107445 - 1.239510I$	$5.68735 + 4.99956I$	0
$u = 0.86831 - 1.12947I$ $a = -0.811002 - 0.025216I$ $b = 0.107445 + 1.239510I$	$5.68735 - 4.99956I$	0
$u = 0.042049 + 0.502770I$ $a = -0.45019 - 3.58868I$ $b = -0.331026 + 0.797513I$	$4.10173 + 1.38508I$	$-6.99846 - 5.18657I$
$u = 0.042049 - 0.502770I$ $a = -0.45019 + 3.58868I$ $b = -0.331026 - 0.797513I$	$4.10173 - 1.38508I$	$-6.99846 + 5.18657I$
$u = -1.42970 + 0.45260I$ $a = -0.0289961 + 0.1132680I$ $b = 0.082748 - 1.309140I$	$14.6083 - 2.0661I$	0
$u = -1.42970 - 0.45260I$ $a = -0.0289961 - 0.1132680I$ $b = 0.082748 + 1.309140I$	$14.6083 + 2.0661I$	0
$u = -0.33951 + 1.47842I$ $a = 0.669897 + 1.011210I$ $b = -0.222808 - 1.242850I$	$7.88132 - 8.25912I$	0
$u = -0.33951 - 1.47842I$ $a = 0.669897 - 1.011210I$ $b = -0.222808 + 1.242850I$	$7.88132 + 8.25912I$	0
$u = -0.051433 + 0.438790I$ $a = 1.291860 + 0.130913I$ $b = -0.13751 + 1.66263I$	$12.14830 - 1.91198I$	$-9.81121 + 4.85503I$
$u = -0.051433 - 0.438790I$ $a = 1.291860 - 0.130913I$ $b = -0.13751 - 1.66263I$	$12.14830 + 1.91198I$	$-9.81121 - 4.85503I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.400661 + 0.105641I$ $a = 1.027140 - 0.099097I$ $b = 0.220831 - 0.806135I$	$1.84584 + 1.50741I$	$-1.79883 - 5.24379I$
$u = 0.400661 - 0.105641I$ $a = 1.027140 + 0.099097I$ $b = 0.220831 + 0.806135I$	$1.84584 - 1.50741I$	$-1.79883 + 5.24379I$
$u = -0.98850 + 1.27967I$ $a = -1.046920 - 0.110585I$ $b = 0.329701 + 1.201370I$	$12.16570 - 6.23367I$	0
$u = -0.98850 - 1.27967I$ $a = -1.046920 + 0.110585I$ $b = 0.329701 - 1.201370I$	$12.16570 + 6.23367I$	0
$u = -0.041896 + 0.274421I$ $a = 3.93536 + 6.99260I$ $b = -0.346022 + 0.707510I$	$8.17527 + 4.24698I$	$1.66879 - 8.52198I$
$u = -0.041896 - 0.274421I$ $a = 3.93536 - 6.99260I$ $b = -0.346022 - 0.707510I$	$8.17527 - 4.24698I$	$1.66879 + 8.52198I$
$u = -0.273724$ $a = 0.993855$ $b = 0.418225$	-0.715457	-13.8390

II. $\boldsymbol{I_2^u = \langle 2.13\times 10^6 u^{29} + 9.44\times 10^6 u^{28} + \cdots + 3.96\times 10^6 b - 4.26\times 10^6,\ 2.92\times 10^7 u^{29} + 7.94\times 10^7 u^{28} + \cdots + 3.96\times 10^6 a + 2.08\times 10^7,\ u^{30} + 3u^{29} + \cdots + 3u + 1\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -7.38348u^{29} - 20.0470u^{28} + \cdots - 25.6615u - 5.26088 \\ -0.538016u^{29} - 2.38435u^{28} + \cdots + 1.52402u + 1.07451 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.41047u^{29} + 4.08168u^{28} + \cdots + 38.5120u + 19.1518 \\ -1.03955u^{29} - 5.77094u^{28} + \cdots - 13.5288u - 4.31310 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 11.1058u^{29} + 26.5222u^{28} + \cdots + 9.04210u - 5.67327 \\ -3.56537u^{29} - 8.19367u^{28} + \cdots + 0.640742u + 1.45368 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -7.92149u^{29} - 22.4313u^{28} + \cdots - 24.1374u - 4.18637 \\ -0.538016u^{29} - 2.38435u^{28} + \cdots + 1.52402u + 1.07451 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.10526u^{29} + 8.76852u^{28} + \cdots + 18.3986u + 7.64244 \\ -2.73707u^{29} - 6.13105u^{28} + \cdots - 0.431273u + 0.940510 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -12.2492u^{29} - 31.8845u^{28} + \cdots - 18.7182u + 0.618818 \\ 0.621245u^{29} - 0.0800342u^{28} + \cdots - 11.3400u - 3.86308 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.08569u^{29} + 12.3698u^{28} + \cdots + 26.6734u + 9.94719 \\ -3.61317u^{29} - 10.4115u^{28} + \cdots - 9.74404u - 2.56995 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{5159705}{990077}u^{29} + \frac{22034949}{990077}u^{28} + \cdots + \frac{61479057}{990077}u + \frac{8886923}{990077}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 13u^{29} + \cdots - 13u + 1$
c_2	$u^{30} - 3u^{29} + \cdots - 3u + 1$
c_3	$u^{30} + 5u^{28} + \cdots + 2u + 1$
c_4, c_5	$u^{30} + 18u^{28} + \cdots + 4u + 1$
c_6	$u^{30} + 3u^{29} + \cdots + 3u + 1$
c_7	$u^{30} - 4u^{29} + \cdots - 4u + 1$
c_8	$u^{30} + 2u^{29} + \cdots + 6u + 4$
c_9	$u^{30} + 5u^{28} + \cdots + 8u + 1$
c_{10}	$u^{30} + 4u^{29} + \cdots + 4u + 1$
c_{11}	$u^{30} + 18u^{28} + \cdots - 4u + 1$
c_{12}	$u^{30} - 2u^{29} + \cdots - 6u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 21y^{29} + \cdots + 13y + 1$
c_2, c_6	$y^{30} + 13y^{29} + \cdots + 13y + 1$
c_3	$y^{30} + 10y^{29} + \cdots + 14y + 1$
c_4, c_5, c_{11}	$y^{30} + 36y^{29} + \cdots + 20y + 1$
c_7, c_{10}	$y^{30} + 20y^{29} + \cdots + 12y + 1$
c_8, c_{12}	$y^{30} + 22y^{29} + \cdots + 164y + 16$
c_9	$y^{30} + 10y^{29} + \cdots + 50y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.195308 + 0.957964I$ $a = -1.07212 + 1.33653I$ $b = 0.414320 - 0.801375I$	$-0.37236 + 2.52004I$	$-5.45651 - 4.22445I$
$u = 0.195308 - 0.957964I$ $a = -1.07212 - 1.33653I$ $b = 0.414320 + 0.801375I$	$-0.37236 - 2.52004I$	$-5.45651 + 4.22445I$
$u = 0.466434 + 0.845804I$ $a = -0.892880 - 0.832983I$ $b = 0.967848 - 0.062813I$	$-1.70840 + 1.91345I$	$-13.43138 + 2.91957I$
$u = 0.466434 - 0.845804I$ $a = -0.892880 + 0.832983I$ $b = 0.967848 + 0.062813I$	$-1.70840 - 1.91345I$	$-13.43138 - 2.91957I$
$u = -0.901262 + 0.507417I$ $a = 0.093250 - 0.369620I$ $b = -0.276345 + 1.366110I$	$13.25460 - 1.69916I$	$0.47422 + 2.17666I$
$u = -0.901262 - 0.507417I$ $a = 0.093250 + 0.369620I$ $b = -0.276345 - 1.366110I$	$13.25460 + 1.69916I$	$0.47422 - 2.17666I$
$u = -0.309838 + 0.904507I$ $a = 0.25293 + 1.39391I$ $b = 0.565566 + 0.136116I$	$1.80347 - 1.32517I$	$-4.12560 + 4.83226I$
$u = -0.309838 - 0.904507I$ $a = 0.25293 - 1.39391I$ $b = 0.565566 - 0.136116I$	$1.80347 + 1.32517I$	$-4.12560 - 4.83226I$
$u = 0.770041 + 0.706619I$ $a = 0.992277 + 0.928887I$ $b = -0.227353 + 1.210060I$	$5.95829 + 1.96683I$	$-2.61215 - 2.76487I$
$u = 0.770041 - 0.706619I$ $a = 0.992277 - 0.928887I$ $b = -0.227353 - 1.210060I$	$5.95829 - 1.96683I$	$-2.61215 + 2.76487I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.687218+0.874757I$ $a=-1.31408+0.74628I$ $b=1.226180-0.137254I$	$4.33803-2.64785I$	$-7.28108+2.55575I$
$u=-0.687218-0.874757I$ $a=-1.31408-0.74628I$ $b=1.226180+0.137254I$	$4.33803+2.64785I$	$-7.28108-2.55575I$
$u=0.524353+1.102340I$ $a=0.567747-0.631453I$ $b=-0.163922+0.746611I$	$2.69473+4.61399I$	$0.43393-4.98963I$
$u=0.524353-1.102340I$ $a=0.567747+0.631453I$ $b=-0.163922-0.746611I$	$2.69473-4.61399I$	$0.43393+4.98963I$
$u=0.052618+0.767054I$ $a=-1.40487-0.23613I$ $b=0.567244+0.991173I$	$0.38855-1.43362I$	$-10.77096+3.19735I$
$u=0.052618-0.767054I$ $a=-1.40487+0.23613I$ $b=0.567244-0.991173I$	$0.38855+1.43362I$	$-10.77096-3.19735I$
$u=-0.416790+1.166540I$ $a=-0.317453-0.359239I$ $b=-0.127732-0.573484I$	$5.77733-6.51784I$	$-2.42963+6.50104I$
$u=-0.416790-1.166540I$ $a=-0.317453+0.359239I$ $b=-0.127732+0.573484I$	$5.77733+6.51784I$	$-2.42963-6.50104I$
$u=0.787799+0.972770I$ $a=-0.707630-0.266604I$ $b=0.027929-1.285710I$	$5.15442+3.95870I$	$-2.90292-2.36325I$
$u=0.787799-0.972770I$ $a=-0.707630+0.266604I$ $b=0.027929+1.285710I$	$5.15442-3.95870I$	$-2.90292+2.36325I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.400683 + 0.601968I$ $a = -0.01171 + 2.07238I$ $b = -0.388672 - 0.875053I$	$4.56827 - 0.65664I$	$-0.38201 - 1.75672I$
$u = 0.400683 - 0.601968I$ $a = -0.01171 - 2.07238I$ $b = -0.388672 + 0.875053I$	$4.56827 + 0.65664I$	$-0.38201 + 1.75672I$
$u = -0.236150 + 0.675236I$ $a = -1.37606 - 3.52580I$ $b = -0.330690 + 0.524370I$	$7.84227 + 3.73571I$	$-5.77697 + 1.81841I$
$u = -0.236150 - 0.675236I$ $a = -1.37606 + 3.52580I$ $b = -0.330690 - 0.524370I$	$7.84227 - 3.73571I$	$-5.77697 - 1.81841I$
$u = -0.903508 + 1.019370I$ $a = 1.41787 - 0.13373I$ $b = -0.410945 - 1.028460I$	$11.87230 - 5.04347I$	$0.53474 + 2.19290I$
$u = -0.903508 - 1.019370I$ $a = 1.41787 + 0.13373I$ $b = -0.410945 + 1.028460I$	$11.87230 + 5.04347I$	$0.53474 - 2.19290I$
$u = -0.500831 + 0.362084I$ $a = -0.462531 - 0.517164I$ $b = -0.06917 - 1.58008I$	$12.66780 + 1.57160I$	$2.37536 + 1.96173I$
$u = -0.500831 - 0.362084I$ $a = -0.462531 + 0.517164I$ $b = -0.06917 + 1.58008I$	$12.66780 - 1.57160I$	$2.37536 - 1.96173I$
$u = -0.74164 + 1.24998I$ $a = -1.264740 - 0.447593I$ $b = 0.225746 + 1.334070I$	$9.65227 - 7.08993I$	$0. + 6.61887I$
$u = -0.74164 - 1.24998I$ $a = -1.264740 + 0.447593I$ $b = 0.225746 - 1.334070I$	$9.65227 + 7.08993I$	$0. - 6.61887I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-13u^{29}+\cdots-13u+1)(u^{107}+36u^{106}+\cdots-16866u-361)$
c_2	$(u^{30}-3u^{29}+\cdots-3u+1)(u^{107}+18u^{105}+\cdots-24u+19)$
c_3	$(u^{30}+5u^{28}+\cdots+2u+1)(u^{107}-u^{106}+\cdots+875682u+270676)$
c_4, c_5	$(u^{30}+18u^{28}+\cdots+4u+1)(u^{107}+u^{106}+\cdots-3823u+653)$
c_6	$(u^{30}+3u^{29}+\cdots+3u+1)(u^{107}+18u^{105}+\cdots-24u+19)$
c_7	$(u^{30}-4u^{29}+\cdots-4u+1)(u^{107}-5u^{106}+\cdots-1215u+43)$
c_8	$(u^{30}+2u^{29}+\cdots+6u+4)(u^{107}+3u^{106}+\cdots+90u+68)$
c_9	$(u^{30}+5u^{28}+\cdots+8u+1)(u^{107}+u^{106}+\cdots+3.39760\times10^{7}u+5654997)$
c_{10}	$(u^{30}+4u^{29}+\cdots+4u+1)(u^{107}-5u^{106}+\cdots-1215u+43)$
c_{11}	$(u^{30}+18u^{28}+\cdots-4u+1)(u^{107}+u^{106}+\cdots-3823u+653)$
c_{12}	$(u^{30}-2u^{29}+\cdots-6u+4)(u^{107}+3u^{106}+\cdots+90u+68)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}+21y^{29}+\cdots+13y+1)$ $\cdot(y^{107}+84y^{106}+\cdots+71806242y-130321)$
c_2, c_6	$(y^{30}+13y^{29}+\cdots+13y+1)(y^{107}+36y^{106}+\cdots-16866y-361)$
c_3	$(y^{30}+10y^{29}+\cdots+14y+1)$ $\cdot(y^{107}+45y^{106}+\cdots-2480148075396y-73265496976)$
c_4, c_5, c_{11}	$(y^{30}+36y^{29}+\cdots+20y+1)$ $\cdot(y^{107}+123y^{106}+\cdots-13417961y-426409)$
c_7, c_{10}	$(y^{30}+20y^{29}+\cdots+12y+1)(y^{107}+87y^{106}+\cdots+85175y-1849)$
c_8, c_{12}	$(y^{30}+22y^{29}+\cdots+164y+16)(y^{107}+85y^{106}+\cdots-46708y-4624)$
c_9	$(y^{30}+10y^{29}+\cdots+50y+1)$ $\cdot(y^{107}+57y^{106}+\cdots-1085652345824199y-31978991070009)$