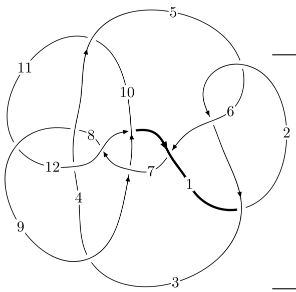
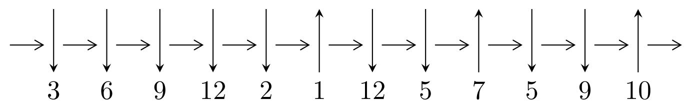
$12n_{0459}$ ($K12n_{0459}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle b-u,\ -2.55290\times10^{42}u^{36}+5.44795\times10^{42}u^{35}+\cdots+1.76508\times10^{43}a-3.00825\times10^{43},\\
&\quad u^{37}-u^{36}+\cdots+3u-1\rangle\\
I_2^u &= \langle b+u,\ 250u^{18}-299u^{17}+\cdots+73a+547,\ u^{19}-u^{18}+\cdots+3u+1\rangle\\
I_3^u &= \langle 2.39883\times10^{77}u^{33}+4.38682\times10^{77}u^{32}+\cdots+2.11269\times10^{80}b+4.67078\times10^{80},\\
&\quad -2.66819\times10^{80}u^{33}-6.63024\times10^{80}u^{32}+\cdots+4.21058\times10^{83}a-5.18491\times10^{83},\\
&\quad u^{34}+u^{33}+\cdots+1952u-1993\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}}=0$, with total 90 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. $\boldsymbol{I_1^u = \langle b - u,\ -2.55 \times 10^{42} u^{36} + 5.45 \times 10^{42} u^{35} + \cdots + 1.77 \times 10^{43} a - 3.01 \times 10^{43},\ u^{37} - u^{36} + \cdots + 3u - 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.144634u^{36} - 0.308653u^{35} + \cdots - 1.70408u + 1.70432 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0641583u^{36} - 0.204773u^{35} + \cdots - 2.93838u + 1.14286 \\ 0.00595874u^{36} - 0.0145660u^{35} + \cdots + 0.258814u - 0.0315982 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.144634u^{36} - 0.308653u^{35} + \cdots - 0.704084u + 1.70432 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.144634u^{36} - 0.308653u^{35} + \cdots - 0.704084u + 1.70432 \\ -0.0315982u^{36} + 0.0375570u^{35} + \cdots + 0.363310u + 0.164019 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.287497u^{36} + 0.387357u^{35} + \cdots + 0.523806u + 0.805473 \\ 0.0315982u^{36} - 0.0375570u^{35} + \cdots + 1.63669u - 0.164019 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.255898u^{36} + 0.349800u^{35} + \cdots + 2.16050u + 0.641454 \\ 0.0315982u^{36} - 0.0375570u^{35} + \cdots + 1.63669u - 0.164019 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.113036u^{36} + 0.271096u^{35} + \cdots + 3.34077u - 1.86834 \\ 0.206163u^{36} - 0.241526u^{35} + \cdots - 0.860551u + 0.362165 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.121719u^{36} + 0.0603587u^{35} + \cdots + 2.89319u - 1.94734 \\ 0.177072u^{36} - 0.177109u^{35} + \cdots - 0.860687u + 0.281992 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0205670u^{36} - 0.0114078u^{35} + \cdots - 1.02788u + 1.87960 \\ -0.0935046u^{36} + 0.0800631u^{35} + \cdots + 1.12160u + 0.0897229 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3.05287u^{36} + 2.19238u^{35} + \cdots + 12.4820u - 10.7486$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{37} + 19u^{36} + \cdots + 13u + 4$
c_2, c_5	$u^{37} + 5u^{36} + \cdots + 11u + 2$
c_3, c_{10}	$u^{37} - 16u^{35} + \cdots + 286u + 313$
c_4, c_8	$u^{37} + u^{36} + \cdots + 3u + 1$
c_6	$u^{37} + 15u^{36} + \cdots + 1057u + 142$
c_7	$u^{37} + 33u^{36} + \cdots + 2424832u + 131072$
c_9, c_{12}	$u^{37} + 2u^{36} + \cdots - 4u + 1$
c_{11}	$u^{37} - 20u^{36} + \cdots + 3129u + 416$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{37} + y^{36} + \cdots + 417y - 16$
c_2, c_5	$y^{37} - 19y^{36} + \cdots + 13y - 4$
c_3, c_{10}	$y^{37} - 32y^{36} + \cdots + 1668y - 97969$
c_4, c_8	$y^{37} - 53y^{36} + \cdots + y - 1$
c_6	$y^{37} + 17y^{36} + \cdots + 321765y - 20164$
c_7	$y^{37} - 7y^{36} + \cdots + 124554051584y - 17179869184$
c_9, c_{12}	$y^{37} + 18y^{36} + \cdots + 52y - 1$
c_{11}	$y^{37} - 40y^{36} + \cdots + 11555313y - 173056$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \;\; 0.227341 + 1.006740I$ $a = -0.014320 + 0.531612I$ $b = \;\; 0.227341 + 1.006740I$	$2.19421 - 2.66186I$	$-12.2194 + 11.4876I$
$u = \;\; 0.227341 - 1.006740I$ $a = -0.014320 - 0.531612I$ $b = \;\; 0.227341 - 1.006740I$	$2.19421 + 2.66186I$	$-12.2194 - 11.4876I$
$u = -0.572877 + 0.421277I$ $a = -0.589584 - 0.431854I$ $b = -0.572877 + 0.421277I$	$-4.23503 - 2.99580I$	$-10.42564 + 0.99385I$
$u = -0.572877 - 0.421277I$ $a = -0.589584 + 0.431854I$ $b = -0.572877 - 0.421277I$	$-4.23503 + 2.99580I$	$-10.42564 - 0.99385I$
$u = \;\; 0.443470 + 0.512589I$ $a = -0.93334 - 2.14850I$ $b = \;\; 0.443470 + 0.512589I$	$-2.92897 + 7.93095I$	$-9.93339 - 5.60925I$
$u = \;\; 0.443470 - 0.512589I$ $a = -0.93334 + 2.14850I$ $b = \;\; 0.443470 - 0.512589I$	$-2.92897 - 7.93095I$	$-9.93339 + 5.60925I$
$u = -0.425682 + 0.515838I$ $a = -0.912897 - 0.668737I$ $b = -0.425682 + 0.515838I$	$-4.36721 + 4.92237I$	$-9.76383 - 6.76217I$
$u = -0.425682 - 0.515838I$ $a = -0.912897 + 0.668737I$ $b = -0.425682 - 0.515838I$	$-4.36721 - 4.92237I$	$-9.76383 + 6.76217I$
$u = \;\; 0.640765 + 0.065448I$ $a = \;\; 0.06676 + 1.55654I$ $b = \;\; 0.640765 + 0.065448I$	$0.561173 + 0.639753I$	$-5.50967 - 0.34463I$
$u = \;\; 0.640765 - 0.065448I$ $a = \;\; 0.06676 - 1.55654I$ $b = \;\; 0.640765 - 0.065448I$	$0.561173 - 0.639753I$	$-5.50967 + 0.34463I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=0.276215+0.533554I$ $a=-1.16500-2.16159I$ $b=0.276215+0.533554I$	$-3.55570-0.00267I$	$-10.39254+2.55625I$
$u=0.276215-0.533554I$ $a=-1.16500+2.16159I$ $b=0.276215-0.533554I$	$-3.55570+0.00267I$	$-10.39254-2.55625I$
$u=0.440393+0.380348I$ $a=0.896498-0.271334I$ $b=0.440393+0.380348I$	$-1.26315-1.02773I$	$-6.64941+3.71665I$
$u=0.440393-0.380348I$ $a=0.896498+0.271334I$ $b=0.440393-0.380348I$	$-1.26315+1.02773I$	$-6.64941-3.71665I$
$u=-0.388482+0.417207I$ $a=0.91985-2.32255I$ $b=-0.388482+0.417207I$	$-0.15749-3.53597I$	$-7.19576+1.75427I$
$u=-0.388482-0.417207I$ $a=0.91985+2.32255I$ $b=-0.388482-0.417207I$	$-0.15749+3.53597I$	$-7.19576-1.75427I$
$u=-0.536439+0.152143I$ $a=0.19810-2.15263I$ $b=-0.536439+0.152143I$	$1.28152-3.19239I$	$-5.87746+5.99544I$
$u=-0.536439-0.152143I$ $a=0.19810+2.15263I$ $b=-0.536439-0.152143I$	$1.28152+3.19239I$	$-5.87746-5.99544I$
$u=0.411639$ $a=0.358793$ $b=0.411639$	-0.908630	-11.5680
$u=0.069113+0.352786I$ $a=2.46626-1.42359I$ $b=0.069113+0.352786I$	$-0.90988-2.23770I$	$0.21125+2.16221I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.069113 - 0.352786I$ $a = 2.46626 + 1.42359I$ $b = 0.069113 - 0.352786I$	$-0.90988 + 2.23770I$	$0.21125 - 2.16221I$
$u = -1.79797 + 0.39975I$ $a = 0.791512 + 0.386512I$ $b = -1.79797 + 0.39975I$	$-10.49280 - 5.44002I$	0
$u = -1.79797 - 0.39975I$ $a = 0.791512 - 0.386512I$ $b = -1.79797 - 0.39975I$	$-10.49280 + 5.44002I$	0
$u = 1.84834 + 0.40321I$ $a = -0.787306 + 0.304002I$ $b = 1.84834 + 0.40321I$	$-7.74174 - 0.09044I$	0
$u = 1.84834 - 0.40321I$ $a = -0.787306 - 0.304002I$ $b = 1.84834 - 0.40321I$	$-7.74174 + 0.09044I$	0
$u = -1.86346 + 0.35746I$ $a = 0.898519 + 0.269725I$ $b = -1.86346 + 0.35746I$	$-12.94290 + 3.71649I$	0
$u = -1.86346 - 0.35746I$ $a = 0.898519 - 0.269725I$ $b = -1.86346 - 0.35746I$	$-12.94290 - 3.71649I$	0
$u = -1.87706 + 0.37684I$ $a = 0.894002 + 0.031082I$ $b = -1.87706 + 0.37684I$	$-5.46083 + 8.77952I$	0
$u = -1.87706 - 0.37684I$ $a = 0.894002 - 0.031082I$ $b = -1.87706 - 0.37684I$	$-5.46083 - 8.77952I$	0
$u = 1.88332 + 0.36296I$ $a = -0.835463 + 0.083202I$ $b = 1.88332 + 0.36296I$	$-5.07424 - 3.40985I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.88332 - 0.36296I$ $a = -0.835463 - 0.083202I$ $b = 1.88332 - 0.36296I$	$-5.07424 + 3.40985I$	0
$u = -1.91093 + 0.40135I$ $a = 1.032100 + 0.006450I$ $b = -1.91093 + 0.40135I$	$-9.1177 + 10.8968I$	0
$u = -1.91093 - 0.40135I$ $a = 1.032100 - 0.006450I$ $b = -1.91093 - 0.40135I$	$-9.1177 - 10.8968I$	0
$u = 1.91805 + 0.38450I$ $a = -1.045410 + 0.056772I$ $b = 1.91805 + 0.38450I$	$-13.7875 - 7.1044I$	0
$u = 1.91805 - 0.38450I$ $a = -1.045410 - 0.056772I$ $b = 1.91805 - 0.38450I$	$-13.7875 + 7.1044I$	0
$u = 1.92006 + 0.40960I$ $a = -1.059660 - 0.009858I$ $b = 1.92006 + 0.40960I$	$-12.0188 - 16.0848I$	0
$u = 1.92006 - 0.40960I$ $a = -1.059660 + 0.009858I$ $b = 1.92006 - 0.40960I$	$-12.0188 + 16.0848I$	0

II. $\boldsymbol{I_2^u = \langle b+u,\ 250u^{18}-299u^{17}+\cdots+73a+547,\ u^{19}-u^{18}+\cdots+3u+1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3.42466u^{18}+4.09589u^{17}+\cdots-5.61644u-7.49315 \\ -u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.219178u^{18}+0.630137u^{17}+\cdots-0.479452u+1.61644 \\ 0.219178u^{18}-0.630137u^{17}+\cdots+0.479452u+0.383562 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -3.42466u^{18}+4.09589u^{17}+\cdots-6.61644u-7.49315 \\ -u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -3.42466u^{18}+4.09589u^{17}+\cdots-6.61644u-7.49315 \\ 0.383562u^{18}-0.602740u^{17}+\cdots-2.41096u+0.671233 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.80822u^{18}+3.69863u^{17}+\cdots-2.20548u-5.16438 \\ 0.383562u^{18}-0.602740u^{17}+\cdots-0.410959u+0.671233 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.42466u^{18}+3.09589u^{17}+\cdots-2.61644u-4.49315 \\ 0.383562u^{18}-0.602740u^{17}+\cdots-0.410959u+0.671233 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.04110u^{18}-3.49315u^{17}+\cdots+6.02740u+6.82192 \\ 0.0273973u^{18}+0.671233u^{17}+\cdots+2.68493u-0.452055 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 4.10959u^{18}-4.31507u^{17}+\cdots+2.73973u+8.19178 \\ -0.561644u^{18}+0.739726u^{17}+\cdots+2.95890u-0.232877 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -3.30137u^{18}+4.61644u^{17}+\cdots-1.53425u-7.02740 \\ 0.0547945u^{18}-0.657534u^{17}+\cdots-0.630137u+1.09589 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{128}{73}u^{18} - \frac{149}{73}u^{17} + \cdots + \frac{2032}{73}u + \frac{589}{73}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{19} - 10u^{18} + \cdots + 4u - 1$
c_2	$u^{19} + 2u^{18} + \cdots + 2u + 1$
c_3, c_{10}	$u^{19} - 9u^{17} + \cdots + 5u^2 + 1$
c_4, c_8	$u^{19} - u^{18} + \cdots + 3u + 1$
c_5	$u^{19} - 2u^{18} + \cdots + 2u - 1$
c_6	$u^{19} - 6u^{18} + \cdots + 2u^2 - 1$
c_7	$u^{19} - 2u^{18} + \cdots - 2u + 1$
c_9, c_{12}	$u^{19} - 2u^{18} + \cdots - 2u + 1$
c_{11}	$u^{19} + 17u^{18} + \cdots + 126u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{19}+2y^{18}+\cdots+8y-1$
c_2, c_5	$y^{19}-10y^{18}+\cdots+4y-1$
c_3, c_{10}	$y^{19}-18y^{18}+\cdots-10y-1$
c_4, c_8	$y^{19}-15y^{18}+\cdots+3y-1$
c_6	$y^{19}+6y^{18}+\cdots+4y-1$
c_7	$y^{19}-6y^{18}+\cdots+4y-1$
c_9, c_{12}	$y^{19}-4y^{18}+\cdots+6y-1$
c_{11}	$y^{19}-19y^{18}+\cdots-1076y-169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.389670 + 0.971259I$ $a = 0.122229 - 0.627078I$ $b = 0.389670 - 0.971259I$	$2.33089 + 2.35439I$	$-2.65418 + 9.07433I$
$u = -0.389670 - 0.971259I$ $a = 0.122229 + 0.627078I$ $b = 0.389670 + 0.971259I$	$2.33089 - 2.35439I$	$-2.65418 - 9.07433I$
$u = 0.107461 + 0.844602I$ $a = -0.493610 - 0.405220I$ $b = -0.107461 - 0.844602I$	$2.97743 + 2.82971I$	$1.23971 - 7.37257I$
$u = 0.107461 - 0.844602I$ $a = -0.493610 + 0.405220I$ $b = -0.107461 + 0.844602I$	$2.97743 - 2.82971I$	$1.23971 + 7.37257I$
$u = 0.297145 + 0.782682I$ $a = 1.072240 + 0.413603I$ $b = -0.297145 - 0.782682I$	$-1.69545 - 9.35446I$	$-5.05835 + 8.47597I$
$u = 0.297145 - 0.782682I$ $a = 1.072240 - 0.413603I$ $b = -0.297145 + 0.782682I$	$-1.69545 + 9.35446I$	$-5.05835 - 8.47597I$
$u = -0.219141 + 0.729049I$ $a = -1.127880 + 0.213922I$ $b = 0.219141 - 0.729049I$	$0.95654 + 4.52756I$	$-1.42515 - 5.36291I$
$u = -0.219141 - 0.729049I$ $a = -1.127880 - 0.213922I$ $b = 0.219141 + 0.729049I$	$0.95654 - 4.52756I$	$-1.42515 + 5.36291I$
$u = 0.347645 + 0.580389I$ $a = 1.49707 + 0.47525I$ $b = -0.347645 - 0.580389I$	$-3.09155 - 1.28314I$	$-7.80963 + 3.01643I$
$u = 0.347645 - 0.580389I$ $a = 1.49707 - 0.47525I$ $b = -0.347645 + 0.580389I$	$-3.09155 + 1.28314I$	$-7.80963 - 3.01643I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.409426+0.038014I$ $a=-1.22838-2.29649I$ $b=\ \ 0.409426-0.038014I$	$-1.45073-2.37737I$	$-14.4553+5.2559I$
$u=-0.409426-0.038014I$ $a=-1.22838+2.29649I$ $b=\ \ 0.409426+0.038014I$	$-1.45073+2.37737I$	$-14.4553-5.2559I$
$u=\ \ 1.63934+0.02428I$ $a=\ \ 1.081950-0.322533I$ $b=-1.63934-0.02428I$	$-8.75263+5.21255I$	$-9.20929-3.46517I$
$u=\ \ 1.63934-0.02428I$ $a=\ \ 1.081950+0.322533I$ $b=-1.63934+0.02428I$	$-8.75263-5.21255I$	$-9.20929+3.46517I$
$u=\ \ 1.70890+0.02593I$ $a=\ \ 1.228870+0.191361I$ $b=-1.70890-0.02593I$	$-9.57662+2.62847I$	$-9.72201-4.27468I$
$u=\ \ 1.70890-0.02593I$ $a=\ \ 1.228870-0.191361I$ $b=-1.70890+0.02593I$	$-9.57662-2.62847I$	$-9.72201+4.27468I$
$u=-1.71417+0.03393I$ $a=-1.039940-0.168963I$ $b=\ \ 1.71417-0.03393I$	$-6.19104-0.62856I$	$-6.47218-0.41177I$
$u=-1.71417-0.03393I$ $a=-1.039940+0.168963I$ $b=\ \ 1.71417+0.03393I$	$-6.19104+0.62856I$	$-6.47218+0.41177I$
$u=-1.73618$ $a=-1.22509$ $b=\ \ 1.73618$	-6.94142	-2.86710

III. $\boldsymbol{I^u_3 = \langle 2.40 \times 10^{77} u^{33} + 4.39 \times 10^{77} u^{32} + \cdots + 2.11 \times 10^{80} b + 4.67 \times 10^{80},\ -2.67 \times 10^{80} u^{33} - 6.63 \times 10^{80} u^{32} + \cdots + 4.21 \times 10^{83} a - 5.18 \times 10^{83},\ u^{34} + u^{33} + \cdots + 1952u - 1993\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.000633687u^{33} + 0.00157466u^{32} + \cdots - 1.38149u + 1.23140 \\ -0.00113544u^{33} - 0.00207642u^{32} + \cdots - 0.586403u - 2.21083 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00161924u^{33} - 0.00401377u^{32} + \cdots - 1.64818u - 2.45216 \\ 0.00145092u^{33} + 0.00405054u^{32} + \cdots - 2.20190u + 1.96335 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.000501756u^{33} - 0.000501756u^{32} + \cdots - 1.96789u - 0.979428 \\ -0.00113544u^{33} - 0.00207642u^{32} + \cdots - 0.586403u - 2.21083 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.000501756u^{33} - 0.000501756u^{32} + \cdots - 1.96789u - 0.979428 \\ -0.00113544u^{33} - 0.00207642u^{32} + \cdots + 0.413597u - 2.21083 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00225250u^{33} + 0.00558537u^{32} + \cdots - 0.926455u + 2.18386 \\ -0.00288618u^{33} - 0.00716003u^{32} + \cdots + 3.30794u - 3.41526 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.000633687u^{33} - 0.00157466u^{32} + \cdots + 2.38149u - 1.23140 \\ -0.00288618u^{33} - 0.00716003u^{32} + \cdots + 3.30794u - 3.41526 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000428587u^{33} - 0.000572264u^{32} + \cdots + 0.221236u - 1.56686 \\ 0.00234022u^{33} + 0.00587590u^{32} + \cdots + 1.14397u + 2.65445 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00298530u^{33} + 0.00738719u^{32} + \cdots - 1.07544u + 3.26522 \\ -0.00158678u^{33} - 0.00381361u^{32} + \cdots - 0.818276u - 3.70164 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.000923865u^{33} + 0.00208460u^{32} + \cdots + 1.06868u + 2.80386 \\ 0.000581990u^{33} + 0.000749672u^{32} + \cdots + 2.17844u + 2.36276 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00320571u^{33} + 0.00635032u^{32} + \cdots + 0.739925u + 0.207764$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{17}+9u^{16}+\cdots+u+1)^2$
c_2, c_5	$(u^{17}-u^{16}+\cdots+u-1)^2$
c_3, c_{10}	$u^{34}-u^{33}+\cdots+116748u-21241$
c_4, c_8	$u^{34}-u^{33}+\cdots-1952u-1993$
c_6	$(u^{17}-3u^{16}+\cdots+9u-3)^2$
c_7	$(u-1)^{34}$
c_9, c_{12}	$u^{34}+15u^{33}+\cdots+284u+23$
c_{11}	$(u^{17}+15u^{16}+\cdots-15u+3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{17} - y^{16} + \cdots + 9y - 1)^2$
c_2, c_5	$(y^{17} - 9y^{16} + \cdots + y - 1)^2$
c_3, c_{10}	$y^{34} - 33y^{33} + \cdots - 8863869996y + 451180081$
c_4, c_8	$y^{34} - 45y^{33} + \cdots - 19443396y + 3972049$
c_6	$(y^{17} + 11y^{16} + \cdots + 57y - 9)^2$
c_7	$(y - 1)^{34}$
c_9, c_{12}	$y^{34} - 5y^{33} + \cdots + 580y + 529$
c_{11}	$(y^{17} - 33y^{16} + \cdots - 15y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.167398 + 1.144780I$ $a = 0.014539 + 0.424029I$ $b = -0.139598 + 0.431211I$	$2.19127 - 2.39923I$	$-7.13400 + 3.27109I$
$u = 0.167398 - 1.144780I$ $a = 0.014539 - 0.424029I$ $b = -0.139598 - 0.431211I$	$2.19127 + 2.39923I$	$-7.13400 - 3.27109I$
$u = 0.622028 + 0.358140I$ $a = -0.443652 - 0.412413I$ $b = -0.763740 + 1.107580I$	$-4.71195 + 0.50801I$	$-13.57451 + 0.23246I$
$u = 0.622028 - 0.358140I$ $a = -0.443652 + 0.412413I$ $b = -0.763740 - 1.107580I$	$-4.71195 - 0.50801I$	$-13.57451 - 0.23246I$
$u = -0.763740 + 1.107580I$ $a = -0.200081 + 0.253771I$ $b = 0.622028 + 0.358140I$	$-4.71195 + 0.50801I$	$-13.57451 + 0.23246I$
$u = -0.763740 - 1.107580I$ $a = -0.200081 - 0.253771I$ $b = 0.622028 - 0.358140I$	$-4.71195 - 0.50801I$	$-13.57451 - 0.23246I$
$u = 0.612488 + 1.252450I$ $a = 0.160762 + 0.357838I$ $b = -0.475864 + 0.286501I$	$-0.42874 - 3.91820I$	$-8.40216 + 2.39256I$
$u = 0.612488 - 1.252450I$ $a = 0.160762 - 0.357838I$ $b = -0.475864 - 0.286501I$	$-0.42874 + 3.91820I$	$-8.40216 - 2.39256I$
$u = -0.475864 + 0.286501I$ $a = 0.929876 - 0.323850I$ $b = 0.612488 + 1.252450I$	$-0.42874 - 3.91820I$	$-8.40216 + 2.39256I$
$u = -0.475864 - 0.286501I$ $a = 0.929876 + 0.323850I$ $b = 0.612488 - 1.252450I$	$-0.42874 + 3.91820I$	$-8.40216 - 2.39256I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.507585 + 0.207409I$ $a = -1.006380 - 0.653748I$ $b = -0.68185 + 1.34359I$	$-3.16740 + 8.83664I$	$-11.62632 - 5.87120I$
$u = 0.507585 - 0.207409I$ $a = -1.006380 + 0.653748I$ $b = -0.68185 - 1.34359I$	$-3.16740 - 8.83664I$	$-11.62632 + 5.87120I$
$u = 1.46214 + 0.04893I$ $a = 1.35960 - 0.49813I$ $b = -2.04276 + 0.52099I$	$-10.22540 + 6.09306I$	$-15.2930 - 6.8742I$
$u = 1.46214 - 0.04893I$ $a = 1.35960 + 0.49813I$ $b = -2.04276 - 0.52099I$	$-10.22540 - 6.09306I$	$-15.2930 + 6.8742I$
$u = -1.49197 + 0.07442I$ $a = -1.311960 - 0.394189I$ $b = 1.98055 + 0.42754I$	$-7.27776 - 1.70542I$	$-12.10923 + 4.02096I$
$u = -1.49197 - 0.07442I$ $a = -1.311960 + 0.394189I$ $b = 1.98055 - 0.42754I$	$-7.27776 + 1.70542I$	$-12.10923 - 4.02096I$
$u = -0.68185 + 1.34359I$ $a = -0.207231 + 0.384441I$ $b = 0.507585 + 0.207409I$	$-3.16740 + 8.83664I$	$-11.62632 - 5.87120I$
$u = -0.68185 - 1.34359I$ $a = -0.207231 - 0.384441I$ $b = 0.507585 - 0.207409I$	$-3.16740 - 8.83664I$	$-11.62632 + 5.87120I$
$u = 1.51009 + 0.03397I$ $a = 1.44977 - 0.35194I$ $b = -2.11165 + 0.36683I$	$-10.72210 - 2.05778I$	$-17.0193 + 0.3782I$
$u = 1.51009 - 0.03397I$ $a = 1.44977 + 0.35194I$ $b = -2.11165 - 0.36683I$	$-10.72210 + 2.05778I$	$-17.0193 - 0.3782I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.49205+0.25792I$ $a=-0.992537-0.309405I$ $b=1.64331+0.42190I$	$-5.45645-1.83062I$	$-8.40697+5.22267I$
$u=-1.49205-0.25792I$ $a=-0.992537+0.309405I$ $b=1.64331-0.42190I$	$-5.45645+1.83062I$	$-8.40697-5.22267I$
$u=-0.139598+0.431211I$ $a=0.512141+0.954274I$ $b=0.167398+1.144780I$	$2.19127-2.39923I$	$-7.13400+3.27109I$
$u=-0.139598-0.431211I$ $a=0.512141-0.954274I$ $b=0.167398-1.144780I$	$2.19127+2.39923I$	$-7.13400-3.27109I$
$u=-1.59159$ $a=-1.35109$ $b=1.97939$	-7.58450	-18.8690
$u=1.64331+0.42190I$ $a=0.921155-0.111350I$ $b=-1.49205+0.25792I$	$-5.45645-1.83062I$	$-8.40697+5.22267I$
$u=1.64331-0.42190I$ $a=0.921155+0.111350I$ $b=-1.49205-0.25792I$	$-5.45645+1.83062I$	$-8.40697-5.22267I$
$u=1.97939$ $a=1.08639$ $b=-1.59159$	-7.58450	-18.8690
$u=1.98055+0.42754I$ $a=1.009540+0.029722I$ $b=-1.49197+0.07442I$	$-7.27776-1.70542I$	0
$u=1.98055-0.42754I$ $a=1.009540-0.029722I$ $b=-1.49197-0.07442I$	$-7.27776+1.70542I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-2.04276+0.52099I$ $a=-1.002510+0.068296I$ $b=\quad 1.46214+0.04893I$	$-10.22540+6.09306I$	0
$u=-2.04276-0.52099I$ $a=-1.002510-0.068296I$ $b=\quad 1.46214-0.04893I$	$-10.22540-6.09306I$	0
$u=-2.11165+0.36683I$ $a=-1.050400+0.045887I$ $b=\quad 1.51009+0.03397I$	$-10.72210-2.05778I$	0
$u=-2.11165-0.36683I$ $a=-1.050400-0.045887I$ $b=\quad 1.51009-0.03397I$	$-10.72210+2.05778I$	0

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^{17}+9u^{16}+\cdots+u+1)^2)(u^{19}-10u^{18}+\cdots+4u-1)$ $\cdot(u^{37}+19u^{36}+\cdots+13u+4)$
c_2	$((u^{17}-u^{16}+\cdots+u-1)^2)(u^{19}+2u^{18}+\cdots+2u+1)$ $\cdot(u^{37}+5u^{36}+\cdots+11u+2)$
c_3, c_{10}	$(u^{19}-9u^{17}+\cdots+5u^2+1)(u^{34}-u^{33}+\cdots+116748u-21241)$ $\cdot(u^{37}-16u^{35}+\cdots+286u+313)$
c_4, c_8	$(u^{19}-u^{18}+\cdots+3u+1)(u^{34}-u^{33}+\cdots-1952u-1993)$ $\cdot(u^{37}+u^{36}+\cdots+3u+1)$
c_5	$((u^{17}-u^{16}+\cdots+u-1)^2)(u^{19}-2u^{18}+\cdots+2u-1)$ $\cdot(u^{37}+5u^{36}+\cdots+11u+2)$
c_6	$((u^{17}-3u^{16}+\cdots+9u-3)^2)(u^{19}-6u^{18}+\cdots+2u^2-1)$ $\cdot(u^{37}+15u^{36}+\cdots+1057u+142)$
c_7	$((u-1)^{34})(u^{19}-2u^{18}+\cdots-2u+1)$ $\cdot(u^{37}+33u^{36}+\cdots+2424832u+131072)$
c_9, c_{12}	$(u^{19}-2u^{18}+\cdots-2u+1)(u^{34}+15u^{33}+\cdots+284u+23)$ $\cdot(u^{37}+2u^{36}+\cdots-4u+1)$
c_{11}	$((u^{17}+15u^{16}+\cdots-15u+3)^2)(u^{19}+17u^{18}+\cdots+126u+13)$ $\cdot(u^{37}-20u^{36}+\cdots+3129u+416)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^{17} - y^{16} + \cdots + 9y - 1)^2)(y^{19} + 2y^{18} + \cdots + 8y - 1)$ $\cdot (y^{37} + y^{36} + \cdots + 417y - 16)$
c_2, c_5	$((y^{17} - 9y^{16} + \cdots + y - 1)^2)(y^{19} - 10y^{18} + \cdots + 4y - 1)$ $\cdot (y^{37} - 19y^{36} + \cdots + 13y - 4)$
c_3, c_{10}	$(y^{19} - 18y^{18} + \cdots - 10y - 1)$ $\cdot (y^{34} - 33y^{33} + \cdots - 8863869996y + 451180081)$ $\cdot (y^{37} - 32y^{36} + \cdots + 1668y - 97969)$
c_4, c_8	$(y^{19} - 15y^{18} + \cdots + 3y - 1)$ $\cdot (y^{34} - 45y^{33} + \cdots - 19443396y + 3972049)$ $\cdot (y^{37} - 53y^{36} + \cdots + y - 1)$
c_6	$((y^{17} + 11y^{16} + \cdots + 57y - 9)^2)(y^{19} + 6y^{18} + \cdots + 4y - 1)$ $\cdot (y^{37} + 17y^{36} + \cdots + 321765y - 20164)$
c_7	$((y - 1)^{34})(y^{19} - 6y^{18} + \cdots + 4y - 1)$ $\cdot (y^{37} - 7y^{36} + \cdots + 124554051584y - 17179869184)$
c_9, c_{12}	$(y^{19} - 4y^{18} + \cdots + 6y - 1)(y^{34} - 5y^{33} + \cdots + 580y + 529)$ $\cdot (y^{37} + 18y^{36} + \cdots + 52y - 1)$
c_{11}	$((y^{17} - 33y^{16} + \cdots - 15y - 9)^2)(y^{19} - 19y^{18} + \cdots - 1076y - 169)$ $\cdot (y^{37} - 40y^{36} + \cdots + 11555313y - 173056)$