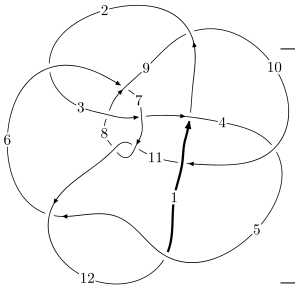
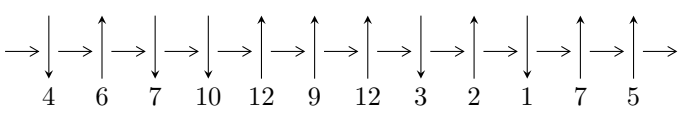
$12n_{0731}$ $(K12n_{0731})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 3.93575 \times 10^{718} u^{105} + 3.48971 \times 10^{719} u^{104} + \cdots + 3.15936 \times 10^{722} b + 1.38793 \times 10^{723}, \\ & - 5.52453 \times 10^{723} u^{105} - 5.11171 \times 10^{724} u^{104} + \cdots + 9.52365 \times 10^{725} a - 1.77941 \times 10^{728}, \\ & u^{106} + 10 u^{105} + \cdots - 15333 u + 21101 \rangle \\ I_2^u = \langle & 4.63757 \times 10^{102} u^{45} - 4.96173 \times 10^{103} u^{44} + \cdots + 2.96832 \times 10^{102} b - 1.06364 \times 10^{103}, \\ & - 4.46704 \times 10^{101} u^{45} + 4.84639 \times 10^{102} u^{44} + \cdots + 1.09938 \times 10^{101} a + 4.31174 \times 10^{101}, \\ & u^{46} - 11 u^{45} + \cdots - 7 u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 152 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. $\boldsymbol{I_1^u = \langle 3.94 \times 10^{718} u^{105} + 3.49 \times 10^{719} u^{104} + \cdots + 3.16 \times 10^{722} b + 1.39 \times 10^{723},\ -5.52 \times 10^{723} u^{105} - 5.11 \times 10^{724} u^{104} + \cdots + 9.52 \times 10^{725} a - 1.78 \times 10^{728},\ u^{106} + 10 u^{105} + \cdots - 15333 u + 21101 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.00580085u^{105} + 0.0536738u^{104} + \cdots - 572.698u + 186.841 \\ -0.000124574u^{105} - 0.00110456u^{104} + \cdots + 24.9971u - 4.39308 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.00567627u^{105} + 0.0525692u^{104} + \cdots - 547.701u + 182.448 \\ -0.000124574u^{105} - 0.00110456u^{104} + \cdots + 24.9971u - 4.39308 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.000537252u^{105} - 0.000473389u^{104} + \cdots - 629.847u + 113.927 \\ -0.00320183u^{105} - 0.0290170u^{104} + \cdots + 170.414u - 77.5333 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00921004u^{105} + 0.0926336u^{104} + \cdots - 2089.53u + 697.826 \\ -0.00291743u^{105} - 0.0260276u^{104} + \cdots + 39.1070u - 48.6936 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00598408u^{105} + 0.0586924u^{104} + \cdots - 978.692u + 272.862 \\ -0.00331950u^{105} - 0.0301488u^{104} + \cdots + 180.431u - 81.4016 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0526098u^{105} - 0.500361u^{104} + \cdots + 5932.15u - 2233.30 \\ -0.000768914u^{105} - 0.00825865u^{104} + \cdots + 242.812u - 76.3708 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.000439883u^{105} + 0.000487826u^{104} + \cdots + 1000.19u - 186.949 \\ 0.000546921u^{105} + 0.00460690u^{104} + \cdots + 40.0615u - 4.47173 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0234483u^{105} - 0.233104u^{104} + \cdots + 4664.71u - 1533.64 \\ -0.00343512u^{105} - 0.0330149u^{104} + \cdots + 409.086u - 149.387 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0268396u^{105} + 0.252050u^{104} + \cdots - 3022.06u + 1070.17 \\ 0.00293758u^{105} + 0.0273639u^{104} + \cdots - 238.020u + 100.084 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0420363u^{105} + 0.394092u^{104} + \cdots - 4107.71u + 1589.71$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{106} + 4u^{105} + \cdots + 166u + 7$
c_2	$u^{106} - 2u^{105} + \cdots - 689301u + 133281$
c_3	$u^{106} + 3u^{105} + \cdots - 4214426643u + 4151404117$
c_4	$u^{106} - 2u^{105} + \cdots - 717u + 99$
c_5, c_{12}	$u^{106} - 2u^{105} + \cdots + 1381696u + 76939$
c_6	$u^{106} + 7u^{105} + \cdots + 4u + 1$
c_7, c_{11}	$u^{106} - 2u^{105} + \cdots + 2088059u + 2311849$
c_8	$u^{106} + u^{105} + \cdots - 233910687u + 50664949$
c_9	$u^{106} - 2u^{105} + \cdots + 701049191u + 114592757$
c_{10}	$u^{106} - 10u^{105} + \cdots + 15333u + 21101$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{106} - 20y^{105} + \cdots + 1704y + 49$
c_2	$y^{106} + 46y^{105} + \cdots + 3044616486147y + 17763824961$
c_3	$y^{106} - 59y^{105} + \cdots - 3.51 \times 10^{20}y + 1.72 \times 10^{19}$
c_4	$y^{106} - 8y^{105} + \cdots - 558243y + 9801$
c_5, c_{12}	$y^{106} + 116y^{105} + \cdots + 9155464634y + 5919609721$
c_6	$y^{106} - 7y^{105} + \cdots + 382y + 1$
c_7, c_{11}	$y^{106} + 100y^{105} + \cdots + 37507627368405y + 5344645798801$
c_8	$y^{106} - 51y^{105} + \cdots - 49138395059999669y + 2566937057172601$
c_9	$y^{106} + 64y^{105} + \cdots + 722400296247735653y + 131314999956861049$
c_{10}	$y^{106} - 48y^{105} + \cdots + 110688846921y + 445252201$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.948251 + 0.358375I$ $a = -0.154934 - 0.911130I$ $b = -0.510751 + 1.304030I$	$-0.767957 + 0.562214I$	0
$u = \quad 0.948251 - 0.358375I$ $a = -0.154934 + 0.911130I$ $b = -0.510751 - 1.304030I$	$-0.767957 - 0.562214I$	0
$u = -0.930685 + 0.254156I$ $a = \quad 0.01050 + 1.63189I$ $b = -1.07268 - 1.48298I$	$-11.7927 + 9.8137I$	0
$u = -0.930685 - 0.254156I$ $a = \quad 0.01050 - 1.63189I$ $b = -1.07268 + 1.48298I$	$-11.7927 - 9.8137I$	0
$u = -0.945138 + 0.053638I$ $a = -0.85171 + 1.91195I$ $b = -0.846585 - 0.188696I$	$-11.8754 - 8.4290I$	0
$u = -0.945138 - 0.053638I$ $a = -0.85171 - 1.91195I$ $b = -0.846585 + 0.188696I$	$-11.8754 + 8.4290I$	0
$u = -1.062100 + 0.135212I$ $a = \quad 0.326050 + 0.030341I$ $b = -0.260804 - 0.164981I$	$2.19964 - 0.01235I$	0
$u = -1.062100 - 0.135212I$ $a = \quad 0.326050 - 0.030341I$ $b = -0.260804 + 0.164981I$	$2.19964 + 0.01235I$	0
$u = -0.782358 + 0.742448I$ $a = \quad 0.92375 - 1.12045I$ $b = -0.776614 + 0.856855I$	$-6.70297 + 3.11731I$	0
$u = -0.782358 - 0.742448I$ $a = \quad 0.92375 + 1.12045I$ $b = -0.776614 - 0.856855I$	$-6.70297 - 3.11731I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.095120+0.119769I$ $a=\ \ 0.264555+1.382680I$ $b=-1.10117-1.34433I$	$-11.66480+1.74888I$	0
$u=-1.095120-0.119769I$ $a=\ \ 0.264555-1.382680I$ $b=-1.10117+1.34433I$	$-11.66480-1.74888I$	0
$u=\ \ 0.797748+0.760470I$ $a=\ \ 1.08756-1.39027I$ $b=\ \ 0.693867+0.683785I$	$-6.23465-1.54870I$	0
$u=\ \ 0.797748-0.760470I$ $a=\ \ 1.08756+1.39027I$ $b=\ \ 0.693867-0.683785I$	$-6.23465+1.54870I$	0
$u=-0.850488+0.260836I$ $a=\ \ 0.70300-1.65375I$ $b=\ \ 1.134180+0.421351I$	$-10.10390+2.94022I$	0
$u=-0.850488-0.260836I$ $a=\ \ 0.70300+1.65375I$ $b=\ \ 1.134180-0.421351I$	$-10.10390-2.94022I$	0
$u=-0.942406+0.605035I$ $a=-0.73783+1.25298I$ $b=\ \ 1.57100-1.20619I$	$-7.51559+5.45810I$	0
$u=-0.942406-0.605035I$ $a=-0.73783-1.25298I$ $b=\ \ 1.57100+1.20619I$	$-7.51559-5.45810I$	0
$u=-0.793473+0.794434I$ $a=-0.22967-1.45133I$ $b=-0.784680+0.922555I$	$3.59008+5.00840I$	0
$u=-0.793473-0.794434I$ $a=-0.22967+1.45133I$ $b=-0.784680-0.922555I$	$3.59008-5.00840I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.136930+0.025652I$ $a=\ \ 0.10186+1.44244I$ $b=\ \ 1.19216-1.13971I$	$-11.47160+1.76278I$	0
$u=-1.136930-0.025652I$ $a=\ \ 0.10186-1.44244I$ $b=\ \ 1.19216+1.13971I$	$-11.47160-1.76278I$	0
$u=-1.133530+0.262789I$ $a=\ \ 0.168383-0.318272I$ $b=-0.723006+0.657240I$	$2.39981+0.29529I$	0
$u=-1.133530-0.262789I$ $a=\ \ 0.168383+0.318272I$ $b=-0.723006-0.657240I$	$2.39981-0.29529I$	0
$u=-1.142390+0.245124I$ $a=-0.089472-0.364832I$ $b=-0.827228+0.837561I$	$0.57325+8.04216I$	0
$u=-1.142390-0.245124I$ $a=-0.089472+0.364832I$ $b=-0.827228-0.837561I$	$0.57325-8.04216I$	0
$u=-0.785176+0.240971I$ $a=\ \ 0.87091-1.86486I$ $b=\ \ 0.355226+0.832415I$	$-7.36655+1.24942I$	0
$u=-0.785176-0.240971I$ $a=\ \ 0.87091+1.86486I$ $b=\ \ 0.355226-0.832415I$	$-7.36655-1.24942I$	0
$u=\ \ 1.007270+0.634188I$ $a=-0.493189+0.266012I$ $b=-0.655674+0.146501I$	$-4.52914-1.62674I$	0
$u=\ \ 1.007270-0.634188I$ $a=-0.493189-0.266012I$ $b=-0.655674-0.146501I$	$-4.52914+1.62674I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.194200+0.015303I$ $a=\ \ 0.191122-1.267150I$ $b=\ \ 0.757365+0.167163I$	$-9.51831+1.58191I$	0
$u=-1.194200-0.015303I$ $a=\ \ 0.191122+1.267150I$ $b=\ \ 0.757365-0.167163I$	$-9.51831-1.58191I$	0
$u=\ \ 0.715283+0.362122I$ $a=\ \ 0.258748+0.444327I$ $b=-1.21522-0.89354I$	$0.26251-5.29920I$	0
$u=\ \ 0.715283-0.362122I$ $a=\ \ 0.258748-0.444327I$ $b=-1.21522+0.89354I$	$0.26251+5.29920I$	0
$u=\ \ 0.039556+0.776971I$ $a=-0.951114-0.865301I$ $b=-0.366670+1.048150I$	$1.09346-2.32406I$	0
$u=\ \ 0.039556-0.776971I$ $a=-0.951114+0.865301I$ $b=-0.366670-1.048150I$	$1.09346+2.32406I$	0
$u=\ \ 1.126670+0.522022I$ $a=-0.431260-1.241580I$ $b=\ \ 1.37061+1.09434I$	$-7.07297-0.53927I$	0
$u=\ \ 1.126670-0.522022I$ $a=-0.431260+1.241580I$ $b=\ \ 1.37061-1.09434I$	$-7.07297+0.53927I$	0
$u=\ \ 1.055460+0.681232I$ $a=\ \ 0.306393+0.858063I$ $b=-0.652118+0.095378I$	$-4.17577+1.05529I$	0
$u=\ \ 1.055460-0.681232I$ $a=\ \ 0.306393-0.858063I$ $b=-0.652118-0.095378I$	$-4.17577-1.05529I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.716244 + 1.049390I$ $a = -0.307272 - 0.800764I$ $b = 0.834602 + 0.837103I$	$0.62607 - 2.48643I$	0
$u = 0.716244 - 1.049390I$ $a = -0.307272 + 0.800764I$ $b = 0.834602 - 0.837103I$	$0.62607 + 2.48643I$	0
$u = 0.649056 + 1.129630I$ $a = -0.852304 - 0.606312I$ $b = 0.953022 + 0.164976I$	$-4.69259 - 5.04246I$	0
$u = 0.649056 - 1.129630I$ $a = -0.852304 + 0.606312I$ $b = 0.953022 - 0.164976I$	$-4.69259 + 5.04246I$	0
$u = 0.501347 + 0.472370I$ $a = -0.00844 + 1.77091I$ $b = -0.86573 - 1.27101I$	$2.10442 - 3.12705I$	0
$u = 0.501347 - 0.472370I$ $a = -0.00844 - 1.77091I$ $b = -0.86573 + 1.27101I$	$2.10442 + 3.12705I$	0
$u = -0.206688 + 0.653964I$ $a = -0.698029 - 0.144455I$ $b = 0.142044 + 1.053890I$	$0.66152 - 1.95991I$	0
$u = -0.206688 - 0.653964I$ $a = -0.698029 + 0.144455I$ $b = 0.142044 - 1.053890I$	$0.66152 + 1.95991I$	0
$u = -0.343078 + 0.550704I$ $a = 1.047830 + 0.746559I$ $b = 0.932482 - 0.842902I$	$0.30226 + 3.78367I$	0
$u = -0.343078 - 0.550704I$ $a = 1.047830 - 0.746559I$ $b = 0.932482 + 0.842902I$	$0.30226 - 3.78367I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.597051+0.247246I$ $a=1.009150+0.086880I$ $b=0.821278-0.470853I$	$-1.68666+1.98824I$	0
$u=-0.597051-0.247246I$ $a=1.009150-0.086880I$ $b=0.821278+0.470853I$	$-1.68666-1.98824I$	0
$u=0.617618+0.183682I$ $a=1.036030+0.858345I$ $b=0.234908+0.223337I$	$0.96810+1.47192I$	0
$u=0.617618-0.183682I$ $a=1.036030-0.858345I$ $b=0.234908-0.223337I$	$0.96810-1.47192I$	0
$u=0.937954+1.003510I$ $a=0.507532-1.161270I$ $b=0.877508+0.856765I$	$-6.00148-10.91030I$	0
$u=0.937954-1.003510I$ $a=0.507532+1.161270I$ $b=0.877508-0.856765I$	$-6.00148+10.91030I$	0
$u=1.261480+0.596350I$ $a=0.130770+0.811658I$ $b=-0.886100-0.141133I$	$-5.30219-1.09707I$	0
$u=1.261480-0.596350I$ $a=0.130770-0.811658I$ $b=-0.886100+0.141133I$	$-5.30219+1.09707I$	0
$u=1.036710+0.951321I$ $a=-0.452856+0.505281I$ $b=1.020630-0.738227I$	$-6.47476-4.69639I$	0
$u=1.036710-0.951321I$ $a=-0.452856-0.505281I$ $b=1.020630+0.738227I$	$-6.47476+4.69639I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.257527 + 0.515622I$ $a = -0.322926 - 0.949508I$ $b = 0.152335 + 0.575471I$	$0.280562 - 1.196360I$	$3.52474 + 5.60215I$
$u = 0.257527 - 0.515622I$ $a = -0.322926 + 0.949508I$ $b = 0.152335 - 0.575471I$	$0.280562 + 1.196360I$	$3.52474 - 5.60215I$
$u = 1.31569 + 0.54735I$ $a = -0.389611 - 1.075770I$ $b = 1.27345 + 1.14690I$	$-6.89798 - 8.79517I$	0
$u = 1.31569 - 0.54735I$ $a = -0.389611 + 1.075770I$ $b = 1.27345 - 1.14690I$	$-6.89798 + 8.79517I$	0
$u = -0.541271 + 0.124755I$ $a = -0.975052 - 0.524676I$ $b = -0.893710 + 0.465289I$	$-0.39210 - 2.59281I$	$7.20768 + 1.21957I$
$u = -0.541271 - 0.124755I$ $a = -0.975052 + 0.524676I$ $b = -0.893710 - 0.465289I$	$-0.39210 + 2.59281I$	$7.20768 - 1.21957I$
$u = 0.483565 + 0.259179I$ $a = -0.73010 - 3.16054I$ $b = 0.546969 - 0.143757I$	$-2.77209 + 5.05289I$	$-8.48455 + 2.07484I$
$u = 0.483565 - 0.259179I$ $a = -0.73010 + 3.16054I$ $b = 0.546969 + 0.143757I$	$-2.77209 - 5.05289I$	$-8.48455 - 2.07484I$
$u = 1.04138 + 1.02713I$ $a = 0.261733 + 0.782034I$ $b = -1.28490 - 0.68756I$	$-4.01100 - 6.40397I$	0
$u = 1.04138 - 1.02713I$ $a = 0.261733 - 0.782034I$ $b = -1.28490 + 0.68756I$	$-4.01100 + 6.40397I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.19380 + 0.84572I$ $a = -0.166866 + 0.186053I$ $b = -1.061720 - 0.304828I$	$-4.54460 - 5.42564I$	0
$u = 1.19380 - 0.84572I$ $a = -0.166866 - 0.186053I$ $b = -1.061720 + 0.304828I$	$-4.54460 + 5.42564I$	0
$u = -0.495283 + 0.088834I$ $a = -2.96721 + 4.95995I$ $b = -0.444387 - 0.018262I$	$-9.14069 - 0.80624I$	$-19.8674 + 10.1131I$
$u = -0.495283 - 0.088834I$ $a = -2.96721 - 4.95995I$ $b = -0.444387 + 0.018262I$	$-9.14069 + 0.80624I$	$-19.8674 - 10.1131I$
$u = 1.46177 + 0.59034I$ $a = -0.215984 + 0.256621I$ $b = -0.881375 - 0.537779I$	$-4.90201 - 4.43875I$	0
$u = 1.46177 - 0.59034I$ $a = -0.215984 - 0.256621I$ $b = -0.881375 + 0.537779I$	$-4.90201 + 4.43875I$	0
$u = 0.89486 + 1.31823I$ $a = 0.395762 + 0.688009I$ $b = -1.37189 - 0.73112I$	$-2.12203 - 8.74504I$	0
$u = 0.89486 - 1.31823I$ $a = 0.395762 - 0.688009I$ $b = -1.37189 + 0.73112I$	$-2.12203 + 8.74504I$	0
$u = 0.284209 + 0.260690I$ $a = -0.86523 - 2.72830I$ $b = 0.24829 + 2.52526I$	$4.76226 - 1.79870I$	$25.9708 + 15.0919I$
$u = 0.284209 - 0.260690I$ $a = -0.86523 + 2.72830I$ $b = 0.24829 - 2.52526I$	$4.76226 + 1.79870I$	$25.9708 - 15.0919I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.35115 + 1.02108I$ $a = -0.384632 + 0.336220I$ $b = 0.805758 - 0.612411I$	$-6.73034 + 3.19854I$	0
$u = 1.35115 - 1.02108I$ $a = -0.384632 - 0.336220I$ $b = 0.805758 + 0.612411I$	$-6.73034 - 3.19854I$	0
$u = 1.61710 + 0.52120I$ $a = -0.195134 - 0.641151I$ $b = -0.065410 + 0.986285I$	$-0.855434 + 1.061610I$	0
$u = 1.61710 - 0.52120I$ $a = -0.195134 + 0.641151I$ $b = -0.065410 - 0.986285I$	$-0.855434 - 1.061610I$	0
$u = -1.41061 + 0.99105I$ $a = 0.280813 - 1.037220I$ $b = -1.20795 + 0.97310I$	$-12.6935 + 10.2089I$	0
$u = -1.41061 - 0.99105I$ $a = 0.280813 + 1.037220I$ $b = -1.20795 - 0.97310I$	$-12.6935 - 10.2089I$	0
$u = 1.32727 + 1.14971I$ $a = -0.187504 + 0.280739I$ $b = -0.547721 - 0.363592I$	$-2.26303 - 5.50263I$	0
$u = 1.32727 - 1.14971I$ $a = -0.187504 - 0.280739I$ $b = -0.547721 + 0.363592I$	$-2.26303 + 5.50263I$	0
$u = -1.69925 + 0.60337I$ $a = -0.211195 + 0.846439I$ $b = 1.14431 - 1.11529I$	$-11.47210 + 6.72692I$	0
$u = -1.69925 - 0.60337I$ $a = -0.211195 - 0.846439I$ $b = 1.14431 + 1.11529I$	$-11.47210 - 6.72692I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.48794+1.05318I$ $a=\ \ 0.292761-0.937966I$ $b=-1.24691+0.99234I$	$-13.0549+18.5441I$	0
$u=-1.48794-1.05318I$ $a=\ \ 0.292761+0.937966I$ $b=-1.24691-0.99234I$	$-13.0549-18.5441I$	0
$u=\ \ 0.0184117+0.0764072I$ $a=-19.7931-0.5237I$ $b=\ \ 0.765902+0.428407I$	$-3.02888-4.05834I$	$-1.04168+5.42388I$
$u=\ \ 0.0184117-0.0764072I$ $a=-19.7931+0.5237I$ $b=\ \ 0.765902-0.428407I$	$-3.02888+4.05834I$	$-1.04168-5.42388I$
$u=-1.51776+1.18422I$ $a=-0.440549+0.645329I$ $b=\ \ 1.25869-0.67958I$	$-10.28040+6.92286I$	0
$u=-1.51776-1.18422I$ $a=-0.440549-0.645329I$ $b=\ \ 1.25869+0.67958I$	$-10.28040-6.92286I$	0
$u=-1.74685+1.36330I$ $a=-0.352646+0.557306I$ $b=\ \ 0.795501-0.401484I$	$-9.69587+4.06130I$	0
$u=-1.74685-1.36330I$ $a=-0.352646-0.557306I$ $b=\ \ 0.795501+0.401484I$	$-9.69587-4.06130I$	0
$u=-1.58272+1.75447I$ $a=\ \ 0.544100-0.285753I$ $b=-0.832862+0.145056I$	$-10.85040+0.01190I$	0
$u=-1.58272-1.75447I$ $a=\ \ 0.544100+0.285753I$ $b=-0.832862-0.145056I$	$-10.85040-0.01190I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.74593 + 2.28578I$ $a = -0.535217 - 0.144034I$ $b = 0.513562 + 0.155957I$	$-1.96916 + 1.44033I$	0
$u = 0.74593 - 2.28578I$ $a = -0.535217 + 0.144034I$ $b = 0.513562 - 0.155957I$	$-1.96916 - 1.44033I$	0
$u = -2.16516 + 1.05620I$ $a = -0.198937 + 0.588848I$ $b = 0.614802 - 0.852901I$	$-7.93947 + 8.17502I$	0
$u = -2.16516 - 1.05620I$ $a = -0.198937 - 0.588848I$ $b = 0.614802 + 0.852901I$	$-7.93947 - 8.17502I$	0
$u = -1.81564 + 2.27985I$ $a = 0.439486 - 0.198812I$ $b = -0.626592 + 0.030210I$	$-10.93290 - 7.45942I$	0
$u = -1.81564 - 2.27985I$ $a = 0.439486 + 0.198812I$ $b = -0.626592 - 0.030210I$	$-10.93290 + 7.45942I$	0

II. $I_2^u = \langle 4.64 \times 10^{102} u^{45} - 4.96 \times 10^{103} u^{44} + \cdots + 2.97 \times 10^{102} b - 1.06 \times 10^{103},\ -4.47 \times 10^{101} u^{45} + 4.85 \times 10^{102} u^{44} + \cdots + 1.10 \times 10^{101} a + 4.31 \times 10^{101},\ u^{46} - 11u^{45} + \cdots - 7u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 4.06325u^{45} - 44.0830u^{44} + \cdots + 45.5983u - 3.92199 \\ -1.56236u^{45} + 16.7156u^{44} + \cdots - 21.2186u + 3.58330 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 2.50089u^{45} - 27.3674u^{44} + \cdots + 24.3797u - 0.338689 \\ -1.56236u^{45} + 16.7156u^{44} + \cdots - 21.2186u + 3.58330 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.15894u^{45} + 13.7072u^{44} + \cdots - 87.4730u + 10.2885 \\ -0.423720u^{45} + 4.33986u^{44} + \cdots + 6.85683u - 0.731156 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 4.86797u^{45} - 53.2924u^{44} + \cdots + 35.3372u + 3.68106 \\ -0.597283u^{45} + 6.57247u^{44} + \cdots - 13.9228u + 0.811989 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.747951u^{45} + 9.78917u^{44} + \cdots - 107.559u + 14.2752 \\ 0.0127262u^{45} - 0.421828u^{44} + \cdots + 15.2294u - 3.25555 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.83816u^{45} + 52.4954u^{44} + \cdots + 7.73377u - 8.03027 \\ 0.986954u^{45} - 10.8794u^{44} + \cdots + 15.3516u - 1.73769 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.453412u^{45} - 3.22680u^{44} + \cdots - 114.989u + 16.8345 \\ -0.162251u^{45} + 1.66269u^{44} + \cdots + 11.3438u - 2.85686 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.932975u^{45} - 10.3189u^{44} + \cdots - 25.5380u + 6.74990 \\ 0.344412u^{45} - 3.38307u^{44} + \cdots + 1.79936u - 0.411703 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -5.21563u^{45} + 55.7888u^{44} + \cdots + 5.25262u - 3.43172 \\ 2.15587u^{45} - 23.0750u^{44} + \cdots + 24.9826u - 4.14539 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -1.27881u^{45} + 10.0331u^{44} + \cdots + 158.321u - 24.5507$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{46} - 15u^{45} + \cdots - 12u + 1$
c_2	$u^{46} - u^{45} + \cdots + 9u + 1$
c_3	$u^{46} - 2u^{45} + \cdots + 551u + 267$
c_4	$u^{46} + u^{45} + \cdots + u + 3$
c_5	$u^{46} + u^{45} + \cdots - 8u + 1$
c_6	$u^{46} + 14u^{45} + \cdots + 2u + 1$
c_7	$u^{46} + 3u^{45} + \cdots + u + 1$
c_8	$u^{46} - 2u^{45} + \cdots - u + 1$
c_9	$u^{46} - 3u^{45} + \cdots - 9u + 1$
c_{10}	$u^{46} - 11u^{45} + \cdots - 7u + 1$
c_{11}	$u^{46} - 3u^{45} + \cdots - u + 1$
c_{12}	$u^{46} - u^{45} + \cdots + 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{46} + 3y^{45} + \cdots - 34y + 1$
c_2	$y^{46} + 9y^{45} + \cdots + 49y + 1$
c_3	$y^{46} + 16y^{45} + \cdots - 810367y + 71289$
c_4	$y^{46} + 7y^{45} + \cdots - 145y + 9$
c_5, c_{12}	$y^{46} + 47y^{45} + \cdots + 104y + 1$
c_6	$y^{46} - 16y^{45} + \cdots + 24y + 1$
c_7, c_{11}	$y^{46} + 11y^{45} + \cdots - 25y + 1$
c_8	$y^{46} - 4y^{45} + \cdots + 25y + 1$
c_9	$y^{46} + 19y^{45} + \cdots + 3y + 1$
c_{10}	$y^{46} - 17y^{45} + \cdots + 27y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.080460+0.038951I$ $a=\ 0.12178-1.40900I$ $b=\ 0.748500+0.430109I$	$-8.84278+1.29891I$	$-6-1.296502+0.10I$
$u=-1.080460-0.038951I$ $a=\ 0.12178+1.40900I$ $b=\ 0.748500-0.430109I$	$-8.84278-1.29891I$	$-6-1.296502+0.10I$
$u=-0.529188+0.741055I$ $a=\ 1.37159-1.03509I$ $b=-1.200260+0.647376I$	$-6.93728+4.06544I$	$-2.13882-6.23417I$
$u=-0.529188-0.741055I$ $a=\ 1.37159+1.03509I$ $b=-1.200260-0.647376I$	$-6.93728-4.06544I$	$-2.13882+6.23417I$
$u=-0.773893+0.811432I$ $a=\ 0.31903+1.41298I$ $b=\ 0.775191-0.943990I$	$3.54528+5.29507I$	$0.-18.5723I$
$u=-0.773893-0.811432I$ $a=\ 0.31903-1.41298I$ $b=\ 0.775191+0.943990I$	$3.54528-5.29507I$	$0.+18.5723I$
$u=\ 1.071980+0.334178I$ $a=-0.933492-0.199754I$ $b=-0.720757-0.362339I$	$-4.68927-3.21146I$	$-5.77104+4.04842I$
$u=\ 1.071980-0.334178I$ $a=-0.933492+0.199754I$ $b=-0.720757+0.362339I$	$-4.68927+3.21146I$	$-5.77104-4.04842I$
$u=\ 0.814902+0.030858I$ $a=\ 0.392927-0.462692I$ $b=\ 0.996497+0.416678I$	$-0.94713+2.73445I$	$-6.38536-4.20451I$
$u=\ 0.814902-0.030858I$ $a=\ 0.392927+0.462692I$ $b=\ 0.996497-0.416678I$	$-0.94713-2.73445I$	$-6.38536+4.20451I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.241820+0.177756I$ $a=-0.277257-0.171462I$ $b=\ \ 0.681801+0.367032I$	$1.81418-0.14840I$	0
$u=-1.241820-0.177756I$ $a=-0.277257+0.171462I$ $b=\ \ 0.681801-0.367032I$	$1.81418+0.14840I$	0
$u=\ \ 0.417577+0.604807I$ $a=-0.41497-1.56147I$ $b=\ \ 0.797091+1.144190I$	$2.45742-2.90330I$	$9.37309-1.18434I$
$u=\ \ 0.417577-0.604807I$ $a=-0.41497+1.56147I$ $b=\ \ 0.797091-1.144190I$	$2.45742+2.90330I$	$9.37309+1.18434I$
$u=-0.546294+0.313560I$ $a=-2.60819+2.68092I$ $b=\ \ 0.295571-0.259732I$	$-8.86263-0.60726I$	$1.19069-3.89649I$
$u=-0.546294-0.313560I$ $a=-2.60819-2.68092I$ $b=\ \ 0.295571+0.259732I$	$-8.86263+0.60726I$	$1.19069+3.89649I$
$u=\ \ 1.299880+0.526256I$ $a=-0.016970-0.619772I$ $b=\ \ 0.883737+0.864352I$	$0.06733-8.55060I$	0
$u=\ \ 1.299880-0.526256I$ $a=-0.016970+0.619772I$ $b=\ \ 0.883737-0.864352I$	$0.06733+8.55060I$	0
$u=\ \ 1.36412+0.61025I$ $a=-0.255163-0.684263I$ $b=-0.122861+1.172680I$	$-1.20108+1.09512I$	0
$u=\ \ 1.36412-0.61025I$ $a=-0.255163+0.684263I$ $b=-0.122861-1.172680I$	$-1.20108-1.09512I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.21624 + 0.88933I$ $a = -0.177313 - 0.636169I$ $b = 0.771947 + 0.826438I$	$1.89682 - 1.58700I$	0
$u = 1.21624 - 0.88933I$ $a = -0.177313 + 0.636169I$ $b = 0.771947 - 0.826438I$	$1.89682 + 1.58700I$	0
$u = 0.87412 + 1.23101I$ $a = 0.445149 + 0.727091I$ $b = -1.41076 - 0.77076I$	$-1.75745 - 8.66604I$	0
$u = 0.87412 - 1.23101I$ $a = 0.445149 - 0.727091I$ $b = -1.41076 + 0.77076I$	$-1.75745 + 8.66604I$	0
$u = -0.031638 + 0.474975I$ $a = -1.78170 - 0.99428I$ $b = -0.184757 + 0.950428I$	$2.06266 - 1.99350I$	$7.87364 + 3.36486I$
$u = -0.031638 - 0.474975I$ $a = -1.78170 + 0.99428I$ $b = -0.184757 - 0.950428I$	$2.06266 + 1.99350I$	$7.87364 - 3.36486I$
$u = 0.134688 + 0.446286I$ $a = -1.56879 - 0.44078I$ $b = 0.105012 + 1.400360I$	$0.10858 - 1.47097I$	$-2.07177 + 2.97846I$
$u = 0.134688 - 0.446286I$ $a = -1.56879 + 0.44078I$ $b = 0.105012 - 1.400360I$	$0.10858 + 1.47097I$	$-2.07177 - 2.97846I$
$u = -0.151481 + 0.365867I$ $a = 1.51585 + 0.66888I$ $b = 1.065700 - 0.891662I$	$0.81005 + 4.67170I$	$5.10683 - 4.56207I$
$u = -0.151481 - 0.365867I$ $a = 1.51585 - 0.66888I$ $b = 1.065700 + 0.891662I$	$0.81005 - 4.67170I$	$5.10683 + 4.56207I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.369857 + 0.101384I$ $a = -0.40443 + 2.90127I$ $b = -0.32679 - 2.60967I$	$4.63011 - 1.72097I$	$-19.4943 - 11.2123I$
$u = 0.369857 - 0.101384I$ $a = -0.40443 - 2.90127I$ $b = -0.32679 + 2.60967I$	$4.63011 + 1.72097I$	$-19.4943 + 11.2123I$
$u = 1.38112 + 0.85155I$ $a = 0.0615776 + 0.0568179I$ $b = -0.859725 - 0.295394I$	$-2.92673 - 5.23238I$	0
$u = 1.38112 - 0.85155I$ $a = 0.0615776 - 0.0568179I$ $b = -0.859725 + 0.295394I$	$-2.92673 + 5.23238I$	0
$u = 1.17878 + 1.14817I$ $a = 0.126876 + 0.612623I$ $b = -1.205660 - 0.538251I$	$-4.85536 - 6.77026I$	0
$u = 1.17878 - 1.14817I$ $a = 0.126876 - 0.612623I$ $b = -1.205660 + 0.538251I$	$-4.85536 + 6.77026I$	0
$u = 1.49770 + 0.80398I$ $a = 0.154987 + 0.470742I$ $b = -0.970975 - 0.160075I$	$-6.00481 - 2.21833I$	0
$u = 1.49770 - 0.80398I$ $a = 0.154987 - 0.470742I$ $b = -0.970975 + 0.160075I$	$-6.00481 + 2.21833I$	0
$u = 0.000032 + 0.293930I$ $a = 6.03051 - 1.00295I$ $b = -0.556153 - 0.290506I$	$-2.54880 - 5.33195I$	$5.9602 + 15.9576I$
$u = 0.000032 - 0.293930I$ $a = 6.03051 + 1.00295I$ $b = -0.556153 + 0.290506I$	$-2.54880 + 5.33195I$	$5.9602 - 15.9576I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.37338+1.06566I$ $a=-0.708890+0.512812I$ $b=\ \ 0.231211-0.453434I$	$-10.16720-7.45232I$	0
$u=-1.37338-1.06566I$ $a=-0.708890-0.512812I$ $b=\ \ 0.231211+0.453434I$	$-10.16720+7.45232I$	0
$u=-1.59102+0.99847I$ $a=-0.370712+0.723207I$ $b=\ \ 1.16412-0.81106I$	$-9.94664+6.44925I$	0
$u=-1.59102-0.99847I$ $a=-0.370712-0.723207I$ $b=\ \ 1.16412+0.81106I$	$-9.94664-6.44925I$	0
$u=\ \ 1.19818+2.11888I$ $a=\ \ 0.477592+0.242574I$ $b=-0.457665-0.061059I$	$-1.98805+1.64558I$	0
$u=\ \ 1.19818-2.11888I$ $a=\ \ 0.477592-0.242574I$ $b=-0.457665+0.061059I$	$-1.98805-1.64558I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{46}-15u^{45}+\cdots-12u+1)(u^{106}+4u^{105}+\cdots+166u+7)$
c_2	$(u^{46}-u^{45}+\cdots+9u+1)(u^{106}-2u^{105}+\cdots-689301u+133281)$
c_3	$(u^{46}-2u^{45}+\cdots+551u+267)$ $\cdot(u^{106}+3u^{105}+\cdots-4214426643u+4151404117)$
c_4	$(u^{46}+u^{45}+\cdots+u+3)(u^{106}-2u^{105}+\cdots-717u+99)$
c_5	$(u^{46}+u^{45}+\cdots-8u+1)(u^{106}-2u^{105}+\cdots+1381696u+76939)$
c_6	$(u^{46}+14u^{45}+\cdots+2u+1)(u^{106}+7u^{105}+\cdots+4u+1)$
c_7	$(u^{46}+3u^{45}+\cdots+u+1)(u^{106}-2u^{105}+\cdots+2088059u+2311849)$
c_8	$(u^{46}-2u^{45}+\cdots-u+1)$ $\cdot(u^{106}+u^{105}+\cdots-233910687u+50664949)$
c_9	$(u^{46}-3u^{45}+\cdots-9u+1)$ $\cdot(u^{106}-2u^{105}+\cdots+701049191u+114592757)$
c_{10}	$(u^{46}-11u^{45}+\cdots-7u+1)(u^{106}-10u^{105}+\cdots+15333u+21101)$
c_{11}	$(u^{46}-3u^{45}+\cdots-u+1)(u^{106}-2u^{105}+\cdots+2088059u+2311849)$
c_{12}	$(u^{46}-u^{45}+\cdots+8u+1)(u^{106}-2u^{105}+\cdots+1381696u+76939)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{46}+3y^{45}+\cdots-34y+1)(y^{106}-20y^{105}+\cdots+1704y+49)$
c_2	$(y^{46}+9y^{45}+\cdots+49y+1)$ $\cdot(y^{106}+46y^{105}+\cdots+3044616486147y+17763824961)$
c_3	$(y^{46}+16y^{45}+\cdots-810367y+71289)$ $\cdot(y^{106}-59y^{105}+\cdots-3.51\times10^{20}y+1.72\times10^{19})$
c_4	$(y^{46}+7y^{45}+\cdots-145y+9)(y^{106}-8y^{105}+\cdots-558243y+9801)$
c_5, c_{12}	$(y^{46}+47y^{45}+\cdots+104y+1)$ $\cdot(y^{106}+116y^{105}+\cdots+9155464634y+5919609721)$
c_6	$(y^{46}-16y^{45}+\cdots+24y+1)(y^{106}-7y^{105}+\cdots+382y+1)$
c_7, c_{11}	$(y^{46}+11y^{45}+\cdots-25y+1)$ $\cdot(y^{106}+100y^{105}+\cdots+37507627368405y+5344645798801)$
c_8	$(y^{46}-4y^{45}+\cdots+25y+1)$ $\cdot(y^{106}-51y^{105}+\cdots-49138395059999669y+2566937057172601)$
c_9	$(y^{46}+19y^{45}+\cdots+3y+1)$ $\cdot(y^{106}+64y^{105}+\cdots+722400296247735653y+131314999956861049)$
c_{10}	$(y^{46}-17y^{45}+\cdots+27y+1)$ $\cdot(y^{106}-48y^{105}+\cdots+110688846921y+445252201)$