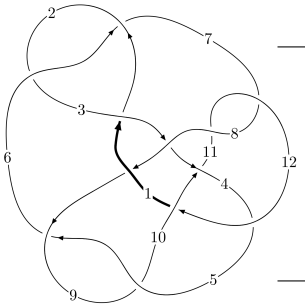
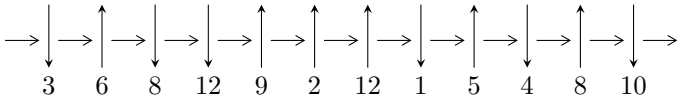
$12n_{0431}$ $(K12n_{0431})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 3.28741 \times 10^{479} u^{73} - 2.87933 \times 10^{478} u^{72} + \cdots + 8.18620 \times 10^{484} b + 8.77584 \times 10^{484},$$
$$- 9.92062 \times 10^{484} u^{73} - 8.13255 \times 10^{483} u^{72} + \cdots + 1.40884 \times 10^{490} a - 5.50149 \times 10^{490},$$
$$u^{74} + 17u^{72} + \cdots + 566418u + 172099 \rangle$$

$$I_2^u = \langle 3.09881 \times 10^{32} u^{23} - 1.01801 \times 10^{33} u^{22} + \cdots + 2.58026 \times 10^{32} b + 5.97065 \times 10^{32},$$
$$- 9.65284 \times 10^{32} u^{23} + 3.27534 \times 10^{33} u^{22} + \cdots + 2.58026 \times 10^{32} a - 2.48109 \times 10^{33},\ u^{24} - 3u^{23} + \cdots + 3u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 98 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. $\boldsymbol{I_1^u = \langle 3.29 \times 10^{479} u^{73} - 2.88 \times 10^{478} u^{72} + \cdots + 8.19 \times 10^{484} b + 8.78 \times 10^{484},\ -9.92 \times 10^{484} u^{73} - 8.13 \times 10^{483} u^{72} + \cdots + 1.41 \times 10^{490} a - 5.50 \times 10^{490},\ u^{74} + 17 u^{72} + \cdots + 566418 u + 172099 \rangle}$

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix} 7.04171 \times 10^{-6} u^{73} + 5.77253 \times 10^{-7} u^{72} + \cdots + 22.2661 u + 3.90499 \\ -4.01579 \times 10^{-6} u^{73} + 3.51729 \times 10^{-7} u^{72} + \cdots - 12.7786 u - 1.07203 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 4.10227 \times 10^{-6} u^{73} - 5.68165 \times 10^{-7} u^{72} + \cdots + 9.97933 u - 6.12982 \\ 2.46937 \times 10^{-6} u^{73} - 9.40460 \times 10^{-7} u^{72} + \cdots + 3.33975 u + 4.81554 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 7.04171 \times 10^{-6} u^{73} + 5.77253 \times 10^{-7} u^{72} + \cdots + 22.2661 u + 3.90499 \\ -5.02310 \times 10^{-6} u^{73} + 9.02842 \times 10^{-7} u^{72} + \cdots - 14.3175 u - 1.17137 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 3.03522 \times 10^{-6} u^{73} - 5.96192 \times 10^{-7} u^{72} + \cdots + 17.7584 u + 3.27815 \\ -5.68165 \times 10^{-7} u^{73} + 4.05095 \times 10^{-7} u^{72} + \cdots - 8.45342 u - 0.705996 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.46706 \times 10^{-6} u^{73} - 1.91097 \times 10^{-7} u^{72} + \cdots + 9.30498 u + 2.57215 \\ -5.68165 \times 10^{-7} u^{73} + 4.05095 \times 10^{-7} u^{72} + \cdots - 8.45342 u - 0.705996 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.83456 \times 10^{-6} u^{73} + 2.72856 \times 10^{-6} u^{72} + \cdots + 1.24718 u + 1.08281 \\ 9.25604 \times 10^{-8} u^{73} - 1.11084 \times 10^{-8} u^{72} + \cdots - 3.16667 u - 1.19214 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0000145703 u^{73} + 3.10645 \times 10^{-6} u^{72} + \cdots - 21.8387 u + 2.58100 \\ 7.25950 \times 10^{-6} u^{73} - 1.35849 \times 10^{-6} u^{72} + \cdots + 7.69972 u - 4.14218 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.33389 \times 10^{-6} u^{73} + 1.49484 \times 10^{-6} u^{72} + \cdots + 15.6618 u - 1.68488 \\ 2.06380 \times 10^{-6} u^{73} - 3.06763 \times 10^{-6} u^{72} + \cdots - 4.88783 u + 1.52464 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.64252 \times 10^{-6} u^{73} - 7.63769 \times 10^{-7} u^{72} + \cdots + 17.4421 u + 3.31103 \\ -7.64708 \times 10^{-8} u^{73} + 8.94112 \times 10^{-7} u^{72} + \cdots - 8.33134 u - 0.607440 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -0.0000403389 u^{73} + 0.0000203868 u^{72} + \cdots - 47.2240 u + 0.0222812$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{74} + 34u^{73} + \cdots + 340368u + 13456$
c_2, c_6	$u^{74} - 2u^{73} + \cdots - 192u + 116$
c_3	$u^{74} - 3u^{73} + \cdots + 2408u + 184$
c_4	$u^{74} + 17u^{72} + \cdots - 566418u + 172099$
c_5, c_9	$u^{74} - 4u^{73} + \cdots - 69u + 131$
c_7, c_{11}	$u^{74} - u^{73} + \cdots - 325282u + 19639$
c_8	$u^{74} + 3u^{73} + \cdots - 8536u + 1093$
c_{10}	$u^{74} - 2u^{73} + \cdots + 49021u + 18569$
c_{12}	$u^{74} - 9u^{73} + \cdots - 22u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{74} + 26y^{73} + \cdots + 2544232064y + 181063936$
c_2, c_6	$y^{74} + 34y^{73} + \cdots + 340368y + 13456$
c_3	$y^{74} + 103y^{73} + \cdots + 155040y + 33856$
c_4	$y^{74} + 34y^{73} + \cdots + 998146334424y + 29618065801$
c_5, c_9	$y^{74} + 44y^{73} + \cdots + 371471y + 17161$
c_7, c_{11}	$y^{74} - 93y^{73} + \cdots - 43352903060y + 385690321$
c_8	$y^{74} + 9y^{73} + \cdots + 23967760y + 1194649$
c_{10}	$y^{74} + 90y^{73} + \cdots + 2650383495y + 344807761$
c_{12}	$y^{74} - 3y^{73} + \cdots - 56y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.934779 + 0.503629I$ $a = -1.194160 - 0.295302I$ $b = -0.254337 - 0.211732I$	$-0.307331 - 1.010300I$	0
$u = 0.934779 - 0.503629I$ $a = -1.194160 + 0.295302I$ $b = -0.254337 + 0.211732I$	$-0.307331 + 1.010300I$	0
$u = -1.002250 + 0.372992I$ $a = -0.268943 - 0.748372I$ $b = 0.369189 + 0.429283I$	$-6.55930 + 3.70588I$	$-5.57212 + 0.I$
$u = -1.002250 - 0.372992I$ $a = -0.268943 + 0.748372I$ $b = 0.369189 - 0.429283I$	$-6.55930 - 3.70588I$	$-5.57212 + 0.I$
$u = -0.374952 + 0.843157I$ $a = -0.597418 - 0.434941I$ $b = -1.021630 - 0.003737I$	$-5.47234 + 0.86790I$	$-3.59499 + 0.79812I$
$u = -0.374952 - 0.843157I$ $a = -0.597418 + 0.434941I$ $b = -1.021630 + 0.003737I$	$-5.47234 - 0.86790I$	$-3.59499 - 0.79812I$
$u = 1.082250 + 0.107771I$ $a = -0.608665 + 0.566681I$ $b = -0.859754 - 0.446277I$	$-0.94736 - 5.88404I$	$0. + 8.12047I$
$u = 1.082250 - 0.107771I$ $a = -0.608665 - 0.566681I$ $b = -0.859754 + 0.446277I$	$-0.94736 + 5.88404I$	$0. - 8.12047I$
$u = -0.435194 + 0.774098I$ $a = 1.52616 + 0.04105I$ $b = 0.110382 - 0.125676I$	$0.58998 - 3.66458I$	$2.57268 + 0.26922I$
$u = -0.435194 - 0.774098I$ $a = 1.52616 - 0.04105I$ $b = 0.110382 + 0.125676I$	$0.58998 + 3.66458I$	$2.57268 - 0.26922I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.810830+0.337697I$ $a=\ 0.464928+0.856520I$ $b=\ 0.242275-0.682677I$	$1.26684+1.82853I$	$1.78603-4.52891I$
$u=-0.810830-0.337697I$ $a=\ 0.464928-0.856520I$ $b=\ 0.242275+0.682677I$	$1.26684-1.82853I$	$1.78603+4.52891I$
$u=-0.016733+0.853800I$ $a=-0.61995-2.02125I$ $b=-0.15930+1.56017I$	$8.24996-1.54945I$	$3.85987+1.93387I$
$u=-0.016733-0.853800I$ $a=-0.61995+2.02125I$ $b=-0.15930-1.56017I$	$8.24996+1.54945I$	$3.85987-1.93387I$
$u=\ 0.639477+0.519628I$ $a=\ 0.565407+0.564947I$ $b=\ 0.207804-0.033918I$	$-1.11297-1.12209I$	$-5.31504+3.79418I$
$u=\ 0.639477-0.519628I$ $a=\ 0.565407-0.564947I$ $b=\ 0.207804+0.033918I$	$-1.11297+1.12209I$	$-5.31504-3.79418I$
$u=-0.350425+0.723346I$ $a=\ 0.370401-0.209665I$ $b=\ 0.115118+0.975558I$	$0.72481-1.83639I$	$1.12069+4.87359I$
$u=-0.350425-0.723346I$ $a=\ 0.370401+0.209665I$ $b=\ 0.115118-0.975558I$	$0.72481+1.83639I$	$1.12069-4.87359I$
$u=\ 0.457795+0.617756I$ $a=\ 1.43093-1.15085I$ $b=\ 0.47311+1.48482I$	$2.48087-3.10809I$	$2.96786+1.73580I$
$u=\ 0.457795-0.617756I$ $a=\ 1.43093+1.15085I$ $b=\ 0.47311-1.48482I$	$2.48087+3.10809I$	$2.96786-1.73580I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.216764+0.727146I$ $a=\ 0.14023-2.38086I$ $b=\ 0.02763+1.51400I$	$5.47332+8.05912I$	$0.18543-6.05650I$
$u=-0.216764-0.727146I$ $a=\ 0.14023+2.38086I$ $b=\ 0.02763-1.51400I$	$5.47332-8.05912I$	$0.18543+6.05650I$
$u=\ 0.319181+1.202940I$ $a=\ 0.431572-0.366985I$ $b=\ 1.203360+0.711683I$	$-0.85478-3.82352I$	0
$u=\ 0.319181-1.202940I$ $a=\ 0.431572+0.366985I$ $b=\ 1.203360-0.711683I$	$-0.85478+3.82352I$	0
$u=-0.467790+0.563021I$ $a=\ 0.549943+1.084810I$ $b=-0.532295-1.238560I$	$1.58966+1.29211I$	$4.03888+5.21852I$
$u=-0.467790-0.563021I$ $a=\ 0.549943-1.084810I$ $b=-0.532295+1.238560I$	$1.58966-1.29211I$	$4.03888-5.21852I$
$u=-0.547174+0.464224I$ $a=-1.47110+1.20328I$ $b=-0.093733+0.616829I$	$-9.47431+0.30033I$	$-4.15634+8.16557I$
$u=-0.547174-0.464224I$ $a=-1.47110-1.20328I$ $b=-0.093733-0.616829I$	$-9.47431-0.30033I$	$-4.15634-8.16557I$
$u=\ 1.088520+0.716063I$ $a=\ 0.709402+0.222922I$ $b=-0.110085+0.256217I$	$-1.25400-2.51544I$	0
$u=\ 1.088520-0.716063I$ $a=\ 0.709402-0.222922I$ $b=-0.110085-0.256217I$	$-1.25400+2.51544I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.518744+1.213760I$ $a=-0.419984-0.307566I$ $b=-1.64440+0.69687I$	$-3.28433+8.86378I$	0
$u=-0.518744-1.213760I$ $a=-0.419984+0.307566I$ $b=-1.64440-0.69687I$	$-3.28433-8.86378I$	0
$u=0.512571+0.438202I$ $a=-0.691080-0.061151I$ $b=1.050440-0.405546I$	$0.61911+3.11056I$	$3.75248+0.56298I$
$u=0.512571-0.438202I$ $a=-0.691080+0.061151I$ $b=1.050440+0.405546I$	$0.61911-3.11056I$	$3.75248-0.56298I$
$u=-0.521401+0.376721I$ $a=1.142470+0.548301I$ $b=-1.154480-0.714467I$	$1.65020+1.37390I$	$18.4680-12.7347I$
$u=-0.521401-0.376721I$ $a=1.142470-0.548301I$ $b=-1.154480+0.714467I$	$1.65020-1.37390I$	$18.4680+12.7347I$
$u=0.329499+0.490134I$ $a=-0.151663+0.089033I$ $b=0.744003+0.776343I$	$-0.25653-2.28963I$	$-1.31647+4.44383I$
$u=0.329499-0.490134I$ $a=-0.151663-0.089033I$ $b=0.744003-0.776343I$	$-0.25653+2.28963I$	$-1.31647-4.44383I$
$u=-1.29609+0.63868I$ $a=-0.714241+0.014858I$ $b=0.224602+0.245414I$	$-2.18586+8.15624I$	0
$u=-1.29609-0.63868I$ $a=-0.714241-0.014858I$ $b=0.224602-0.245414I$	$-2.18586-8.15624I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.57675+1.33502I$ $a=-0.419449-1.215320I$ $b=-0.31506+1.85613I$	$10.81600+3.74825I$	0
$u=-0.57675-1.33502I$ $a=-0.419449+1.215320I$ $b=-0.31506-1.85613I$	$10.81600-3.74825I$	0
$u=0.071209+0.532949I$ $a=-0.12914+2.57050I$ $b=-0.01065-2.13563I$	$2.73609-2.38466I$	$-10.42559+0.76440I$
$u=0.071209-0.532949I$ $a=-0.12914-2.57050I$ $b=-0.01065+2.13563I$	$2.73609+2.38466I$	$-10.42559-0.76440I$
$u=1.27357+0.72807I$ $a=-0.414781-0.349604I$ $b=-0.275822+0.512285I$	$-6.32359-3.97690I$	0
$u=1.27357-0.72807I$ $a=-0.414781+0.349604I$ $b=-0.275822-0.512285I$	$-6.32359+3.97690I$	0
$u=0.12017+1.51738I$ $a=1.011970-0.315727I$ $b=0.379110+0.559913I$	$-0.39783+1.72887I$	0
$u=0.12017-1.51738I$ $a=1.011970+0.315727I$ $b=0.379110-0.559913I$	$-0.39783-1.72887I$	0
$u=0.71828+1.39939I$ $a=0.343326-1.136520I$ $b=0.33207+1.92509I$	$9.56306-9.81975I$	0
$u=0.71828-1.39939I$ $a=0.343326+1.136520I$ $b=0.33207-1.92509I$	$9.56306+9.81975I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.97511 + 1.28716I$ $a = -0.633764 + 1.006090I$ $b = -0.40476 - 1.67994I$	$0.54467 - 6.58007I$	0
$u = 0.97511 - 1.28716I$ $a = -0.633764 - 1.006090I$ $b = -0.40476 + 1.67994I$	$0.54467 + 6.58007I$	0
$u = -0.101175 + 0.268318I$ $a = 1.32347 + 2.96824I$ $b = 0.00255 - 1.97774I$	$1.15369 + 1.33003I$	$0.26910 - 8.47917I$
$u = -0.101175 - 0.268318I$ $a = 1.32347 - 2.96824I$ $b = 0.00255 + 1.97774I$	$1.15369 - 1.33003I$	$0.26910 + 8.47917I$
$u = 1.33047 + 1.16519I$ $a = 0.478417 - 0.613747I$ $b = 0.66765 + 1.86705I$	$3.05422 - 4.02557I$	0
$u = 1.33047 - 1.16519I$ $a = 0.478417 + 0.613747I$ $b = 0.66765 - 1.86705I$	$3.05422 + 4.02557I$	0
$u = 0.42249 + 1.74075I$ $a = -0.871746 - 0.415011I$ $b = -0.361054 + 0.602089I$	$-1.16452 - 7.75367I$	0
$u = 0.42249 - 1.74075I$ $a = -0.871746 + 0.415011I$ $b = -0.361054 - 0.602089I$	$-1.16452 + 7.75367I$	0
$u = -0.42488 + 1.77560I$ $a = 0.300223 + 1.183900I$ $b = 0.14185 - 1.70906I$	$9.45918 + 3.10998I$	0
$u = -0.42488 - 1.77560I$ $a = 0.300223 - 1.183900I$ $b = 0.14185 + 1.70906I$	$9.45918 - 3.10998I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.07853 + 1.91814I$ $a = -0.171569 + 1.111140I$ $b = -0.07595 - 1.74382I$	$8.50999 + 3.70014I$	0
$u = 0.07853 - 1.91814I$ $a = -0.171569 - 1.111140I$ $b = -0.07595 + 1.74382I$	$8.50999 - 3.70014I$	0
$u = -1.84596 + 0.63181I$ $a = -0.469448 - 0.493054I$ $b = -0.62297 + 1.95623I$	$3.44928 + 1.73681I$	0
$u = -1.84596 - 0.63181I$ $a = -0.469448 + 0.493054I$ $b = -0.62297 - 1.95623I$	$3.44928 - 1.73681I$	0
$u = -1.32220 + 1.55486I$ $a = 0.440807 + 0.919591I$ $b = 0.35456 - 1.87560I$	$8.07490 + 10.29220I$	0
$u = -1.32220 - 1.55486I$ $a = 0.440807 - 0.919591I$ $b = 0.35456 + 1.87560I$	$8.07490 - 10.29220I$	0
$u = 1.48295 + 1.47987I$ $a = -0.415885 + 0.867026I$ $b = -0.38217 - 1.94494I$	$5.8809 - 16.7307I$	0
$u = 1.48295 - 1.47987I$ $a = -0.415885 - 0.867026I$ $b = -0.38217 + 1.94494I$	$5.8809 + 16.7307I$	0
$u = 2.27181 + 1.64904I$ $a = 0.460402 - 0.548295I$ $b = 0.54956 + 1.75108I$	$5.60799 - 0.31469I$	0
$u = 2.27181 - 1.64904I$ $a = 0.460402 + 0.548295I$ $b = 0.54956 - 1.75108I$	$5.60799 + 0.31469I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-2.49665+1.28593I$ $a=-0.451579-0.553382I$ $b=-0.50037+1.80564I$	$5.54289+5.38790I$	0
$u=-2.49665-1.28593I$ $a=-0.451579+0.553382I$ $b=-0.50037-1.80564I$	$5.54289-5.38790I$	0
$u=-0.78268+3.57446I$ $a=\quad 0.064497+0.693383I$ $b=\quad 0.08356-2.09334I$	$8.35485+3.17981I$	0
$u=-0.78268-3.57446I$ $a=\quad 0.064497-0.693383I$ $b=\quad 0.08356+2.09334I$	$8.35485-3.17981I$	0

II.

$\boldsymbol{I_2^u = \langle 3.10\times10^{32}u^{23}-1.02\times10^{33}u^{22}+\cdots+2.58\times10^{32}b+5.97\times10^{32},\ -9.65\times10^{32}u^{23}+3.28\times10^{33}u^{22}+\cdots+2.58\times10^{32}a-2.48\times10^{33},\ u^{24}-3u^{23}+\cdots+3u+1\rangle}$

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix}3.74103u^{23} - 12.6938u^{22} + \cdots + 10.1999u + 9.61566\\-1.20097u^{23} + 3.94538u^{22} + \cdots - 4.41854u - 2.31397\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-0.905445u^{23} + 3.08921u^{22} + \cdots - 1.58493u - 3.29115\\0.744548u^{23} - 2.26904u^{22} + \cdots + 3.33781u + 3.02014\end{pmatrix}$$

$$a_7 = \begin{pmatrix}3.74103u^{23} - 12.6938u^{22} + \cdots + 10.1999u + 9.61566\\-0.495914u^{23} + 1.56323u^{22} + \cdots - 3.74734u - 0.843228\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}2.50091u^{23} - 8.64542u^{22} + \cdots + 4.71165u + 5.73810\\0.372873u^{23} - 1.41387u^{22} + \cdots - 0.574815u + 0.905445\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}2.87378u^{23} - 10.0593u^{22} + \cdots + 4.13684u + 6.64354\\0.372873u^{23} - 1.41387u^{22} + \cdots - 0.574815u + 0.905445\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-3.28358u^{23} + 11.2247u^{22} + \cdots - 4.93024u - 7.38504\\-0.132750u^{23} + 0.365444u^{22} + \cdots + 1.06308u - 0.0278847\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-3.04569u^{23} + 10.5278u^{22} + \cdots - 5.14348u - 8.23501\\0.415551u^{23} - 1.42417u^{22} + \cdots + 2.99968u + 2.58734\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-1.13356u^{23} + 3.73009u^{22} + \cdots - 1.83336u - 2.03684\\-0.561956u^{23} + 2.08239u^{22} + \cdots - 0.145765u - 0.429411\end{pmatrix}$$

$$a_9 = \begin{pmatrix}3.15671u^{23} - 10.9173u^{22} + \cdots + 6.15169u + 7.17604\\0.289587u^{23} - 1.13640u^{22} + \cdots - 0.830127u + 0.914649\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -19.3109u^{23} + 64.5263u^{22} + \cdots - 45.8349u - 32.8279$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 17u^{23} + \cdots - 208u + 16$
c_2	$u^{24} - 3u^{23} + \cdots - 8u + 4$
c_3	$u^{24} + 2u^{23} + \cdots - 24u + 104$
c_4	$u^{24} - 3u^{23} + \cdots + 3u + 1$
c_5	$u^{24} + u^{23} + \cdots - 2u + 1$
c_6	$u^{24} + 3u^{23} + \cdots + 8u + 4$
c_7	$u^{24} - 4u^{23} + \cdots + 3u + 1$
c_8	$u^{24} + 2u^{23} + \cdots - u + 1$
c_9	$u^{24} - u^{23} + \cdots + 2u + 1$
c_{10}	$u^{24} - u^{23} + \cdots - 5u^2 + 1$
c_{11}	$u^{24} + 4u^{23} + \cdots - 3u + 1$
c_{12}	$u^{24} + 12u^{23} + \cdots + 7u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 7y^{23} + \cdots - 896y + 256$
c_2, c_6	$y^{24} + 17y^{23} + \cdots + 208y + 16$
c_3	$y^{24} + 26y^{23} + \cdots + 115488y + 10816$
c_4	$y^{24} + 9y^{23} + \cdots + 3y + 1$
c_5, c_9	$y^{24} + 19y^{23} + \cdots + 6y + 1$
c_7, c_{11}	$y^{24} - 14y^{23} + \cdots + 15y + 1$
c_8	$y^{24} - 8y^{23} + \cdots + 11y + 1$
c_{10}	$y^{24} + 5y^{23} + \cdots - 10y + 1$
c_{12}	$y^{24} - 8y^{23} + \cdots + 23y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.723024+0.782726I$ $a=\ 0.673808-0.302861I$ $b=\ 0.765613-0.566388I$	$-2.20701+3.69626I$	$-3.43242-3.87608I$
$u=-0.723024-0.782726I$ $a=\ 0.673808+0.302861I$ $b=\ 0.765613+0.566388I$	$-2.20701-3.69626I$	$-3.43242+3.87608I$
$u=\ 0.847397+0.882962I$ $a=-0.456499-0.214505I$ $b=-1.242050-0.428880I$	$-4.22629-9.01064I$	$-6.66500+7.64370I$
$u=\ 0.847397-0.882962I$ $a=-0.456499+0.214505I$ $b=-1.242050+0.428880I$	$-4.22629+9.01064I$	$-6.66500-7.64370I$
$u=-1.180080+0.537451I$ $a=\ 0.047185-0.458093I$ $b=\ 0.056612+0.723882I$	$-6.12630+4.80640I$	$-2.33201-9.94746I$
$u=-1.180080-0.537451I$ $a=\ 0.047185+0.458093I$ $b=\ 0.056612-0.723882I$	$-6.12630-4.80640I$	$-2.33201+9.94746I$
$u=\ 1.125420+0.707641I$ $a=-0.179275-0.371476I$ $b=-0.746357+0.726100I$	$-6.63349-2.50572I$	$-4.31899-1.64120I$
$u=\ 1.125420-0.707641I$ $a=-0.179275+0.371476I$ $b=-0.746357-0.726100I$	$-6.63349+2.50572I$	$-4.31899+1.64120I$
$u=\ 0.485255+0.418739I$ $a=-1.63375-1.33049I$ $b=-0.212253-0.680015I$	$-9.45464-0.62738I$	$-2.4053+15.6637I$
$u=\ 0.485255-0.418739I$ $a=-1.63375+1.33049I$ $b=-0.212253+0.680015I$	$-9.45464+0.62738I$	$-2.4053-15.6637I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.317045+0.448646I$ $a=\ \ 1.01488+1.36223I$ $b=-1.15529-1.75240I$	$1.52490+1.48153I$	$-2.0321-50.0105I$
$u=-0.317045-0.448646I$ $a=\ \ 1.01488-1.36223I$ $b=-1.15529+1.75240I$	$1.52490-1.48153I$	$-2.0321+50.0105I$
$u=-0.005354+0.515723I$ $a=\ \ 0.48435+1.83018I$ $b=\ \ 0.78622-1.71522I$	$0.63974+1.78828I$	$4.77420-6.68732I$
$u=-0.005354-0.515723I$ $a=\ \ 0.48435-1.83018I$ $b=\ \ 0.78622+1.71522I$	$0.63974-1.78828I$	$4.77420+6.68732I$
$u=\ \ 0.195505+0.452685I$ $a=\ \ 1.41911+1.70966I$ $b=\ \ 0.046863-0.707692I$	$0.484096-0.031327I$	$1.40435+0.73990I$
$u=\ \ 0.195505-0.452685I$ $a=\ \ 1.41911-1.70966I$ $b=\ \ 0.046863+0.707692I$	$0.484096+0.031327I$	$1.40435-0.73990I$
$u=-1.31797+0.82434I$ $a=-0.757681-0.498561I$ $b=-0.68743+1.55050I$	$1.26248+4.42614I$	$-1.29334-4.33015I$
$u=-1.31797-0.82434I$ $a=-0.757681+0.498561I$ $b=-0.68743-1.55050I$	$1.26248-4.42614I$	$-1.29334+4.33015I$
$u=-0.444707+0.017789I$ $a=\ \ 0.83768+1.92404I$ $b=\ \ 0.586420-0.500844I$	$-0.16296+4.41575I$	$-3.01988-6.24842I$
$u=-0.444707-0.017789I$ $a=\ \ 0.83768-1.92404I$ $b=\ \ 0.586420+0.500844I$	$-0.16296-4.41575I$	$-3.01988+6.24842I$

	Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.92278+0.85994I$		
$a=$	$0.438350-0.488629I$	$3.68223-2.53447I$	0
$b=$	$0.66494+1.94897I$		
$u=$	$1.92278-0.85994I$		
$a=$	$0.438350+0.488629I$	$3.68223+2.53447I$	0
$b=$	$0.66494-1.94897I$		
$u=$	$0.91183+3.28463I$		
$a=$	$0.111832-0.742734I$	$8.05775-3.34069I$	0
$b=$	$0.13671+1.99524I$		
$u=$	$0.91183-3.28463I$		
$a=$	$0.111832+0.742734I$	$8.05775+3.34069I$	0
$b=$	$0.13671-1.99524I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{24}-17u^{23}+\cdots-208u+16)$ $\cdot(u^{74}+34u^{73}+\cdots+340368u+13456)$
c_2	$(u^{24}-3u^{23}+\cdots-8u+4)(u^{74}-2u^{73}+\cdots-192u+116)$
c_3	$(u^{24}+2u^{23}+\cdots-24u+104)(u^{74}-3u^{73}+\cdots+2408u+184)$
c_4	$(u^{24}-3u^{23}+\cdots+3u+1)(u^{74}+17u^{72}+\cdots-566418u+172099)$
c_5	$(u^{24}+u^{23}+\cdots-2u+1)(u^{74}-4u^{73}+\cdots-69u+131)$
c_6	$(u^{24}+3u^{23}+\cdots+8u+4)(u^{74}-2u^{73}+\cdots-192u+116)$
c_7	$(u^{24}-4u^{23}+\cdots+3u+1)(u^{74}-u^{73}+\cdots-325282u+19639)$
c_8	$(u^{24}+2u^{23}+\cdots-u+1)(u^{74}+3u^{73}+\cdots-8536u+1093)$
c_9	$(u^{24}-u^{23}+\cdots+2u+1)(u^{74}-4u^{73}+\cdots-69u+131)$
c_{10}	$(u^{24}-u^{23}+\cdots-5u^2+1)(u^{74}-2u^{73}+\cdots+49021u+18569)$
c_{11}	$(u^{24}+4u^{23}+\cdots-3u+1)(u^{74}-u^{73}+\cdots-325282u+19639)$
c_{12}	$(u^{24}+12u^{23}+\cdots+7u+1)(u^{74}-9u^{73}+\cdots-22u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{24} - 7y^{23} + \cdots - 896y + 256)$ $\cdot (y^{74} + 26y^{73} + \cdots + 2544232064y + 181063936)$
c_2, c_6	$(y^{24} + 17y^{23} + \cdots + 208y + 16)$ $\cdot (y^{74} + 34y^{73} + \cdots + 340368y + 13456)$
c_3	$(y^{24} + 26y^{23} + \cdots + 115488y + 10816)$ $\cdot (y^{74} + 103y^{73} + \cdots + 155040y + 33856)$
c_4	$(y^{24} + 9y^{23} + \cdots + 3y + 1)$ $\cdot (y^{74} + 34y^{73} + \cdots + 998146334424y + 29618065801)$
c_5, c_9	$(y^{24} + 19y^{23} + \cdots + 6y + 1)(y^{74} + 44y^{73} + \cdots + 371471y + 17161)$
c_7, c_{11}	$(y^{24} - 14y^{23} + \cdots + 15y + 1)$ $\cdot (y^{74} - 93y^{73} + \cdots - 43352903060y + 385690321)$
c_8	$(y^{24} - 8y^{23} + \cdots + 11y + 1)$ $\cdot (y^{74} + 9y^{73} + \cdots + 23967760y + 1194649)$
c_{10}	$(y^{24} + 5y^{23} + \cdots - 10y + 1)$ $\cdot (y^{74} + 90y^{73} + \cdots + 2650383495y + 344807761)$
c_{12}	$(y^{24} - 8y^{23} + \cdots + 23y + 1)(y^{74} - 3y^{73} + \cdots - 56y^2 + 1)$