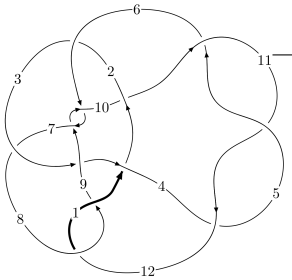
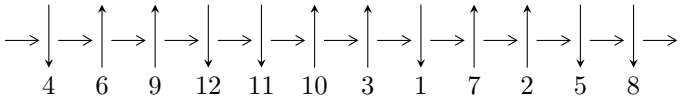
$12a_{0936}$ $(K12a_{0936})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -8.37457 \times 10^{436} u^{125} + 9.53003 \times 10^{436} u^{124} + \cdots + 1.35101 \times 10^{438} b + 3.45441 \times 10^{439}, \\ & 5.42684 \times 10^{439} u^{125} - 6.41823 \times 10^{439} u^{124} + \cdots + 5.54363 \times 10^{440} a - 3.37566 \times 10^{442}, \\ & u^{126} - 2u^{125} + \cdots - 3299u + 1231 \rangle \\ I_2^u = \langle & -16238531 u^{25} + 30226626 u^{24} + \cdots + 923959 b - 38221381, \\ & 37676420 u^{25} - 76531168 u^{24} + \cdots + 923959 a + 101309415,\ u^{26} - u^{25} + \cdots - u + 1 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle -8.37 \times 10^{436} u^{125} + 9.53 \times 10^{436} u^{124} + \cdots + 1.35 \times 10^{438} b + 3.45 \times 10^{439},\ 5.43 \times 10^{439} u^{125} - 6.42 \times 10^{439} u^{124} + \cdots + 5.54 \times 10^{440} a - 3.38 \times 10^{442},\ u^{126} - 2u^{125} + \cdots - 3299u + 1231 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0978932u^{125} + 0.115777u^{124} + \cdots - 60.0039u + 60.8925 \\ 0.0619876u^{125} - 0.0705402u^{124} + \cdots + 50.4110u - 25.5692 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.0359056u^{125} + 0.0452365u^{124} + \cdots - 9.59292u + 35.3233 \\ 0.0619876u^{125} - 0.0705402u^{124} + \cdots + 50.4110u - 25.5692 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.214789u^{125} + 0.296860u^{124} + \cdots - 474.659u + 353.417 \\ 0.122779u^{125} - 0.161806u^{124} + \cdots + 149.065u - 130.070 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0772666u^{125} + 0.0884009u^{124} + \cdots - 71.4657u + 70.1570 \\ 0.0636737u^{125} - 0.0767534u^{124} + \cdots + 32.6989u - 11.7076 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.108594u^{125} + 0.178457u^{124} + \cdots - 259.220u + 200.755 \\ 0.0288267u^{125} - 0.0221697u^{124} + \cdots + 233.565u - 127.968 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.149451u^{125} - 0.221439u^{124} + \cdots + 127.121u - 131.829 \\ -0.0290794u^{125} + 0.0255495u^{124} + \cdots - 149.270u + 74.8556 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0178159u^{125} - 0.00589056u^{124} + \cdots + 155.501u - 49.6233 \\ 0.0261068u^{125} - 0.222873u^{124} + \cdots - 717.172u + 238.249 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.189401u^{125} + 0.179433u^{124} + \cdots - 526.484u + 302.818 \\ 0.115155u^{125} - 0.125900u^{124} + \cdots + 283.633u - 171.090 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.46505u^{125} + 6.90651u^{124} + \cdots + 16799.0u - 4389.17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{126} + 9u^{125} + \cdots + 177179u + 46852$
c_2	$u^{126} - 4u^{125} + \cdots - 21u + 161$
c_3	$u^{126} - 3u^{125} + \cdots - 1627736u + 491149$
c_4, c_5, c_{11}	$u^{126} - u^{125} + \cdots - 44u + 1$
c_6, c_9	$u^{126} + 4u^{125} + \cdots + 940u + 28$
c_7	$u^{126} + 11u^{124} + \cdots + 20491u + 4508$
c_8, c_{12}	$u^{126} - 2u^{125} + \cdots - 3299u + 1231$
c_{10}	$u^{126} - 6u^{125} + \cdots - 21u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{126} - 3y^{125} + \cdots - 81214908545y + 2195109904$
c_2	$y^{126} - 18y^{125} + \cdots - 1745037y + 25921$
c_3	$y^{126} + 43y^{125} + \cdots + 11414107688058y + 241227340201$
c_4, c_5, c_{11}	$y^{126} + 129y^{125} + \cdots - 144y + 1$
c_6, c_9	$y^{126} + 92y^{125} + \cdots + 2432y + 784$
c_7	$y^{126} + 22y^{125} + \cdots + 3435910495y + 20322064$
c_8, c_{12}	$y^{126} - 66y^{125} + \cdots - 35934251y + 1515361$
c_{10}	$y^{126} - 6y^{125} + \cdots + 743y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.148848+0.997058I$ $a=\ \ 0.484449+0.589301I$ $b=-0.699615-0.538924I$	$-3.08034-8.76965I$	0
$u=-0.148848-0.997058I$ $a=\ \ 0.484449-0.589301I$ $b=-0.699615+0.538924I$	$-3.08034+8.76965I$	0
$u=-0.932617+0.406689I$ $a=\ \ 2.39092+0.91877I$ $b=-0.01303-1.43923I$	$7.15726-0.43742I$	0
$u=-0.932617-0.406689I$ $a=\ \ 2.39092-0.91877I$ $b=-0.01303+1.43923I$	$7.15726+0.43742I$	0
$u=\ \ 0.139361+0.971063I$ $a=\ \ 0.679799-0.430076I$ $b=-0.660053+0.442878I$	$2.02908+3.15648I$	0
$u=\ \ 0.139361-0.971063I$ $a=\ \ 0.679799+0.430076I$ $b=-0.660053-0.442878I$	$2.02908-3.15648I$	0
$u=\ \ 0.969622+0.329631I$ $a=\ \ 2.64691+0.02661I$ $b=-0.03223+1.42157I$	$2.85868+4.34404I$	0
$u=\ \ 0.969622-0.329631I$ $a=\ \ 2.64691-0.02661I$ $b=-0.03223-1.42157I$	$2.85868-4.34404I$	0
$u=\ \ 0.994765+0.250646I$ $a=\ \ 0.051584-1.062280I$ $b=\ \ 0.161305+0.726440I$	$0.35382-2.73597I$	0
$u=\ \ 0.994765-0.250646I$ $a=\ \ 0.051584+1.062280I$ $b=\ \ 0.161305-0.726440I$	$0.35382+2.73597I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.943035+0.237535I$ $a=-0.685926+0.121446I$ $b=-0.330407-0.898944I$	$-1.56204+0.98621I$	0
$u=-0.943035-0.237535I$ $a=-0.685926-0.121446I$ $b=-0.330407+0.898944I$	$-1.56204-0.98621I$	0
$u=\ \ 0.779175+0.581592I$ $a=\ \ 1.43608-2.67401I$ $b=-0.01880+1.59472I$	$3.92478-2.29687I$	0
$u=\ \ 0.779175-0.581592I$ $a=\ \ 1.43608+2.67401I$ $b=-0.01880-1.59472I$	$3.92478+2.29687I$	0
$u=\ \ 0.949055+0.404563I$ $a=-1.71474+0.73666I$ $b=-0.31857-1.54304I$	$7.14144-5.30194I$	0
$u=\ \ 0.949055-0.404563I$ $a=-1.71474-0.73666I$ $b=-0.31857+1.54304I$	$7.14144+5.30194I$	0
$u=-0.919188+0.203338I$ $a=-1.53946-1.04780I$ $b=-0.11947+1.75078I$	$1.10721+0.90973I$	0
$u=-0.919188-0.203338I$ $a=-1.53946+1.04780I$ $b=-0.11947-1.75078I$	$1.10721-0.90973I$	0
$u=-0.840820+0.395590I$ $a=\ \ 0.566454+0.458444I$ $b=\ \ 0.522950-0.439061I$	$-1.69920+1.44671I$	0
$u=-0.840820-0.395590I$ $a=\ \ 0.566454-0.458444I$ $b=\ \ 0.522950+0.439061I$	$-1.69920-1.44671I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.984351 + 0.431623I$ $a = -0.313627 + 0.015274I$ $b = -0.323201 + 1.073460I$	$-3.52157 - 2.16105I$	0
$u = 0.984351 - 0.431623I$ $a = -0.313627 - 0.015274I$ $b = -0.323201 - 1.073460I$	$-3.52157 + 2.16105I$	0
$u = 0.189494 + 0.902235I$ $a = 0.37826 - 1.91093I$ $b = 0.03940 + 1.50859I$	$6.39893 - 2.09183I$	0
$u = 0.189494 - 0.902235I$ $a = 0.37826 + 1.91093I$ $b = 0.03940 - 1.50859I$	$6.39893 + 2.09183I$	0
$u = 1.076520 + 0.119638I$ $a = -1.197690 - 0.223514I$ $b = -0.426418 + 0.560555I$	$-7.01035 - 0.91777I$	0
$u = 1.076520 - 0.119638I$ $a = -1.197690 + 0.223514I$ $b = -0.426418 - 0.560555I$	$-7.01035 + 0.91777I$	0
$u = -1.066280 + 0.238950I$ $a = -0.44262 + 1.55222I$ $b = 0.078194 - 0.586003I$	$-3.64530 + 5.96303I$	0
$u = -1.066280 - 0.238950I$ $a = -0.44262 - 1.55222I$ $b = 0.078194 + 0.586003I$	$-3.64530 - 5.96303I$	0
$u = 0.836369 + 0.337355I$ $a = -1.196980 + 0.497658I$ $b = -0.835817 - 0.333023I$	$-1.81558 - 5.93479I$	0
$u = 0.836369 - 0.337355I$ $a = -1.196980 - 0.497658I$ $b = -0.835817 + 0.333023I$	$-1.81558 + 5.93479I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.076530+0.257076I$ $a=-0.199548-0.317015I$ $b=\ \ 0.93261+1.10702I$	$-0.95266+1.40290I$	0
$u=-1.076530-0.257076I$ $a=-0.199548+0.317015I$ $b=\ \ 0.93261-1.10702I$	$-0.95266-1.40290I$	0
$u=\ \ 1.027590+0.444521I$ $a=-0.752960+1.009850I$ $b=-0.300262-0.004771I$	$-6.71965-1.59487I$	0
$u=\ \ 1.027590-0.444521I$ $a=-0.752960-1.009850I$ $b=-0.300262+0.004771I$	$-6.71965+1.59487I$	0
$u=-0.666000+0.910304I$ $a=\ \ 0.67044+1.74561I$ $b=\ \ 0.05679-1.56434I$	$5.49762+3.19311I$	0
$u=-0.666000-0.910304I$ $a=\ \ 0.67044-1.74561I$ $b=\ \ 0.05679+1.56434I$	$5.49762-3.19311I$	0
$u=-1.017980+0.497500I$ $a=-1.69045-0.74925I$ $b=-0.30351+1.47997I$	$4.08352+10.02990I$	0
$u=-1.017980-0.497500I$ $a=-1.69045+0.74925I$ $b=-0.30351-1.47997I$	$4.08352-10.02990I$	0
$u=-0.074073+1.135800I$ $a=\ \ 0.25441-1.94446I$ $b=\ \ 0.00690+1.46050I$	$6.38693-1.83428I$	0
$u=-0.074073-1.135800I$ $a=\ \ 0.25441+1.94446I$ $b=\ \ 0.00690-1.46050I$	$6.38693+1.83428I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000600 + 0.585201I$ $a = 1.32389 - 1.27787I$ $b = 0.06932 + 1.44806I$	$4.31935 - 3.21172I$	0
$u = 1.000600 - 0.585201I$ $a = 1.32389 + 1.27787I$ $b = 0.06932 - 1.44806I$	$4.31935 + 3.21172I$	0
$u = -0.937234 + 0.690886I$ $a = -1.37031 - 2.60421I$ $b = -0.066461 + 1.393770I$	$-1.99693 + 2.71074I$	0
$u = -0.937234 - 0.690886I$ $a = -1.37031 + 2.60421I$ $b = -0.066461 - 1.393770I$	$-1.99693 - 2.71074I$	0
$u = 0.812096 + 0.187109I$ $a = -0.04787 - 3.67334I$ $b = 0.06270 + 1.56183I$	$3.67919 - 6.70709I$	0
$u = 0.812096 - 0.187109I$ $a = -0.04787 + 3.67334I$ $b = 0.06270 - 1.56183I$	$3.67919 + 6.70709I$	0
$u = -0.829005 + 0.066349I$ $a = -1.369970 - 0.124550I$ $b = -1.66040 + 0.95864I$	$0.498437 + 0.097480I$	$-184.802 + 0.I$
$u = -0.829005 - 0.066349I$ $a = -1.369970 + 0.124550I$ $b = -1.66040 - 0.95864I$	$0.498437 - 0.097480I$	$-184.802 + 0.I$
$u = 0.318174 + 1.132600I$ $a = 0.04738 - 2.15159I$ $b = -0.24143 + 1.53554I$	$3.72675 + 12.23680I$	0
$u = 0.318174 - 1.132600I$ $a = 0.04738 + 2.15159I$ $b = -0.24143 - 1.53554I$	$3.72675 - 12.23680I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.222388 + 0.775919I$ $a = 0.73054 + 1.92549I$ $b = 0.087347 - 1.375010I$	$1.24727 + 3.56284I$	0
$u = 0.222388 - 0.775919I$ $a = 0.73054 - 1.92549I$ $b = 0.087347 + 1.375010I$	$1.24727 - 3.56284I$	0
$u = 1.134550 + 0.382624I$ $a = -0.915642 + 0.347066I$ $b = -0.576662 - 0.305597I$	$-3.25311 - 4.39444I$	0
$u = 1.134550 - 0.382624I$ $a = -0.915642 - 0.347066I$ $b = -0.576662 + 0.305597I$	$-3.25311 + 4.39444I$	0
$u = -1.159380 + 0.315869I$ $a = 0.0490977 + 0.1201230I$ $b = -0.100624 - 1.201120I$	$-2.96172 - 0.16203I$	0
$u = -1.159380 - 0.315869I$ $a = 0.0490977 - 0.1201230I$ $b = -0.100624 + 1.201120I$	$-2.96172 + 0.16203I$	0
$u = -0.479018 + 1.103440I$ $a = 0.297343 - 0.252162I$ $b = -0.132709 + 0.061105I$	$0.79102 + 2.44530I$	0
$u = -0.479018 - 1.103440I$ $a = 0.297343 + 0.252162I$ $b = -0.132709 - 0.061105I$	$0.79102 - 2.44530I$	0
$u = -0.711681 + 0.329657I$ $a = 0.51756 + 2.91327I$ $b = 0.06856 - 1.56632I$	$7.95495 + 3.72264I$	$0. - 10.70451I$
$u = -0.711681 - 0.329657I$ $a = 0.51756 - 2.91327I$ $b = 0.06856 + 1.56632I$	$7.95495 - 3.72264I$	$0. + 10.70451I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.409298+1.145340I$ $a=\ \ 0.23193+2.10725I$ $b=-0.24019-1.51287I$	$8.48302-6.51011I$	0
$u=-0.409298-1.145340I$ $a=\ \ 0.23193-2.10725I$ $b=-0.24019+1.51287I$	$8.48302+6.51011I$	0
$u=-1.129780+0.471397I$ $a=-0.919743-0.449485I$ $b=-0.627097+0.134208I$	$-6.34927+5.70832I$	0
$u=-1.129780-0.471397I$ $a=-0.919743+0.449485I$ $b=-0.627097-0.134208I$	$-6.34927-5.70832I$	0
$u=\ \ 0.658946+0.378164I$ $a=\ \ 0.250036+0.240626I$ $b=\ \ 0.640273-0.579391I$	$-1.38842+2.68986I$	0
$u=\ \ 0.658946-0.378164I$ $a=\ \ 0.250036-0.240626I$ $b=\ \ 0.640273+0.579391I$	$-1.38842-2.68986I$	0
$u=\ \ 0.458262+0.597731I$ $a=\ \ 0.654853-0.467897I$ $b=\ \ 0.386012+0.709668I$	$-2.19670-1.87960I$	$0.+4.44403I$
$u=\ \ 0.458262-0.597731I$ $a=\ \ 0.654853+0.467897I$ $b=\ \ 0.386012-0.709668I$	$-2.19670+1.87960I$	$0.-4.44403I$
$u=-0.146371+0.735428I$ $a=\ \ 0.629678+0.135044I$ $b=-0.200353-0.525626I$	$0.18032+2.18521I$	$5.35102-2.23079I$
$u=-0.146371-0.735428I$ $a=\ \ 0.629678-0.135044I$ $b=-0.200353+0.525626I$	$0.18032-2.18521I$	$5.35102+2.23079I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.131562+0.731311I$ $a=\ \ 0.53826+1.50162I$ $b=-0.633873-0.485988I$	$-3.20346+4.20633I$	$-1.42742-4.24409I$
$u=-0.131562-0.731311I$ $a=\ \ 0.53826-1.50162I$ $b=-0.633873+0.485988I$	$-3.20346-4.20633I$	$-1.42742+4.24409I$
$u=-0.476604+0.567281I$ $a=-0.00364-1.54332I$ $b=\ \ 0.19968+1.54911I$	$5.68339-5.76173I$	$4.03620+1.96765I$
$u=-0.476604-0.567281I$ $a=-0.00364+1.54332I$ $b=\ \ 0.19968-1.54911I$	$5.68339+5.76173I$	$4.03620-1.96765I$
$u=-1.219270+0.331553I$ $a=\ \ 0.106622+0.357014I$ $b=\ \ 0.962536-0.062103I$	$-2.78023+0.97303I$	0
$u=-1.219270-0.331553I$ $a=\ \ 0.106622-0.357014I$ $b=\ \ 0.962536+0.062103I$	$-2.78023-0.97303I$	0
$u=\ \ 0.651889+0.337481I$ $a=-0.42475+1.61434I$ $b=\ \ 0.16202-1.63051I$	$8.12960+1.97140I$	$4.04397+3.29297I$
$u=\ \ 0.651889-0.337481I$ $a=-0.42475-1.61434I$ $b=\ \ 0.16202+1.63051I$	$8.12960-1.97140I$	$4.04397-3.29297I$
$u=\ \ 0.596740+1.116480I$ $a=\ \ 0.62338-1.94608I$ $b=-0.30543+1.41182I$	$5.05717-0.14156I$	0
$u=\ \ 0.596740-1.116480I$ $a=\ \ 0.62338+1.94608I$ $b=-0.30543-1.41182I$	$5.05717+0.14156I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.251670+0.248282I$ $a=-0.942174-0.163311I$ $b=-0.546637+0.467593I$	$-7.24377+4.41221I$	0
$u=-1.251670-0.248282I$ $a=-0.942174+0.163311I$ $b=-0.546637-0.467593I$	$-7.24377-4.41221I$	0
$u=1.162380+0.531161I$ $a=-1.98603+1.00024I$ $b=-0.172096-1.386380I$	$-1.51459-8.43395I$	0
$u=1.162380-0.531161I$ $a=-1.98603-1.00024I$ $b=-0.172096+1.386380I$	$-1.51459+8.43395I$	0
$u=1.207860+0.421033I$ $a=-0.0178337-0.0720407I$ $b=1.008340-0.506746I$	$-6.96323-8.27018I$	0
$u=1.207860-0.421033I$ $a=-0.0178337+0.0720407I$ $b=1.008340+0.506746I$	$-6.96323+8.27018I$	0
$u=-1.189610+0.583725I$ $a=-0.489387-0.424237I$ $b=-0.265791+0.205094I$	$-1.73251+3.52502I$	0
$u=-1.189610-0.583725I$ $a=-0.489387+0.424237I$ $b=-0.265791-0.205094I$	$-1.73251-3.52502I$	0
$u=-1.227660+0.501625I$ $a=-1.55719-0.96114I$ $b=-0.16818+1.45759I$	$2.51802+6.99481I$	0
$u=-1.227660-0.501625I$ $a=-1.55719+0.96114I$ $b=-0.16818-1.45759I$	$2.51802-6.99481I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.220020+0.537137I$ $a=\ 0.55937+1.32266I$ $b=\ 0.639267-0.912827I$	$-6.20401+0.67249I$	0
$u=-1.220020-0.537137I$ $a=\ 0.55937-1.32266I$ $b=\ 0.639267+0.912827I$	$-6.20401-0.67249I$	0
$u=-0.641115+0.181165I$ $a=\ 2.68375-1.34030I$ $b=-0.151706-0.040572I$	$-2.20245-3.80287I$	$2.77639-4.05015I$
$u=-0.641115-0.181165I$ $a=\ 2.68375+1.34030I$ $b=-0.151706+0.040572I$	$-2.20245+3.80287I$	$2.77639+4.05015I$
$u=-0.178617+0.633748I$ $a=\ 0.424577-0.096385I$ $b=\ 0.544428+0.225863I$	$-3.65130-1.45525I$	$-4.73147+3.01385I$
$u=-0.178617-0.633748I$ $a=\ 0.424577+0.096385I$ $b=\ 0.544428-0.225863I$	$-3.65130+1.45525I$	$-4.73147-3.01385I$
$u=\ 1.240540+0.526594I$ $a=\ 0.386316-0.877754I$ $b=\ 0.932489+0.626542I$	$-1.39198-8.45006I$	0
$u=\ 1.240540-0.526594I$ $a=\ 0.386316+0.877754I$ $b=\ 0.932489-0.626542I$	$-1.39198+8.45006I$	0
$u=\ 1.342150+0.132858I$ $a=\ 0.110083-0.685341I$ $b=\ 0.160826+1.248210I$	$0.74225-2.91628I$	0
$u=\ 1.342150-0.132858I$ $a=\ 0.110083+0.685341I$ $b=\ 0.160826-1.248210I$	$0.74225+2.91628I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.260140+0.554115I$ $a=\ 0.525111+0.894267I$ $b=\ 0.862357-0.634721I$	$-6.5214+14.2956I$	0
$u=-1.260140-0.554115I$ $a=\ 0.525111-0.894267I$ $b=\ 0.862357+0.634721I$	$-6.5214-14.2956I$	0
$u=\ 1.348730+0.318201I$ $a=\ 0.068972-0.170369I$ $b=\ 0.759504-0.238728I$	$-8.13778+4.10129I$	0
$u=\ 1.348730-0.318201I$ $a=\ 0.068972+0.170369I$ $b=\ 0.759504+0.238728I$	$-8.13778-4.10129I$	0
$u=\ 1.341980+0.347451I$ $a=-1.31337+0.64564I$ $b=-0.16379-1.51215I$	$-0.69437-6.95691I$	0
$u=\ 1.341980-0.347451I$ $a=-1.31337-0.64564I$ $b=-0.16379+1.51215I$	$-0.69437+6.95691I$	0
$u=\ 1.215820+0.687867I$ $a=\ 0.98021-1.68467I$ $b=\ 0.38806+1.55320I$	$2.80725-6.41201I$	0
$u=\ 1.215820-0.687867I$ $a=\ 0.98021+1.68467I$ $b=\ 0.38806-1.55320I$	$2.80725+6.41201I$	0
$u=\ 1.325560+0.486468I$ $a=-0.620531+0.161435I$ $b=-0.283598-0.388858I$	$-4.28613-6.83274I$	0
$u=\ 1.325560-0.486468I$ $a=-0.620531-0.161435I$ $b=-0.283598+0.388858I$	$-4.28613+6.83274I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.24621+0.67949I$ $a=\ \ 1.21880+1.58383I$ $b=\ \ 0.31321-1.57749I$	$5.7485+12.9840I$	0
$u=-1.24621-0.67949I$ $a=\ \ 1.21880-1.58383I$ $b=\ \ 0.31321+1.57749I$	$5.7485-12.9840I$	0
$u=\ \ 1.26837+0.66057I$ $a=\ \ 1.33678-1.54106I$ $b=\ \ 0.29857+1.58276I$	$0.7099-18.5946I$	0
$u=\ \ 1.26837-0.66057I$ $a=\ \ 1.33678+1.54106I$ $b=\ \ 0.29857-1.58276I$	$0.7099+18.5946I$	0
$u=\ \ 0.60781+1.34059I$ $a=-0.11147+1.98504I$ $b=-0.02176-1.42990I$	$5.96691-2.85688I$	0
$u=\ \ 0.60781-1.34059I$ $a=-0.11147-1.98504I$ $b=-0.02176+1.42990I$	$5.96691+2.85688I$	0
$u=\ \ 1.23071+0.81446I$ $a=-1.03642+1.64382I$ $b=-0.07588-1.44304I$	$3.78807-4.69844I$	0
$u=\ \ 1.23071-0.81446I$ $a=-1.03642-1.64382I$ $b=-0.07588+1.44304I$	$3.78807+4.69844I$	0
$u=-1.50987+0.09187I$ $a=-0.014556-0.815056I$ $b=\ \ 0.214295+1.367810I$	$-3.12537-7.53337I$	0
$u=-1.50987-0.09187I$ $a=-0.014556+0.815056I$ $b=\ \ 0.214295-1.367810I$	$-3.12537+7.53337I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.427169 + 0.181956I$ $a = 2.69543 - 0.61581I$ $b = -0.240674 + 0.130137I$	$1.79440 + 0.02427I$	$7.84012 + 1.45955I$
$u = 0.427169 - 0.181956I$ $a = 2.69543 + 0.61581I$ $b = -0.240674 - 0.130137I$	$1.79440 - 0.02427I$	$7.84012 - 1.45955I$
$u = -1.42925 + 0.64803I$ $a = -1.01971 - 1.14875I$ $b = -0.09841 + 1.48811I$	$1.98063 + 8.26315I$	0
$u = -1.42925 - 0.64803I$ $a = -1.01971 + 1.14875I$ $b = -0.09841 - 1.48811I$	$1.98063 - 8.26315I$	0
$u = -0.050278 + 0.411683I$ $a = 0.550036 + 0.242277I$ $b = 0.297186 - 0.449903I$	$-0.135812 + 1.155040I$	$-1.96188 - 5.19114I$
$u = -0.050278 - 0.411683I$ $a = 0.550036 - 0.242277I$ $b = 0.297186 + 0.449903I$	$-0.135812 - 1.155040I$	$-1.96188 + 5.19114I$

II.

$\boldsymbol{I_2^u = \langle -1.62\times 10^7 u^{25} + 3.02\times 10^7 u^{24} + \cdots + 9.24\times 10^5 b - 3.82\times 10^7,\ 3.77\times 10^7 u^{25} - 7.65\times 10^7 u^{24} + \cdots + 9.24\times 10^5 a + 1.01\times 10^8,\ u^{26} - u^{25} + \cdots - u + 1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -40.7772u^{25} + 82.8296u^{24} + \cdots + 258.260u - 109.647 \\ 17.5749u^{25} - 32.7143u^{24} + \cdots - 103.573u + 41.3670 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -23.2022u^{25} + 50.1154u^{24} + \cdots + 154.688u - 68.2801 \\ 17.5749u^{25} - 32.7143u^{24} + \cdots - 103.573u + 41.3670 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 42.0013u^{25} - 97.8731u^{24} + \cdots - 341.143u + 160.014 \\ -4.79559u^{25} + 0.0230584u^{24} + \cdots + 18.0952u + 6.60502 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -23.2022u^{25} + 49.1154u^{24} + \cdots + 153.688u - 67.2801 \\ 17.5749u^{25} - 32.7143u^{24} + \cdots - 103.573u + 41.3670 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -66.2314u^{25} + 77.8533u^{24} + \cdots + 243.213u - 58.3855 \\ 0.592913u^{25} - 4.06860u^{24} + \cdots - 24.5921u + 16.7433 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -27.2660u^{25} + 35.2638u^{24} + \cdots + 139.740u - 31.9295 \\ 0.268166u^{25} + 5.87467u^{24} + \cdots + 23.0432u - 20.7456 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 67.9432u^{25} - 97.9002u^{24} + \cdots - 299.466u + 99.3720 \\ -40.8380u^{25} + 63.9847u^{24} + \cdots + 160.509u - 48.8588 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -25.6943u^{25} + 58.6272u^{24} + \cdots + 148.725u - 86.1828 \\ 42.2036u^{25} - 63.4743u^{24} + \cdots - 168.537u + 53.7065 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{149866747}{923959}u^{25} - \frac{337930009}{923959}u^{24} + \cdots - \frac{651165116}{923959}u + \frac{351073846}{923959}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - 12u^{25} + \cdots - 36u + 7$
c_2	$u^{26} - u^{25} + \cdots - u + 1$
c_3	$u^{26} + 2u^{25} + \cdots + 10u^2 + 1$
c_4, c_5	$u^{26} + 2u^{25} + \cdots + 2u + 1$
c_6	$u^{26} + 5u^{25} + \cdots + 16u + 4$
c_7	$u^{26} + u^{25} + \cdots - 38u + 13$
c_8	$u^{26} + u^{25} + \cdots + u + 1$
c_9	$u^{26} - 5u^{25} + \cdots - 16u + 4$
c_{10}	$u^{26} - u^{25} + \cdots + 3u + 1$
c_{11}	$u^{26} - 2u^{25} + \cdots - 2u + 1$
c_{12}	$u^{26} - u^{25} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26} + 12y^{25} + \cdots - 1044y + 49$
c_2	$y^{26} - 7y^{25} + \cdots - 7y + 1$
c_3	$y^{26} + 6y^{25} + \cdots + 20y + 1$
c_4, c_5, c_{11}	$y^{26} + 28y^{25} + \cdots - 2y + 1$
c_6, c_9	$y^{26} + 19y^{25} + \cdots + 48y + 16$
c_7	$y^{26} + 13y^{25} + \cdots + 402y + 169$
c_8, c_{12}	$y^{26} - 11y^{25} + \cdots - 21y + 1$
c_{10}	$y^{26} - 3y^{25} + \cdots + 77y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.960119 + 0.265758I$ $a = -0.865721 + 0.373600I$ $b = -0.084741 + 1.101490I$	$-4.25818 - 1.08751I$	$-6.83580 + 0.03087I$
$u = 0.960119 - 0.265758I$ $a = -0.865721 - 0.373600I$ $b = -0.084741 - 1.101490I$	$-4.25818 + 1.08751I$	$-6.83580 - 0.03087I$
$u = -1.054200 + 0.354405I$ $a = -0.135482 + 0.199760I$ $b = -0.470597 - 0.875277I$	$-1.43501 + 1.97726I$	$-0.64126 - 4.43069I$
$u = -1.054200 - 0.354405I$ $a = -0.135482 - 0.199760I$ $b = -0.470597 + 0.875277I$	$-1.43501 - 1.97726I$	$-0.64126 + 4.43069I$
$u = -1.007140 + 0.507041I$ $a = -1.14054 - 1.37225I$ $b = -0.208869 + 0.631292I$	$-5.86020 + 2.09818I$	$-2.54692 - 5.18070I$
$u = -1.007140 - 0.507041I$ $a = -1.14054 + 1.37225I$ $b = -0.208869 - 0.631292I$	$-5.86020 - 2.09818I$	$-2.54692 + 5.18070I$
$u = -0.444960 + 1.086040I$ $a = -0.162395 + 0.208043I$ $b = 0.237746 - 0.229386I$	$0.78338 + 2.62725I$	$-0.4991 - 24.3792I$
$u = -0.444960 - 1.086040I$ $a = -0.162395 - 0.208043I$ $b = 0.237746 + 0.229386I$	$0.78338 - 2.62725I$	$-0.4991 + 24.3792I$
$u = -0.803695 + 0.076489I$ $a = 1.395030 + 0.140155I$ $b = 1.39037 - 0.91387I$	$0.528666 + 0.091290I$	$82.3409 + 7.4167I$
$u = -0.803695 - 0.076489I$ $a = 1.395030 - 0.140155I$ $b = 1.39037 + 0.91387I$	$0.528666 - 0.091290I$	$82.3409 - 7.4167I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.462571 + 1.101380I$ $a = -0.47701 + 2.15047I$ $b = 0.21416 - 1.45525I$	$4.91648 - 0.52982I$	$0.63138 + 6.27014I$
$u = 0.462571 - 1.101380I$ $a = -0.47701 - 2.15047I$ $b = 0.21416 + 1.45525I$	$4.91648 + 0.52982I$	$0.63138 - 6.27014I$
$u = 1.201810 + 0.366511I$ $a = -0.708024 - 0.242130I$ $b = -0.418255 - 0.082920I$	$-4.97637 - 6.17880I$	$-6.64629 + 6.66766I$
$u = 1.201810 - 0.366511I$ $a = -0.708024 + 0.242130I$ $b = -0.418255 + 0.082920I$	$-4.97637 + 6.17880I$	$-6.64629 - 6.66766I$
$u = 0.608019 + 1.127160I$ $a = 0.36868 - 1.86104I$ $b = 0.04734 + 1.50210I$	$6.89482 - 3.51056I$	$8.78887 + 6.66749I$
$u = 0.608019 - 1.127160I$ $a = 0.36868 + 1.86104I$ $b = 0.04734 - 1.50210I$	$6.89482 + 3.51056I$	$8.78887 - 6.66749I$
$u = 0.675393 + 0.069978I$ $a = 1.79298 + 1.77615I$ $b = 0.417235 - 0.297568I$	$-2.42704 + 4.22616I$	$-5.58020 - 10.10054I$
$u = 0.675393 - 0.069978I$ $a = 1.79298 - 1.77615I$ $b = 0.417235 + 0.297568I$	$-2.42704 - 4.22616I$	$-5.58020 + 10.10054I$
$u = -1.317960 + 0.417827I$ $a = -1.35617 - 0.48271I$ $b = -0.12420 + 1.45986I$	$0.42159 + 7.99851I$	$-0.97759 - 7.43929I$
$u = -1.317960 - 0.417827I$ $a = -1.35617 + 0.48271I$ $b = -0.12420 - 1.45986I$	$0.42159 - 7.99851I$	$-0.97759 + 7.43929I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.275590 + 0.594910I$ $a = -1.11717 + 1.27143I$ $b = -0.22257 - 1.44164I$	$1.82130 - 5.71135I$	$-1.05320 + 3.00564I$
$u = 1.275590 - 0.594910I$ $a = -1.11717 - 1.27143I$ $b = -0.22257 + 1.44164I$	$1.82130 + 5.71135I$	$-1.05320 - 3.00564I$
$u = -0.578294 + 0.025496I$ $a = 1.87129 - 4.02484I$ $b = 0.10678 + 1.53450I$	$4.01860 - 5.98752I$	$1.67587 + 1.84987I$
$u = -0.578294 - 0.025496I$ $a = 1.87129 + 4.02484I$ $b = 0.10678 - 1.53450I$	$4.01860 + 5.98752I$	$1.67587 - 1.84987I$
$u = 0.522750 + 0.238445I$ $a = 1.53454 - 2.56686I$ $b = 0.11560 + 1.56506I$	$7.79662 - 3.07854I$	$3.34333 + 0.16527I$
$u = 0.522750 - 0.238445I$ $a = 1.53454 + 2.56686I$ $b = 0.11560 - 1.56506I$	$7.79662 + 3.07854I$	$3.34333 - 0.16527I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{26}-12u^{25}+\cdots-36u+7)(u^{126}+9u^{125}+\cdots+177179u+46852)$
c_2	$(u^{26}-u^{25}+\cdots-u+1)(u^{126}-4u^{125}+\cdots-21u+161)$
c_3	$(u^{26}+2u^{25}+\cdots+10u^2+1)(u^{126}-3u^{125}+\cdots-1627736u+491149)$
c_4, c_5	$(u^{26}+2u^{25}+\cdots+2u+1)(u^{126}-u^{125}+\cdots-44u+1)$
c_6	$(u^{26}+5u^{25}+\cdots+16u+4)(u^{126}+4u^{125}+\cdots+940u+28)$
c_7	$(u^{26}+u^{25}+\cdots-38u+13)(u^{126}+11u^{124}+\cdots+20491u+4508)$
c_8	$(u^{26}+u^{25}+\cdots+u+1)(u^{126}-2u^{125}+\cdots-3299u+1231)$
c_9	$(u^{26}-5u^{25}+\cdots-16u+4)(u^{126}+4u^{125}+\cdots+940u+28)$
c_{10}	$(u^{26}-u^{25}+\cdots+3u+1)(u^{126}-6u^{125}+\cdots-21u+2)$
c_{11}	$(u^{26}-2u^{25}+\cdots-2u+1)(u^{126}-u^{125}+\cdots-44u+1)$
c_{12}	$(u^{26}-u^{25}+\cdots-u+1)(u^{126}-2u^{125}+\cdots-3299u+1231)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{26}+12y^{25}+\cdots-1044y+49)$ $\cdot(y^{126}-3y^{125}+\cdots-81214908545y+2195109904)$
c_2	$(y^{26}-7y^{25}+\cdots-7y+1)(y^{126}-18y^{125}+\cdots-1745037y+25921)$
c_3	$(y^{26}+6y^{25}+\cdots+20y+1)$ $\cdot(y^{126}+43y^{125}+\cdots+11414107688058y+241227340201)$
c_4, c_5, c_{11}	$(y^{26}+28y^{25}+\cdots-2y+1)(y^{126}+129y^{125}+\cdots-144y+1)$
c_6, c_9	$(y^{26}+19y^{25}+\cdots+48y+16)(y^{126}+92y^{125}+\cdots+2432y+784)$
c_7	$(y^{26}+13y^{25}+\cdots+402y+169)$ $\cdot(y^{126}+22y^{125}+\cdots+3435910495y+20322064)$
c_8, c_{12}	$(y^{26}-11y^{25}+\cdots-21y+1)$ $\cdot(y^{126}-66y^{125}+\cdots-35934251y+1515361)$
c_{10}	$(y^{26}-3y^{25}+\cdots+77y+1)(y^{126}-6y^{125}+\cdots+743y+4)$