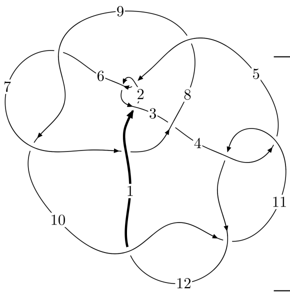
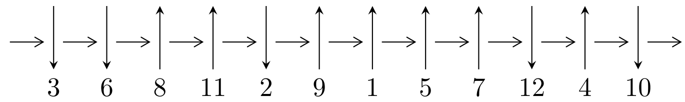
$12a_{0318}$ ($K12a_{0318}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.25817 \times 10^{400} u^{103} + 6.06573 \times 10^{400} u^{102} + \cdots + 2.71520 \times 10^{400} b - 4.51803 \times 10^{402}, \\ & 3.84894 \times 10^{400} u^{103} - 1.79264 \times 10^{401} u^{102} + \cdots + 3.39400 \times 10^{400} a + 2.41261 \times 10^{403}, \\ & u^{104} - 6u^{103} + \cdots - 8175u - 625 \rangle \\ I_2^u = \langle & 25a^4 - 5a^3 + 2a^2 + 4b + 11a + 3,\ 25a^5 - 5a^4 + 2a^3 + 6a^2 + 5a - 1,\ u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 109 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. $\boldsymbol{I_1^u = \langle -1.26 \times 10^{400} u^{103} + 6.07 \times 10^{400} u^{102} + \cdots + 2.72 \times 10^{400} b - 4.52 \times 10^{402},\ 3.85 \times 10^{400} u^{103} - 1.79 \times 10^{401} u^{102} + \cdots + 3.39 \times 10^{400} a + 2.41 \times 10^{403},\ u^{104} - 6u^{103} + \cdots - 8175u - 625 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -1.13404u^{103} + 5.28179u^{102} + \cdots - 8692.58u - 710.844 \\ 0.463381u^{103} - 2.23399u^{102} + \cdots + 2498.84u + 166.397 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.670662u^{103} + 3.04780u^{102} + \cdots - 6193.74u - 544.447 \\ 0.463381u^{103} - 2.23399u^{102} + \cdots + 2498.84u + 166.397 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.07459u^{103} - 5.59952u^{102} + \cdots - 3167.52u - 538.320 \\ -1.25102u^{103} + 5.81009u^{102} + \cdots - 8824.16u - 651.600 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.714651u^{103} - 3.81450u^{102} + \cdots - 3127.85u - 359.311 \\ -1.30915u^{103} + 6.22051u^{102} + \cdots - 7633.41u - 537.319 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.384925u^{103} + 2.58489u^{102} + \cdots + 15388.0u + 1690.93 \\ -0.867986u^{103} + 3.89150u^{102} + \cdots - 6473.36u - 445.958 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.591519u^{103} + 2.65264u^{102} + \cdots - 7469.87u - 752.274 \\ -0.496111u^{103} + 2.31885u^{102} + \cdots - 3046.93u - 227.266 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.349150u^{103} + 1.07505u^{102} + \cdots - 11968.9u - 1158.87 \\ -0.178604u^{103} + 0.831504u^{102} + \cdots - 1466.07u - 104.748 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.68396u^{103} - 9.20013u^{102} + \cdots - 12447.3u - 1482.86 \\ -0.498847u^{103} + 2.24348u^{102} + \cdots - 4062.81u - 346.564 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.235557u^{103} + 1.17647u^{102} + \cdots + 281.718u - 57.7009$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{104} + 42u^{103} + \cdots + 5u + 1$
c_2, c_5	$u^{104} + 2u^{103} + \cdots + u - 1$
c_3	$u^{104} + u^{103} + \cdots + 128000u + 20000$
c_4, c_{11}	$u^{104} - 2u^{103} + \cdots + 3u - 1$
c_6, c_9	$u^{104} + 6u^{103} + \cdots + 8175u - 625$
c_7	$25(25u^{104} + 125u^{103} + \cdots - 5.04359 \times 10^7 u - 1.75923 \times 10^8)$
c_8	$25(25u^{104} + 50u^{103} + \cdots + 4032879u + 1554593)$
c_{10}, c_{12}	$u^{104} + 30u^{103} + \cdots - 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{104} + 42y^{103} + \cdots + 83y + 1$
c_2, c_5	$y^{104} - 42y^{103} + \cdots - 5y + 1$
c_3	$y^{104} - 33y^{103} + \cdots - 16280000000y + 400000000$
c_4, c_{11}	$y^{104} + 30y^{103} + \cdots - 5y + 1$
c_6, c_9	$y^{104} - 86y^{103} + \cdots - 30394375y + 390625$
c_7	$625(625y^{104} - 87275y^{103} + \cdots - 7.63958 \times 10^{17}y + 3.09488 \times 10^{16})$
c_8	625 $\cdot (625y^{104} + 16400y^{103} + \cdots - 21479676158875y + 2416759395649)$
c_{10}, c_{12}	$y^{104} + 90y^{103} + \cdots - 173y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.013930 + 0.053074I$ $a = 0.84563 + 5.97337I$ $b = -0.875152 - 0.542840I$	$0.55238 - 2.15431I$	0
$u = -1.013930 - 0.053074I$ $a = 0.84563 - 5.97337I$ $b = -0.875152 + 0.542840I$	$0.55238 + 2.15431I$	0
$u = 1.034930 + 0.092377I$ $a = 0.432529 - 0.375380I$ $b = -1.43461 + 0.15241I$	$-4.20552 + 4.60588I$	0
$u = 1.034930 - 0.092377I$ $a = 0.432529 + 0.375380I$ $b = -1.43461 - 0.15241I$	$-4.20552 - 4.60588I$	0
$u = -0.920741 + 0.125206I$ $a = -1.26152 - 3.17105I$ $b = -0.819156 - 0.413304I$	$4.48936 + 0.62293I$	0
$u = -0.920741 - 0.125206I$ $a = -1.26152 + 3.17105I$ $b = -0.819156 + 0.413304I$	$4.48936 - 0.62293I$	0
$u = 0.025348 + 1.078690I$ $a = 0.414738 - 0.689098I$ $b = 1.022060 + 0.609154I$	$-2.41249 - 7.33475I$	0
$u = 0.025348 - 1.078690I$ $a = 0.414738 + 0.689098I$ $b = 1.022060 - 0.609154I$	$-2.41249 + 7.33475I$	0
$u = -1.070450 + 0.147466I$ $a = -0.076939 - 0.239125I$ $b = -0.140596 - 0.243052I$	$1.177780 - 0.779255I$	0
$u = -1.070450 - 0.147466I$ $a = -0.076939 + 0.239125I$ $b = -0.140596 + 0.243052I$	$1.177780 + 0.779255I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.110220 + 0.892342I$ $a = -0.914702 - 1.076450I$ $b = -1.003870 + 0.038005I$	$0.18628 - 5.77200I$	0
$u = 0.110220 - 0.892342I$ $a = -0.914702 + 1.076450I$ $b = -1.003870 - 0.038005I$	$0.18628 + 5.77200I$	0
$u = -0.867570 + 0.211578I$ $a = 1.23556 + 2.33717I$ $b = 0.801312 + 0.374759I$	$4.32881 - 5.13184I$	0
$u = -0.867570 - 0.211578I$ $a = 1.23556 - 2.33717I$ $b = 0.801312 - 0.374759I$	$4.32881 + 5.13184I$	0
$u = -0.716194 + 0.516260I$ $a = 0.058650 - 0.780537I$ $b = -0.439288 - 0.400367I$	$4.70460 + 0.58481I$	0
$u = -0.716194 - 0.516260I$ $a = 0.058650 + 0.780537I$ $b = -0.439288 + 0.400367I$	$4.70460 - 0.58481I$	0
$u = -0.134970 + 0.860713I$ $a = 0.305814 + 0.661002I$ $b = 0.532236 - 0.624590I$	$-1.02515 - 2.43506I$	0
$u = -0.134970 - 0.860713I$ $a = 0.305814 - 0.661002I$ $b = 0.532236 + 0.624590I$	$-1.02515 + 2.43506I$	0
$u = 0.755968 + 0.378816I$ $a = 0.009408 - 0.920023I$ $b = -1.187370 + 0.198303I$	$-4.14345 + 4.96463I$	0
$u = 0.755968 - 0.378816I$ $a = 0.009408 + 0.920023I$ $b = -1.187370 - 0.198303I$	$-4.14345 - 4.96463I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.15916$ $a = -0.248154$ $b = 1.39516$	-0.196484	0
$u = -0.234959 + 0.795544I$ $a = -0.790804 + 0.597039I$ $b = -0.992648 - 0.590040I$	$0.32570 - 4.74919I$	0
$u = -0.234959 - 0.795544I$ $a = -0.790804 - 0.597039I$ $b = -0.992648 + 0.590040I$	$0.32570 + 4.74919I$	0
$u = 0.031293 + 0.813655I$ $a = 0.98332 + 1.14454I$ $b = 0.973040 - 0.042367I$	$0.753256 + 0.017776I$	0
$u = 0.031293 - 0.813655I$ $a = 0.98332 - 1.14454I$ $b = 0.973040 + 0.042367I$	$0.753256 - 0.017776I$	0
$u = 0.400031 + 0.699404I$ $a = -0.568973 - 1.153310I$ $b = -1.058270 + 0.115697I$	$-5.49838 - 1.03204I$	0
$u = 0.400031 - 0.699404I$ $a = -0.568973 + 1.153310I$ $b = -1.058270 - 0.115697I$	$-5.49838 + 1.03204I$	0
$u = -0.608735 + 0.525411I$ $a = -0.166435 + 0.966502I$ $b = 0.490251 + 0.429515I$	$4.41771 - 5.22605I$	0
$u = -0.608735 - 0.525411I$ $a = -0.166435 - 0.966502I$ $b = 0.490251 - 0.429515I$	$4.41771 + 5.22605I$	0
$u = -0.517612 + 0.557275I$ $a = -0.267475 - 0.044433I$ $b = -0.631086 + 0.547783I$	$1.42679 - 0.09115I$	$8.32769 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.517612 - 0.557275I$ $a = -0.267475 + 0.044433I$ $b = -0.631086 - 0.547783I$	$1.42679 + 0.09115I$	$8.32769 + 0.I$
$u = 1.249050 + 0.091321I$ $a = -0.63785 - 1.27059I$ $b = 0.541821 + 1.005770I$	$3.02371 - 1.07462I$	0
$u = 1.249050 - 0.091321I$ $a = -0.63785 + 1.27059I$ $b = 0.541821 - 1.005770I$	$3.02371 + 1.07462I$	0
$u = 1.230010 + 0.257322I$ $a = -0.18469 + 1.76690I$ $b = 1.122190 - 0.745710I$	$1.24341 + 5.25068I$	0
$u = 1.230010 - 0.257322I$ $a = -0.18469 - 1.76690I$ $b = 1.122190 + 0.745710I$	$1.24341 - 5.25068I$	0
$u = -0.714203$ $a = -0.630403$ $b = -0.398199$	1.03446	10.5160
$u = -0.501535 + 1.223320I$ $a = -0.021136 - 0.607600I$ $b = -0.613344 + 0.675383I$	$5.49142 - 0.54714I$	0
$u = -0.501535 - 1.223320I$ $a = -0.021136 + 0.607600I$ $b = -0.613344 - 0.675383I$	$5.49142 + 0.54714I$	0
$u = -0.391187 + 1.267150I$ $a = 0.044961 + 0.643911I$ $b = 0.598753 - 0.683955I$	$5.05098 - 6.49860I$	0
$u = -0.391187 - 1.267150I$ $a = 0.044961 - 0.643911I$ $b = 0.598753 + 0.683955I$	$5.05098 + 6.49860I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.327230 + 0.025075I$ $a = -0.20990 - 1.43950I$ $b = 1.169970 + 0.711145I$	$8.34639 + 1.35481I$	0
$u = 1.327230 - 0.025075I$ $a = -0.20990 + 1.43950I$ $b = 1.169970 - 0.711145I$	$8.34639 - 1.35481I$	0
$u = 1.299360 + 0.322093I$ $a = 0.106462 + 0.307157I$ $b = 1.284080 - 0.060470I$	$4.83167 + 3.98855I$	0
$u = 1.299360 - 0.322093I$ $a = 0.106462 - 0.307157I$ $b = 1.284080 + 0.060470I$	$4.83167 - 3.98855I$	0
$u = -1.157470 + 0.677359I$ $a = -0.43424 + 1.62457I$ $b = -0.918558 - 0.625354I$	$2.25024 - 5.42318I$	0
$u = -1.157470 - 0.677359I$ $a = -0.43424 - 1.62457I$ $b = -0.918558 + 0.625354I$	$2.25024 + 5.42318I$	0
$u = -1.247090 + 0.519183I$ $a = 0.653265 - 0.592996I$ $b = -0.753696 + 0.620768I$	$2.75612 - 0.51612I$	0
$u = -1.247090 - 0.519183I$ $a = 0.653265 + 0.592996I$ $b = -0.753696 - 0.620768I$	$2.75612 + 0.51612I$	0
$u = 1.293830 + 0.393590I$ $a = -0.149281 - 0.351146I$ $b = -1.270650 + 0.063796I$	$4.02286 + 10.36490I$	0
$u = 1.293830 - 0.393590I$ $a = -0.149281 + 0.351146I$ $b = -1.270650 - 0.063796I$	$4.02286 - 10.36490I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.366010 + 0.033928I$ $a = 0.001319 - 0.235797I$ $b = -0.015035 - 0.391381I$	$6.33487 - 2.95650I$	0
$u = -1.366010 - 0.033928I$ $a = 0.001319 + 0.235797I$ $b = -0.015035 + 0.391381I$	$6.33487 + 2.95650I$	0
$u = -0.532280 + 0.337940I$ $a = 1.072810 + 0.907460I$ $b = 0.641319 + 0.116720I$	$-0.95235 - 1.78350I$	$-2.07327 + 5.75596I$
$u = -0.532280 - 0.337940I$ $a = 1.072810 - 0.907460I$ $b = 0.641319 - 0.116720I$	$-0.95235 + 1.78350I$	$-2.07327 - 5.75596I$
$u = 1.325390 + 0.351138I$ $a = -0.775024 - 1.068110I$ $b = 0.561537 + 0.938182I$	$3.49061 + 6.69572I$	0
$u = 1.325390 - 0.351138I$ $a = -0.775024 + 1.068110I$ $b = 0.561537 - 0.938182I$	$3.49061 - 6.69572I$	0
$u = 1.373980 + 0.047061I$ $a = 0.15734 - 1.49974I$ $b = -1.155940 + 0.715392I$	$9.36202 + 5.02654I$	0
$u = 1.373980 - 0.047061I$ $a = 0.15734 + 1.49974I$ $b = -1.155940 - 0.715392I$	$9.36202 - 5.02654I$	0
$u = 1.380450 + 0.205876I$ $a = 0.668151 + 1.119090I$ $b = -0.541182 - 0.958954I$	$7.11860 + 2.72109I$	0
$u = 1.380450 - 0.205876I$ $a = 0.668151 - 1.119090I$ $b = -0.541182 + 0.958954I$	$7.11860 - 2.72109I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.399670 + 0.162927I$ $a = -0.419135 + 1.168260I$ $b = 0.473091 - 0.966081I$	$10.46890 + 7.48108I$	0
$u = 1.399670 - 0.162927I$ $a = -0.419135 - 1.168260I$ $b = 0.473091 + 0.966081I$	$10.46890 - 7.48108I$	0
$u = -1.386420 + 0.266585I$ $a = -0.25593 - 1.81404I$ $b = 0.869849 + 0.621736I$	$3.35689 - 2.65952I$	0
$u = -1.386420 - 0.266585I$ $a = -0.25593 + 1.81404I$ $b = 0.869849 - 0.621736I$	$3.35689 + 2.65952I$	0
$u = 1.37389 + 0.33988I$ $a = 0.02125 - 1.72170I$ $b = -1.118940 + 0.720663I$	$5.34196 + 8.84585I$	0
$u = 1.37389 - 0.33988I$ $a = 0.02125 + 1.72170I$ $b = -1.118940 - 0.720663I$	$5.34196 - 8.84585I$	0
$u = -0.28820 + 1.38713I$ $a = -0.446882 + 0.904495I$ $b = -1.003300 - 0.636591I$	$4.34614 - 5.65703I$	0
$u = -0.28820 - 1.38713I$ $a = -0.446882 - 0.904495I$ $b = -1.003300 + 0.636591I$	$4.34614 + 5.65703I$	0
$u = 1.34330 + 0.47281I$ $a = 0.05769 + 1.81023I$ $b = 1.105550 - 0.715397I$	$1.81081 + 12.75050I$	0
$u = 1.34330 - 0.47281I$ $a = 0.05769 - 1.81023I$ $b = 1.105550 + 0.715397I$	$1.81081 - 12.75050I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.43078 + 0.09268I$ $a = 0.463511 - 1.152510I$ $b = -0.487227 + 0.966447I$	$11.40100 + 1.10913I$	0
$u = 1.43078 - 0.09268I$ $a = 0.463511 + 1.152510I$ $b = -0.487227 - 0.966447I$	$11.40100 - 1.10913I$	0
$u = -0.18781 + 1.43114I$ $a = 0.413662 - 0.884510I$ $b = 1.010510 + 0.637829I$	$3.84645 - 11.63360I$	0
$u = -0.18781 - 1.43114I$ $a = 0.413662 + 0.884510I$ $b = 1.010510 - 0.637829I$	$3.84645 + 11.63360I$	0
$u = -1.44555 + 0.08629I$ $a = -0.74940 + 1.33777I$ $b = 0.823412 - 0.622826I$	$3.50118 + 2.22683I$	0
$u = -1.44555 - 0.08629I$ $a = -0.74940 - 1.33777I$ $b = 0.823412 + 0.622826I$	$3.50118 - 2.22683I$	0
$u = 0.190949 + 0.516496I$ $a = 0.0145879 - 0.0144478I$ $b = 1.031680 + 0.541785I$	$-2.05610 - 2.20533I$	$-3.33452 - 0.09970I$
$u = 0.190949 - 0.516496I$ $a = 0.0145879 + 0.0144478I$ $b = 1.031680 - 0.541785I$	$-2.05610 + 2.20533I$	$-3.33452 + 0.09970I$
$u = 0.345318 + 0.335466I$ $a = 0.12836 + 1.71447I$ $b = 1.029410 - 0.244500I$	$-1.96391 + 1.11544I$	$-1.55787 - 1.47213I$
$u = 0.345318 - 0.335466I$ $a = 0.12836 - 1.71447I$ $b = 1.029410 + 0.244500I$	$-1.96391 - 1.11544I$	$-1.55787 + 1.47213I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.370544 + 0.231620I$ $a = 0.30459 + 1.57062I$ $b = 0.178701 - 0.619565I$	$0.02077 + 2.00050I$	$-0.12885 - 4.33329I$
$u = 0.370544 - 0.231620I$ $a = 0.30459 - 1.57062I$ $b = 0.178701 + 0.619565I$	$0.02077 - 2.00050I$	$-0.12885 + 4.33329I$
$u = 1.51573 + 0.42036I$ $a = 0.698231 + 0.961625I$ $b = -0.536978 - 0.923935I$	$11.80750 + 6.14222I$	0
$u = 1.51573 - 0.42036I$ $a = 0.698231 - 0.961625I$ $b = -0.536978 + 0.923935I$	$11.80750 - 6.14222I$	0
$u = 1.50371 + 0.47064I$ $a = -0.717795 - 0.941657I$ $b = 0.538804 + 0.918861I$	$10.9616 + 12.4442I$	0
$u = 1.50371 - 0.47064I$ $a = -0.717795 + 0.941657I$ $b = 0.538804 - 0.918861I$	$10.9616 - 12.4442I$	0
$u = -0.422179 + 0.033106I$ $a = -4.10481 - 1.84710I$ $b = -0.946056 + 0.550739I$	$3.70136 + 4.72366I$	$5.70262 - 6.08247I$
$u = -0.422179 - 0.033106I$ $a = -4.10481 + 1.84710I$ $b = -0.946056 - 0.550739I$	$3.70136 - 4.72366I$	$5.70262 + 6.08247I$
$u = 1.51283 + 0.51617I$ $a = -0.14872 - 1.71406I$ $b = -1.112300 + 0.702932I$	$10.0427 + 12.1163I$	0
$u = 1.51283 - 0.51617I$ $a = -0.14872 + 1.71406I$ $b = -1.112300 - 0.702932I$	$10.0427 - 12.1163I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.50426 + 0.56043I$ $a = 0.17208 + 1.73252I$ $b = 1.109870 - 0.701364I$	$9.2104 + 18.3996I$	0
$u = 1.50426 - 0.56043I$ $a = 0.17208 - 1.73252I$ $b = 1.109870 + 0.701364I$	$9.2104 - 18.3996I$	0
$u = -0.275966 + 0.081922I$ $a = 5.36153 + 2.17952I$ $b = 0.942019 - 0.553208I$	$3.44019 - 0.96910I$	$4.29951 - 0.42121I$
$u = -0.275966 - 0.081922I$ $a = 5.36153 - 2.17952I$ $b = 0.942019 + 0.553208I$	$3.44019 + 0.96910I$	$4.29951 + 0.42121I$
$u = -0.258260 + 0.055783I$ $a = 2.30549 - 2.00942I$ $b = 0.703307 - 0.430355I$	$-0.81820 + 1.73592I$	$-0.97741 - 5.34079I$
$u = -0.258260 - 0.055783I$ $a = 2.30549 + 2.00942I$ $b = 0.703307 + 0.430355I$	$-0.81820 - 1.73592I$	$-0.97741 + 5.34079I$
$u = -1.67498 + 0.83826I$ $a = -0.128673 + 1.344690I$ $b = -0.905498 - 0.666581I$	$8.57816 - 8.03076I$	0
$u = -1.67498 - 0.83826I$ $a = -0.128673 - 1.344690I$ $b = -0.905498 + 0.666581I$	$8.57816 + 8.03076I$	0
$u = -1.78021 + 0.60840I$ $a = 0.370721 - 0.903073I$ $b = -0.781342 + 0.678105I$	$8.95454 - 2.83317I$	0
$u = -1.78021 - 0.60840I$ $a = 0.370721 + 0.903073I$ $b = -0.781342 - 0.678105I$	$8.95454 + 2.83317I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.72719 + 0.74945I$ $a = \quad 0.080288 - 1.352320I$ $b = \quad 0.898221 + 0.667170I$	$8.74433 - 1.97763I$	0
$u = -1.72719 - 0.74945I$ $a = \quad 0.080288 + 1.352320I$ $b = \quad 0.898221 - 0.667170I$	$8.74433 + 1.97763I$	0
$u = -1.82306 + 0.51731I$ $a = -0.372352 + 0.949139I$ $b = \quad 0.790607 - 0.677284I$	$9.07102 + 3.21849I$	0
$u = -1.82306 - 0.51731I$ $a = -0.372352 - 0.949139I$ $b = \quad 0.790607 + 0.677284I$	$9.07102 - 3.21849I$	0

II.

$\boldsymbol{I_2^u = \langle 25a^4 - 5a^3 + 2a^2 + 4b + 11a + 3,\ 25a^5 - 5a^4 + 2a^3 + 6a^2 + 5a - 1,\ u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -\frac{25}{4}a^4 + \frac{5}{4}a^3 + \cdots - \frac{11}{4}a - \frac{3}{4} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{25}{4}a^4 + \frac{5}{4}a^3 + \cdots - \frac{7}{4}a - \frac{3}{4} \\ -\frac{25}{4}a^4 + \frac{5}{4}a^3 + \cdots - \frac{11}{4}a - \frac{3}{4} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{125}{16}a^4 + \frac{5}{8}a^2 - 3a - \frac{13}{16} \\ \frac{75}{16}a^4 + \frac{5}{8}a^3 + \cdots + \frac{15}{8}a + \frac{5}{16} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{25}{16}a^4 - \frac{5}{4}a^3 + \cdots + \frac{1}{4}a - \frac{5}{16} \\ -\frac{25}{16}a^4 - \frac{5}{4}a^3 + \cdots + \frac{3}{4}a - \frac{25}{16} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{25}{16}a^4 - \frac{5}{8}a^3 + \frac{1}{8}a + \frac{1}{16} \\ -\frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ -\frac{25}{4}a^4 + \frac{5}{4}a^3 + \cdots - \frac{11}{4}a - \frac{3}{4} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{25}{8}a^4 + \frac{5}{8}a^3 + \cdots - \frac{9}{8}a - \frac{1}{2} \\ \frac{75}{16}a^4 + \frac{5}{8}a^3 + \cdots + \frac{15}{8}a + \frac{5}{16} \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{1}{2}a - \frac{1}{2} \\ -\frac{25}{8}a^4 + \frac{15}{4}a^3 + \cdots + \frac{3}{4}a - \frac{3}{8} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{525}{16}a^4 + \frac{105}{4}a^3 - \frac{139}{8}a^2 + \frac{27}{4}a - \frac{13}{16}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1$
c_2	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_3	u^5
c_4	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_5	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_6	$(u+1)^5$
c_7	$25(25u^5 - 3u^3 + 2u^2 - 2u + 1)$
c_8	$25(25u^5 - 25u^4 - 17u^3 + 10u^2 + 7u + 1)$
c_9	$(u-1)^5$
c_{10}	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_{11}	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_{12}	$u^5 + 3u^4 + 4u^3 + u^2 - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_2, c_5	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_3	y^5
c_4, c_{11}	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_6, c_9	$(y-1)^5$
c_7	$625(625y^5 - 150y^4 - 91y^3 + 8y^2 - 1)$
c_8	$625(625y^5 - 1475y^4 + 1139y^3 - 288y^2 + 29y - 1)$
c_{10}, c_{12}	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0.495386 + 0.635674I$ $b = -0.309916 - 0.549911I$	$1.31583 - 1.53058I$	$4.90490 + 5.44833I$
$u = -1.00000$ $a = \quad 0.495386 - 0.635674I$ $b = -0.309916 + 0.549911I$	$1.31583 + 1.53058I$	$4.90490 - 5.44833I$
$u = -1.00000$ $a = -0.478118 + 0.378961I$ $b = \quad 1.41878 - 0.21917I$	$-4.22763 + 4.40083I$	$1.0936 + 16.2687I$
$u = -1.00000$ $a = -0.478118 - 0.378961I$ $b = \quad 1.41878 + 0.21917I$	$-4.22763 - 4.40083I$	$1.0936 - 16.2687I$
$u = -1.00000$ $a = \quad 0.165464$ $b = -1.21774$	-0.756147	-0.0769970

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1)(u^{104} + 42u^{103} + \cdots + 5u + 1)$
c_2	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)(u^{104} + 2u^{103} + \cdots + u - 1)$
c_3	$u^5(u^{104} + u^{103} + \cdots + 128000u + 20000)$
c_4	$(u^5 + u^4 + 2u^3 + u^2 + u + 1)(u^{104} - 2u^{103} + \cdots + 3u - 1)$
c_5	$(u^5 - u^4 - 2u^3 + u^2 + u + 1)(u^{104} + 2u^{103} + \cdots + u - 1)$
c_6	$((u+1)^5)(u^{104} + 6u^{103} + \cdots + 8175u - 625)$
c_7	$625(25u^5 - 3u^3 + 2u^2 - 2u + 1)$ $\cdot(25u^{104} + 125u^{103} + \cdots - 50435872u - 175922653)$
c_8	$625(25u^5 - 25u^4 - 17u^3 + 10u^2 + 7u + 1)$ $\cdot(25u^{104} + 50u^{103} + \cdots + 4032879u + 1554593)$
c_9	$((u-1)^5)(u^{104} + 6u^{103} + \cdots + 8175u - 625)$
c_{10}	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)(u^{104} + 30u^{103} + \cdots - 5u + 1)$
c_{11}	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)(u^{104} - 2u^{103} + \cdots + 3u - 1)$
c_{12}	$(u^5 + 3u^4 + 4u^3 + u^2 - u - 1)(u^{104} + 30u^{103} + \cdots - 5u + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1)(y^{104} + 42y^{103} + \cdots + 83y + 1)$
c_2, c_5	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)(y^{104} - 42y^{103} + \cdots - 5y + 1)$
c_3	$y^5(y^{104} - 33y^{103} + \cdots - 1.62800 \times 10^{10}y + 4.00000 \times 10^8)$
c_4, c_{11}	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)(y^{104} + 30y^{103} + \cdots - 5y + 1)$
c_6, c_9	$((y-1)^5)(y^{104} - 86y^{103} + \cdots - 3.03944 \times 10^7y + 390625)$
c_7	$390625(625y^5 - 150y^4 - 91y^3 + 8y^2 - 1)$ $\cdot (625y^{104} - 8.73 \times 10^4y^{103} + \cdots - 7.64 \times 10^{17}y + 3.09 \times 10^{16})$
c_8	$390625(625y^5 - 1475y^4 + 1139y^3 - 288y^2 + 29y - 1)$ $\cdot (625y^{104} + 16400y^{103} + \cdots - 21479676158875y + 2416759395649)$
c_{10}, c_{12}	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)(y^{104} + 90y^{103} + \cdots - 173y + 1)$