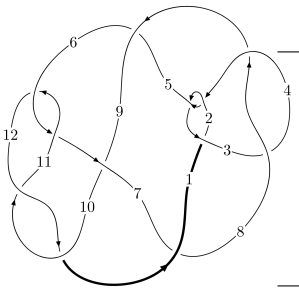
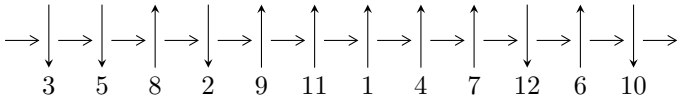
$12a_{0087}$ $(K12a_{0087})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.26080 \times 10^{259} u^{95} + 6.13882 \times 10^{258} u^{94} + \cdots + 2.17742 \times 10^{262} b + 1.97351 \times 10^{262},$$
$$- 1.46854 \times 10^{260} u^{95} + 1.49274 \times 10^{260} u^{94} + \cdots + 1.08871 \times 10^{263} a - 6.09536 \times 10^{263},$$
$$u^{96} - 2u^{95} + \cdots - 460u - 200 \rangle$$
$$I_2^u = \langle b - u,\ -u^8 + u^7 + 2u^6 - 3u^5 - u^4 + 3u^3 - 2u^2 + a + 1,\ u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 105 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. $\boldsymbol{I_1^u = \langle 1.26 \times 10^{259} u^{95} + 6.14 \times 10^{258} u^{94} + \cdots + 2.18 \times 10^{262} b + 1.97 \times 10^{262},\ -1.47 \times 10^{260} u^{95} + 1.49 \times 10^{260} u^{94} + \cdots + 1.09 \times 10^{263} a - 6.10 \times 10^{263},\ u^{96} - 2u^{95} + \cdots - 460u - 200 \rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00134888u^{95} - 0.00137111u^{94} + \cdots - 23.9339u + 5.59870 \\ -0.000579033u^{95} - 0.000281931u^{94} + \cdots + 1.99179u - 0.906349 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00264479u^{95} + 0.00389553u^{94} + \cdots - 21.5177u + 8.21684 \\ -0.00108988u^{95} + 0.000477782u^{94} + \cdots - 2.75847u - 1.78684 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00373468u^{95} + 0.00437331u^{94} + \cdots - 24.2761u + 6.43000 \\ -0.00108988u^{95} + 0.000477782u^{94} + \cdots - 2.75847u - 1.78684 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.000268801u^{95} + 0.000972032u^{94} + \cdots - 26.8057u + 6.23972 \\ 0.000223594u^{95} - 0.00110886u^{94} + \cdots + 2.72574u - 0.727907 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00893103u^{95} - 0.0164647u^{94} + \cdots - 30.2478u - 0.173459 \\ -0.000308624u^{95} + 0.00120035u^{94} + \cdots + 7.65580u - 0.365428 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0103283u^{95} - 0.0184415u^{94} + \cdots - 30.8959u - 0.822307 \\ -0.00139406u^{95} + 0.00166301u^{94} + \cdots + 7.00023u - 0.528959 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00735718u^{95} + 0.0171983u^{94} + \cdots + 35.3516u + 1.21405 \\ -0.00106631u^{95} - 0.000829870u^{94} + \cdots - 8.00807u + 0.599583 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00580303u^{95} - 0.0104224u^{94} + \cdots + 4.52281u - 6.13898 \\ 0.000466017u^{95} + 0.000741362u^{94} + \cdots + 4.55819u + 0.807933 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.00893420u^{95} - 0.0167785u^{94} + \cdots - 23.8956u - 1.35127 \\ -0.00309604u^{95} + 0.00328517u^{94} + \cdots + 4.71205u - 0.746936 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00392468u^{95} - 0.00398262u^{94} + \cdots - 17.9482u + 11.0656$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{96}+42u^{95}+\cdots+29u+1$
c_2, c_4	$u^{96}-10u^{95}+\cdots+13u-1$
c_3, c_8	$u^{96}+u^{95}+\cdots+1536u+512$
c_5, c_7	$u^{96}-2u^{95}+\cdots-460u-200$
c_6, c_{11}	$u^{96}-2u^{95}+\cdots+u-1$
c_9	$u^{96}+10u^{95}+\cdots-45760u-5824$
c_{10}, c_{12}	$u^{96}+30u^{95}+\cdots+7u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{96} + 34y^{95} + \cdots - 261y + 1$
c_2, c_4	$y^{96} - 42y^{95} + \cdots - 29y + 1$
c_3, c_8	$y^{96} - 57y^{95} + \cdots - 7602176y + 262144$
c_5, c_7	$y^{96} - 82y^{95} + \cdots + 739600y + 40000$
c_6, c_{11}	$y^{96} + 30y^{95} + \cdots + 7y + 1$
c_9	$y^{96} - 26y^{95} + \cdots + 1172319616y + 33918976$
c_{10}, c_{12}	$y^{96} + 74y^{95} + \cdots + 79y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.827779 + 0.624593I$ $a = 0.766054 - 0.164191I$ $b = 0.493580 - 0.463043I$	$3.48652 + 0.96941I$	0
$u = 0.827779 - 0.624593I$ $a = 0.766054 + 0.164191I$ $b = 0.493580 + 0.463043I$	$3.48652 - 0.96941I$	0
$u = -0.776180 + 0.705899I$ $a = -0.791059 - 0.015213I$ $b = -0.729017 - 0.490853I$	$2.73740 - 6.45315I$	0
$u = -0.776180 - 0.705899I$ $a = -0.791059 + 0.015213I$ $b = -0.729017 + 0.490853I$	$2.73740 + 6.45315I$	0
$u = 0.464918 + 0.808617I$ $a = 0.742252 + 0.500605I$ $b = 1.20591 - 1.12994I$	$-1.02113 + 6.02463I$	$0. - 6.77260I$
$u = 0.464918 - 0.808617I$ $a = 0.742252 - 0.500605I$ $b = 1.20591 + 1.12994I$	$-1.02113 - 6.02463I$	$0. + 6.77260I$
$u = -0.378156 + 1.002420I$ $a = -0.0671290 - 0.0699448I$ $b = -0.934967 - 0.347321I$	$-0.05564 + 4.08075I$	0
$u = -0.378156 - 1.002420I$ $a = -0.0671290 + 0.0699448I$ $b = -0.934967 + 0.347321I$	$-0.05564 - 4.08075I$	0
$u = -1.100440 + 0.034710I$ $a = 0.158113 + 0.235477I$ $b = -0.364706 + 0.755399I$	$-0.475309 - 0.554742I$	0
$u = -1.100440 - 0.034710I$ $a = 0.158113 - 0.235477I$ $b = -0.364706 - 0.755399I$	$-0.475309 + 0.554742I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.198330 + 0.838237I$ $a = -0.004574 + 0.568131I$ $b = -0.892057 + 0.019153I$	$0.69375 + 4.11299I$	$4.80660 - 6.49721I$
$u = 0.198330 - 0.838237I$ $a = -0.004574 - 0.568131I$ $b = -0.892057 - 0.019153I$	$0.69375 - 4.11299I$	$4.80660 + 6.49721I$
$u = 0.566068 + 0.648047I$ $a = 0.125153 - 0.466570I$ $b = 0.658996 - 0.216976I$	$1.40639 - 0.40707I$	$7.71113 + 0.I$
$u = 0.566068 - 0.648047I$ $a = 0.125153 + 0.466570I$ $b = 0.658996 + 0.216976I$	$1.40639 + 0.40707I$	$7.71113 + 0.I$
$u = 1.123300 + 0.256960I$ $a = -2.35906 + 0.10801I$ $b = 1.95563 + 1.12656I$	$-2.14141 + 2.71496I$	0
$u = 1.123300 - 0.256960I$ $a = -2.35906 - 0.10801I$ $b = 1.95563 - 1.12656I$	$-2.14141 - 2.71496I$	0
$u = -0.536243 + 0.654347I$ $a = -0.505424 + 0.534295I$ $b = -0.879070 - 1.082410I$	$-0.382139 - 0.796657I$	$1.13878 + 1.64523I$
$u = -0.536243 - 0.654347I$ $a = -0.505424 - 0.534295I$ $b = -0.879070 + 1.082410I$	$-0.382139 + 0.796657I$	$1.13878 - 1.64523I$
$u = -0.026316 + 1.166270I$ $a = 0.175568 + 0.203349I$ $b = 1.195080 - 0.079544I$	$-0.448862 + 0.214466I$	0
$u = -0.026316 - 1.166270I$ $a = 0.175568 - 0.203349I$ $b = 1.195080 + 0.079544I$	$-0.448862 - 0.214466I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.274505+0.786774I$ $a=1.76746+0.75543I$ $b=1.30709+0.68152I$	$-1.42380-3.79251I$	$0.+7.12596I$
$u=-0.274505-0.786774I$ $a=1.76746-0.75543I$ $b=1.30709-0.68152I$	$-1.42380+3.79251I$	$0.-7.12596I$
$u=0.711183+0.933780I$ $a=-0.664766+0.629968I$ $b=-0.525651+0.615669I$	$1.83320+5.67791I$	0
$u=0.711183-0.933780I$ $a=-0.664766-0.629968I$ $b=-0.525651-0.615669I$	$1.83320-5.67791I$	0
$u=-0.813850+0.858127I$ $a=-0.267229-0.194580I$ $b=-0.572924-0.483599I$	$-2.36574-1.38104I$	0
$u=-0.813850-0.858127I$ $a=-0.267229+0.194580I$ $b=-0.572924+0.483599I$	$-2.36574+1.38104I$	0
$u=0.113824+0.777555I$ $a=1.15581+0.83439I$ $b=1.38543-0.35114I$	$-5.10467+1.06897I$	$-7.34001-0.30204I$
$u=0.113824-0.777555I$ $a=1.15581-0.83439I$ $b=1.38543+0.35114I$	$-5.10467-1.06897I$	$-7.34001+0.30204I$
$u=-1.21618$ $a=2.35855$ $b=-2.53045$	0.969248	0
$u=1.093860+0.533224I$ $a=0.368064-0.089389I$ $b=0.248387-0.349717I$	$3.61901+1.02354I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.093860 - 0.533224I$ $a = 0.368064 + 0.089389I$ $b = 0.248387 + 0.349717I$	$3.61901 - 1.02354I$	0
$u = -0.423602 + 1.151240I$ $a = 0.408811 + 0.403769I$ $b = 1.106640 + 0.403349I$	$-3.57664 - 5.39810I$	0
$u = -0.423602 - 1.151240I$ $a = 0.408811 - 0.403769I$ $b = 1.106640 - 0.403349I$	$-3.57664 + 5.39810I$	0
$u = 0.400539 + 0.627675I$ $a = -2.07511 + 0.80787I$ $b = -0.747446 + 0.842065I$	$-0.95421 - 1.31729I$	$2.18400 - 2.06346I$
$u = 0.400539 - 0.627675I$ $a = -2.07511 - 0.80787I$ $b = -0.747446 - 0.842065I$	$-0.95421 + 1.31729I$	$2.18400 + 2.06346I$
$u = -0.445856 + 0.557895I$ $a = -0.544443 + 0.185637I$ $b = -0.673309 + 0.120518I$	$-2.01713 - 1.57713I$	$0.42883 + 4.65454I$
$u = -0.445856 - 0.557895I$ $a = -0.544443 - 0.185637I$ $b = -0.673309 - 0.120518I$	$-2.01713 + 1.57713I$	$0.42883 - 4.65454I$
$u = 1.286230 + 0.076999I$ $a = -1.80122 + 0.72733I$ $b = 1.74533 - 1.39516I$	$9.63218 + 0.67885I$	0
$u = 1.286230 - 0.076999I$ $a = -1.80122 - 0.72733I$ $b = 1.74533 + 1.39516I$	$9.63218 - 0.67885I$	0
$u = 1.234880 + 0.379536I$ $a = -1.48139 + 0.72164I$ $b = 1.42509 - 0.17205I$	$3.11379 + 5.16324I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.234880 - 0.379536I$ $a = -1.48139 - 0.72164I$ $b = 1.42509 + 0.17205I$	$3.11379 - 5.16324I$	0
$u = 1.289470 + 0.129396I$ $a = 0.014621 - 0.284789I$ $b = 0.103192 - 0.622026I$	$2.48955 + 2.34627I$	0
$u = 1.289470 - 0.129396I$ $a = 0.014621 + 0.284789I$ $b = 0.103192 + 0.622026I$	$2.48955 - 2.34627I$	0
$u = -1.274750 + 0.328982I$ $a = -0.139931 - 0.224618I$ $b = 0.111267 - 0.851993I$	$-0.81320 - 5.10776I$	0
$u = -1.274750 - 0.328982I$ $a = -0.139931 + 0.224618I$ $b = 0.111267 + 0.851993I$	$-0.81320 + 5.10776I$	0
$u = 1.310800 + 0.170091I$ $a = 1.62551 - 0.47736I$ $b = -1.61937 + 0.38777I$	$4.79007 - 0.70146I$	0
$u = 1.310800 - 0.170091I$ $a = 1.62551 + 0.47736I$ $b = -1.61937 - 0.38777I$	$4.79007 + 0.70146I$	0
$u = -0.745639 + 1.091740I$ $a = 0.674140 + 0.477527I$ $b = 0.737945 + 0.876759I$	$0.85649 - 10.99580I$	0
$u = -0.745639 - 1.091740I$ $a = 0.674140 - 0.477527I$ $b = 0.737945 - 0.876759I$	$0.85649 + 10.99580I$	0
$u = -1.140160 + 0.671129I$ $a = -0.338273 - 0.104862I$ $b = -0.253242 - 0.467981I$	$2.79217 - 6.69642I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.140160-0.671129I$ $a=-0.338273+0.104862I$ $b=-0.253242+0.467981I$	$2.79217+6.69642I$	0
$u=-1.342110+0.110731I$ $a=\ \ 1.76836+0.67077I$ $b=-1.99856-1.24201I$	$10.26590-6.65314I$	0
$u=-1.342110-0.110731I$ $a=\ \ 1.76836-0.67077I$ $b=-1.99856+1.24201I$	$10.26590+6.65314I$	0
$u=-1.346640+0.193829I$ $a=\ \ 0.133789+0.425172I$ $b=-0.577467+0.438500I$	$5.59084-5.35666I$	0
$u=-1.346640-0.193829I$ $a=\ \ 0.133789-0.425172I$ $b=-0.577467-0.438500I$	$5.59084+5.35666I$	0
$u=\ \ 1.370410+0.134173I$ $a=-0.098663+0.414795I$ $b=\ \ 0.475158+0.391928I$	$6.31687-0.55010I$	0
$u=\ \ 1.370410-0.134173I$ $a=-0.098663-0.414795I$ $b=\ \ 0.475158-0.391928I$	$6.31687+0.55010I$	0
$u=\ \ 1.403460+0.020491I$ $a=\ \ 1.82408+0.48228I$ $b=-2.14446-1.34593I$	$11.20810+5.45907I$	0
$u=\ \ 1.403460-0.020491I$ $a=\ \ 1.82408-0.48228I$ $b=-2.14446+1.34593I$	$11.20810-5.45907I$	0
$u=\ \ 0.596086$ $a=\ \ 0.378856$ $b=\ \ 0.339787$	0.826795	12.3850

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.39415+0.24042I$ $a=\ \ 2.29080+0.05093I$ $b=-3.32398+1.35225I$	$4.56353-1.83741I$	0
$u=-1.39415-0.24042I$ $a=\ \ 2.29080-0.05093I$ $b=-3.32398-1.35225I$	$4.56353+1.83741I$	0
$u=\ \ 0.064541+0.574239I$ $a=-0.546201+0.542337I$ $b=-0.368226+0.853562I$	$1.09357+2.72804I$	$4.37287-1.66251I$
$u=\ \ 0.064541-0.574239I$ $a=-0.546201-0.542337I$ $b=-0.368226-0.853562I$	$1.09357-2.72804I$	$4.37287+1.66251I$
$u=\ \ 1.38970+0.30493I$ $a=-2.28182+0.06308I$ $b=\ \ 3.21670+1.70719I$	$3.79038+7.72330I$	0
$u=\ \ 1.38970-0.30493I$ $a=-2.28182-0.06308I$ $b=\ \ 3.21670-1.70719I$	$3.79038-7.72330I$	0
$u=-1.43873+0.01362I$ $a=-1.80826-0.44328I$ $b=\ \ 2.34251+1.15556I$	$11.90280-0.51570I$	0
$u=-1.43873-0.01362I$ $a=-1.80826+0.44328I$ $b=\ \ 2.34251-1.15556I$	$11.90280+0.51570I$	0
$u=-1.45282+0.21004I$ $a=-1.67134-0.35027I$ $b=\ \ 2.30394+0.06403I$	$7.80775-2.46616I$	0
$u=-1.45282-0.21004I$ $a=-1.67134+0.35027I$ $b=\ \ 2.30394-0.06403I$	$7.80775+2.46616I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.42836+0.35491I$ $a=\ \ 1.56214+0.55704I$ $b=-2.23729-0.08696I$	$5.97343-8.45094I$	0
$u=-1.42836-0.35491I$ $a=\ \ 1.56214-0.55704I$ $b=-2.23729+0.08696I$	$5.97343+8.45094I$	0
$u=-0.227545+0.469775I$ $a=\ \ 0.669485+0.611296I$ $b=\ \ 0.109400+0.953333I$	$1.25988+2.50075I$	$4.93074-4.35385I$
$u=-0.227545-0.469775I$ $a=\ \ 0.669485-0.611296I$ $b=\ \ 0.109400-0.953333I$	$1.25988-2.50075I$	$4.93074+4.35385I$
$u=\ \ 1.47830+0.28430I$ $a=\ \ 0.150661-0.359583I$ $b=-0.340358-0.512654I$	$6.00203+4.38225I$	0
$u=\ \ 1.47830-0.28430I$ $a=\ \ 0.150661+0.359583I$ $b=-0.340358+0.512654I$	$6.00203-4.38225I$	0
$u=\ \ 1.46841+0.33425I$ $a=\ \ 1.60248-0.27369I$ $b=-2.21204-0.61429I$	$4.35724+5.37503I$	0
$u=\ \ 1.46841-0.33425I$ $a=\ \ 1.60248+0.27369I$ $b=-2.21204+0.61429I$	$4.35724-5.37503I$	0
$u=-1.48449+0.33794I$ $a=-0.182448-0.354150I$ $b=\ \ 0.440507-0.586608I$	$5.19049-10.28900I$	0
$u=-1.48449-0.33794I$ $a=-0.182448+0.354150I$ $b=\ \ 0.440507+0.586608I$	$5.19049+10.28900I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.49767 + 0.48896I$ $a = -1.47863 + 0.46783I$ $b = 2.35341 + 0.59797I$	$2.38378 + 11.28690I$	0
$u = 1.49767 - 0.48896I$ $a = -1.47863 - 0.46783I$ $b = 2.35341 - 0.59797I$	$2.38378 - 11.28690I$	0
$u = -1.60171 + 0.28748I$ $a = -1.69683 - 0.22396I$ $b = 3.03634 - 0.58541I$	$11.35890 - 4.75367I$	0
$u = -1.60171 - 0.28748I$ $a = -1.69683 + 0.22396I$ $b = 3.03634 + 0.58541I$	$11.35890 + 4.75367I$	0
$u = 1.61272 + 0.32466I$ $a = 1.68260 - 0.20082I$ $b = -3.03258 - 0.82668I$	$10.5170 + 10.7052I$	0
$u = 1.61272 - 0.32466I$ $a = 1.68260 + 0.20082I$ $b = -3.03258 + 0.82668I$	$10.5170 - 10.7052I$	0
$u = -1.62641 + 0.39035I$ $a = 1.57855 + 0.40202I$ $b = -3.11954 + 0.35306I$	$9.3431 - 10.8284I$	0
$u = -1.62641 - 0.39035I$ $a = 1.57855 - 0.40202I$ $b = -3.11954 - 0.35306I$	$9.3431 + 10.8284I$	0
$u = -0.109583 + 0.281441I$ $a = -0.28901 + 2.49262I$ $b = -0.446133 - 0.376732I$	$-1.66371 - 0.62726I$	$-3.34444 + 1.32021I$
$u = -0.109583 - 0.281441I$ $a = -0.28901 - 2.49262I$ $b = -0.446133 + 0.376732I$	$-1.66371 + 0.62726I$	$-3.34444 - 1.32021I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.65178 + 0.42833I$ $a = -1.55828 + 0.37748I$ $b = 3.17967 + 0.58690I$	$8.4581 + 16.7665I$	0
$u = 1.65178 - 0.42833I$ $a = -1.55828 - 0.37748I$ $b = 3.17967 - 0.58690I$	$8.4581 - 16.7665I$	0
$u = 0.236161 + 0.122429I$ $a = -1.29570 - 3.83873I$ $b = 1.085450 + 0.089161I$	$6.12820 + 0.12816I$	$9.44901 + 0.18719I$
$u = 0.236161 - 0.122429I$ $a = -1.29570 + 3.83873I$ $b = 1.085450 - 0.089161I$	$6.12820 - 0.12816I$	$9.44901 - 0.18719I$
$u = -0.096047 + 0.122605I$ $a = 5.78359 - 3.98742I$ $b = -1.134920 - 0.077601I$	$6.02935 + 5.60945I$	$9.08052 - 5.99594I$
$u = -0.096047 - 0.122605I$ $a = 5.78359 + 3.98742I$ $b = -1.134920 + 0.077601I$	$6.02935 - 5.60945I$	$9.08052 + 5.99594I$

II.

$\boldsymbol{I_2^u = \langle b-u,\ -u^8+u^7+\cdots+a+1,\ u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^8 - u^7 - 2u^6 + 3u^5 + u^4 - 3u^3 + 2u^2 - 1 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2+1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^8 - u^7 - 2u^6 + 3u^5 + u^4 - 3u^3 + 2u^2 - 1 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^8 - u^7 - 2u^6 + 3u^5 + u^4 - 3u^3 + 2u^2 - 1 \\ 2u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ u^3 - u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^8 - 4u^7 - 3u^6 + 9u^5 - 10u^3 + 2u^2 - 2u - 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_8	u^9
c_4	$(u+1)^9$
c_5, c_7	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_6	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_9	$u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1$
c_{10}	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_{11}	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_{12}	$u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_8	y^9
c_5, c_7	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_6, c_{11}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_9	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_{10}, c_{12}	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.772920 + 0.510351I$ $a = -0.900982 + 0.594909I$ $b = 0.772920 + 0.510351I$	$-3.42837 + 2.09337I$	$-5.30979 - 3.87975I$
$u = 0.772920 - 0.510351I$ $a = -0.900982 - 0.594909I$ $b = 0.772920 - 0.510351I$	$-3.42837 - 2.09337I$	$-5.30979 + 3.87975I$
$u = -0.825933$ $a = 1.21075$ $b = -0.825933$	-0.446489	2.50430
$u = -1.173910 + 0.391555I$ $a = 0.766570 + 0.255687I$ $b = -1.173910 + 0.391555I$	$2.72642 - 1.33617I$	$1.53709 + 1.22905I$
$u = -1.173910 - 0.391555I$ $a = 0.766570 - 0.255687I$ $b = -1.173910 - 0.391555I$	$2.72642 + 1.33617I$	$1.53709 - 1.22905I$
$u = 0.141484 + 0.739668I$ $a = -0.249476 + 1.304240I$ $b = 0.141484 + 0.739668I$	$-1.02799 - 2.45442I$	$0.49381 + 3.35442I$
$u = 0.141484 - 0.739668I$ $a = -0.249476 - 1.304240I$ $b = 0.141484 - 0.739668I$	$-1.02799 + 2.45442I$	$0.49381 - 3.35442I$
$u = 1.172470 + 0.500383I$ $a = -0.721488 + 0.307914I$ $b = 1.172470 + 0.500383I$	$1.95319 + 7.08493I$	$0.02676 - 6.64241I$
$u = 1.172470 - 0.500383I$ $a = -0.721488 - 0.307914I$ $b = 1.172470 - 0.500383I$	$1.95319 - 7.08493I$	$0.02676 + 6.64241I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^9)(u^{96}+42u^{95}+\cdots+29u+1)$
c_2	$((u-1)^9)(u^{96}-10u^{95}+\cdots+13u-1)$
c_3, c_8	$u^9(u^{96}+u^{95}+\cdots+1536u+512)$
c_4	$((u+1)^9)(u^{96}-10u^{95}+\cdots+13u-1)$
c_5, c_7	$(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{96}-2u^{95}+\cdots-460u-200)$
c_6	$(u^9-u^8+\cdots+u+1)(u^{96}-2u^{95}+\cdots+u-1)$
c_9	$(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{96}+10u^{95}+\cdots-45760u-5824)$
c_{10}	$(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{96}+30u^{95}+\cdots+7u+1)$
c_{11}	$(u^9+u^8+\cdots+u-1)(u^{96}-2u^{95}+\cdots+u-1)$
c_{12}	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{96}+30u^{95}+\cdots+7u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^9)(y^{96}+34y^{95}+\cdots-261y+1)$
c_2, c_4	$((y-1)^9)(y^{96}-42y^{95}+\cdots-29y+1)$
c_3, c_8	$y^9(y^{96}-57y^{95}+\cdots-7602176y+262144)$
c_5, c_7	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{96}-82y^{95}+\cdots+739600y+40000)$
c_6, c_{11}	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{96}+30y^{95}+\cdots+7y+1)$
c_9	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{96}-26y^{95}+\cdots+1172319616y+33918976)$
c_{10}, c_{12}	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{96}+74y^{95}+\cdots+79y+1)$