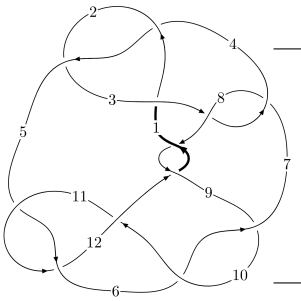
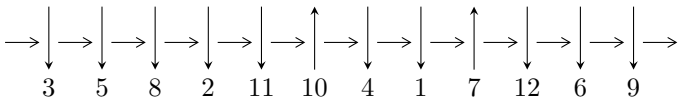
$12a_{0110}$ $(K12a_{0110})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 2u^{98} - 3u^{97} + \cdots + b + 2,\ 2u^{98} - 2u^{97} + \cdots + a - 1,\ u^{99} - 2u^{98} + \cdots + 4u - 1 \rangle$$
$$I_2^u = \langle -u^8 + 2u^6 - u^5 - 2u^4 + u^3 - u^2 + b + u,\ -u^7 + 2u^5 - u^4 - 2u^3 + u^2 + a + u - 1,$$
$$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 108 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.

$$\boldsymbol{I_1^u = \langle 2u^{98}-3u^{97}+\cdots+b+2,\ 2u^{98}-2u^{97}+\cdots+a-1,\ u^{99}-2u^{98}+\cdots+4u-1\rangle}$$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^{98}+2u^{97}+\cdots+6u+1 \\ -2u^{98}+3u^{97}+\cdots+7u-2 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -3u^{98}+3u^{97}+\cdots-u^2+10u \\ -3u^{98}+4u^{97}+\cdots+11u-3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^{16}-5u^{14}+11u^{12}-12u^{10}+5u^8+2u^6-2u^4+1 \\ u^{18}-4u^{16}+7u^{14}-4u^{12}-3u^{10}+6u^8-2u^6+u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{98}+u^{97}+\cdots+4u+1 \\ -u^{98}+2u^{97}+\cdots+4u-1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{24}-7u^{22}+\cdots+5u^4-1 \\ u^{26}-6u^{24}+\cdots+2u^4-u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^{10}+2u^8-u^6-2u^4+u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6u^{98}+7u^{97}+\cdots+26u-19$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{99}+44u^{98}+\cdots+40u+1$
c_2, c_4	$u^{99}-10u^{98}+\cdots-8u+1$
c_3, c_7	$u^{99}+u^{98}+\cdots+1536u+512$
c_5, c_{11}	$u^{99}+2u^{98}+\cdots+4u+1$
c_6, c_9	$u^{99}+6u^{98}+\cdots+460u+77$
c_8, c_{12}	$u^{99}-8u^{98}+\cdots+10366u+565$
c_{10}	$u^{99}+52u^{98}+\cdots+12u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{99} + 32y^{98} + \cdots + 756y - 1$
c_2, c_4	$y^{99} - 44y^{98} + \cdots + 40y - 1$
c_3, c_7	$y^{99} + 57y^{98} + \cdots - 6291456y - 262144$
c_5, c_{11}	$y^{99} - 52y^{98} + \cdots + 12y - 1$
c_6, c_9	$y^{99} + 68y^{98} + \cdots - 1083848y - 5929$
c_8, c_{12}	$y^{99} + 72y^{98} + \cdots - 22303944y - 319225$
c_{10}	$y^{99} - 8y^{98} + \cdots + 48y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.798665 + 0.599302I$ $a = -0.976827 + 0.577800I$ $b = -1.129250 - 0.480015I$	$8.49803 - 4.84511I$	0
$u = 0.798665 - 0.599302I$ $a = -0.976827 - 0.577800I$ $b = -1.129250 + 0.480015I$	$8.49803 + 4.84511I$	0
$u = 1.000350 + 0.050995I$ $a = 1.42535 - 0.26072I$ $b = 2.27637 - 0.80986I$	$-1.67165 + 2.02827I$	0
$u = 1.000350 - 0.050995I$ $a = 1.42535 + 0.26072I$ $b = 2.27637 + 0.80986I$	$-1.67165 - 2.02827I$	0
$u = -0.902178 + 0.454400I$ $a = 0.0890370 - 0.0234107I$ $b = -0.217835 - 0.845633I$	$1.61783 + 2.06558I$	0
$u = -0.902178 - 0.454400I$ $a = 0.0890370 + 0.0234107I$ $b = -0.217835 + 0.845633I$	$1.61783 - 2.06558I$	0
$u = 0.816175 + 0.596584I$ $a = 0.90939 - 1.15608I$ $b = 2.21727 - 1.25204I$	$6.62627 - 10.84290I$	0
$u = 0.816175 - 0.596584I$ $a = 0.90939 + 1.15608I$ $b = 2.21727 + 1.25204I$	$6.62627 + 10.84290I$	0
$u = -0.788174 + 0.579168I$ $a = 0.44309 + 1.67989I$ $b = 1.51689 + 1.70812I$	$3.17843 + 4.66485I$	0
$u = -0.788174 - 0.579168I$ $a = 0.44309 - 1.67989I$ $b = 1.51689 - 1.70812I$	$3.17843 - 4.66485I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.744914 + 0.605828I$ $a = -0.079985 - 1.168900I$ $b = 0.962462 - 0.769387I$	$8.65243 + 0.12444I$	0
$u = 0.744914 - 0.605828I$ $a = -0.079985 + 1.168900I$ $b = 0.962462 + 0.769387I$	$8.65243 - 0.12444I$	0
$u = 0.771063 + 0.569620I$ $a = 0.119221 - 0.166608I$ $b = -0.973643 + 0.658801I$	$1.68918 - 2.26594I$	0
$u = 0.771063 - 0.569620I$ $a = 0.119221 + 0.166608I$ $b = -0.973643 - 0.658801I$	$1.68918 + 2.26594I$	0
$u = -0.752820 + 0.580640I$ $a = -1.53562 - 1.14343I$ $b = -1.228310 - 0.111363I$	$3.27984 - 0.07370I$	0
$u = -0.752820 - 0.580640I$ $a = -1.53562 + 1.14343I$ $b = -1.228310 + 0.111363I$	$3.27984 + 0.07370I$	0
$u = 0.724168 + 0.607828I$ $a = -1.01845 + 1.58478I$ $b = -0.599810 + 0.255502I$	$6.89015 + 6.12501I$	0
$u = 0.724168 - 0.607828I$ $a = -1.01845 - 1.58478I$ $b = -0.599810 - 0.255502I$	$6.89015 - 6.12501I$	0
$u = 0.881720 + 0.272848I$ $a = -0.91493 + 1.57555I$ $b = -1.98406 + 1.50327I$	$-2.29107 - 2.61357I$	$-12.6816 + 6.4490I$
$u = 0.881720 - 0.272848I$ $a = -0.91493 - 1.57555I$ $b = -1.98406 - 1.50327I$	$-2.29107 + 2.61357I$	$-12.6816 - 6.4490I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.779849+0.465975I$ $a=-0.285213+0.269799I$ $b=-0.574238-0.041840I$	$1.26426+1.96404I$	$0.-4.36922I$
$u=-0.779849-0.465975I$ $a=-0.285213-0.269799I$ $b=-0.574238+0.041840I$	$1.26426-1.96404I$	$0.+4.36922I$
$u=-1.004260+0.453349I$ $a=-1.41231-0.60811I$ $b=-2.44810-0.42836I$	$0.71840+7.06687I$	0
$u=-1.004260-0.453349I$ $a=-1.41231+0.60811I$ $b=-2.44810+0.42836I$	$0.71840-7.06687I$	0
$u=-1.092330+0.258588I$ $a=-1.57152-0.29866I$ $b=-2.63399+0.06600I$	$0.76961+7.47794I$	0
$u=-1.092330-0.258588I$ $a=-1.57152+0.29866I$ $b=-2.63399-0.06600I$	$0.76961-7.47794I$	0
$u=-0.837177+0.170997I$ $a=1.249710-0.553710I$ $b=2.50105-0.13181I$	$-2.94172+0.75427I$	$-11.8641-8.1427I$
$u=-0.837177-0.170997I$ $a=1.249710+0.553710I$ $b=2.50105+0.13181I$	$-2.94172-0.75427I$	$-11.8641+8.1427I$
$u=-1.125850+0.299064I$ $a=-0.337223+0.090504I$ $b=-0.624275-0.743573I$	$2.27588+1.80560I$	0
$u=-1.125850-0.299064I$ $a=-0.337223-0.090504I$ $b=-0.624275+0.743573I$	$2.27588-1.80560I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.196053 + 0.799972I$ $a = -0.54640 + 2.83269I$ $b = -1.02080 + 1.28664I$	$3.58238 + 12.05350I$	$-5.58626 - 7.48008I$
$u = \ 0.196053 - 0.799972I$ $a = -0.54640 - 2.83269I$ $b = -1.02080 - 1.28664I$	$3.58238 - 12.05350I$	$-5.58626 + 7.48008I$
$u = \ 0.206728 + 0.789199I$ $a = -1.297360 - 0.297194I$ $b = -0.041729 - 0.559859I$	$5.64791 + 6.12658I$	$-2.76593 - 3.29252I$
$u = \ 0.206728 - 0.789199I$ $a = -1.297360 + 0.297194I$ $b = -0.041729 + 0.559859I$	$5.64791 - 6.12658I$	$-2.76593 + 3.29252I$
$u = \ 1.138850 + 0.353272I$ $a = -0.218291 + 0.809760I$ $b = -0.919968 + 0.560519I$	$-2.92898 - 2.30725I$	0
$u = \ 1.138850 - 0.353272I$ $a = -0.218291 - 0.809760I$ $b = -0.919968 - 0.560519I$	$-2.92898 + 2.30725I$	0
$u = -0.196691 + 0.772888I$ $a = -0.90453 - 2.07428I$ $b = -1.33709 - 0.77630I$	$0.48015 - 5.74470I$	$-6.53433 + 5.16204I$
$u = -0.196691 - 0.772888I$ $a = -0.90453 + 2.07428I$ $b = -1.33709 + 0.77630I$	$0.48015 + 5.74470I$	$-6.53433 - 5.16204I$
$u = \ 0.246855 + 0.748379I$ $a = \ 0.23870 + 1.43260I$ $b = -0.618600 + 0.376747I$	$6.41320 + 1.34001I$	$-1.69721 - 1.68122I$
$u = \ 0.246855 - 0.748379I$ $a = \ 0.23870 - 1.43260I$ $b = -0.618600 - 0.376747I$	$6.41320 - 1.34001I$	$-1.69721 + 1.68122I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.164550+0.355059I$ $a=\ 2.23600-1.05202I$ $b=\ 3.26865-0.81530I$	$-4.78986+0.28822I$	0
$u=-1.164550-0.355059I$ $a=\ 2.23600+1.05202I$ $b=\ 3.26865+0.81530I$	$-4.78986-0.28822I$	0
$u=-0.054225+0.780242I$ $a=-0.44146+2.81642I$ $b=\ 0.13584+1.46542I$	$-2.72930-5.59603I$	$-9.26734+6.35083I$
$u=-0.054225-0.780242I$ $a=-0.44146-2.81642I$ $b=\ 0.13584-1.46542I$	$-2.72930+5.59603I$	$-9.26734-6.35083I$
$u=-0.119835+0.771932I$ $a=\ 0.94917+1.59958I$ $b=\ 0.373880+0.734829I$	$-1.36463-1.77635I$	$-4.89864-0.83106I$
$u=-0.119835-0.771932I$ $a=\ 0.94917-1.59958I$ $b=\ 0.373880-0.734829I$	$-1.36463+1.77635I$	$-4.89864+0.83106I$
$u=\ 0.194073+0.755738I$ $a=\ 0.89312-2.50724I$ $b=\ 0.392331-0.905516I$	$-0.81163+3.26163I$	$-5.15381-3.43918I$
$u=\ 0.194073-0.755738I$ $a=\ 0.89312+2.50724I$ $b=\ 0.392331+0.905516I$	$-0.81163-3.26163I$	$-5.15381+3.43918I$
$u=\ 0.266822+0.728901I$ $a=-0.817902+0.855911I$ $b=\ 0.521431-0.130452I$	$4.89371-4.60258I$	$-3.58622+3.26148I$
$u=\ 0.266822-0.728901I$ $a=-0.817902-0.855911I$ $b=\ 0.521431+0.130452I$	$4.89371+4.60258I$	$-3.58622-3.26148I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.175820 + 0.345035I$ $a = -0.80067 - 1.72550I$ $b = -1.40185 - 1.06868I$	$-3.61047 + 2.15903I$	0
$u = 1.175820 - 0.345035I$ $a = -0.80067 + 1.72550I$ $b = -1.40185 + 1.06868I$	$-3.61047 - 2.15903I$	0
$u = -0.212424 + 0.739479I$ $a = -0.553094 - 0.082400I$ $b = 0.447993 + 0.653415I$	$0.98502 - 1.06834I$	$-5.30156 - 0.25223I$
$u = -0.212424 - 0.739479I$ $a = -0.553094 + 0.082400I$ $b = 0.447993 - 0.653415I$	$0.98502 + 1.06834I$	$-5.30156 + 0.25223I$
$u = -1.185790 + 0.330960I$ $a = 0.143557 + 0.435895I$ $b = -0.411604 + 1.053080I$	$1.42554 - 2.54085I$	0
$u = -1.185790 - 0.330960I$ $a = 0.143557 - 0.435895I$ $b = -0.411604 - 1.053080I$	$1.42554 + 2.54085I$	0
$u = 1.163160 + 0.420974I$ $a = 0.651009 + 0.503521I$ $b = 0.760335 + 0.862548I$	$-4.36658 - 2.14903I$	0
$u = 1.163160 - 0.420974I$ $a = 0.651009 - 0.503521I$ $b = 0.760335 - 0.862548I$	$-4.36658 + 2.14903I$	0
$u = -1.197720 + 0.337396I$ $a = -1.90715 + 1.44519I$ $b = -2.64310 + 0.67804I$	$-0.65805 - 8.36557I$	0
$u = -1.197720 - 0.337396I$ $a = -1.90715 - 1.44519I$ $b = -2.64310 - 0.67804I$	$-0.65805 + 8.36557I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.135000 + 0.528075I$ $a = 0.239417 + 0.012996I$ $b = 0.765764 - 0.871578I$	$2.36053 - 0.15266I$	0
$u = 1.135000 - 0.528075I$ $a = 0.239417 - 0.012996I$ $b = 0.765764 + 0.871578I$	$2.36053 + 0.15266I$	0
$u = -1.175310 + 0.442186I$ $a = 2.66503 - 1.21859I$ $b = 3.42429 - 0.67327I$	$-7.46816 + 3.05000I$	0
$u = -1.175310 - 0.442186I$ $a = 2.66503 + 1.21859I$ $b = 3.42429 + 0.67327I$	$-7.46816 - 3.05000I$	0
$u = 1.195400 + 0.391696I$ $a = 1.65395 + 1.19445I$ $b = 2.33568 + 1.26225I$	$-5.22443 - 2.18602I$	0
$u = 1.195400 - 0.391696I$ $a = 1.65395 - 1.19445I$ $b = 2.33568 - 1.26225I$	$-5.22443 + 2.18602I$	0
$u = -0.538639 + 0.508836I$ $a = 0.841383 - 0.214802I$ $b = -0.503981 - 0.319931I$	$2.65294 + 1.94033I$	$-1.54089 - 3.60097I$
$u = -0.538639 - 0.508836I$ $a = 0.841383 + 0.214802I$ $b = -0.503981 + 0.319931I$	$2.65294 - 1.94033I$	$-1.54089 + 3.60097I$
$u = 1.175820 + 0.455645I$ $a = -3.48761 + 0.46548I$ $b = -4.40383 + 0.52831I$	$-7.37232 - 5.39624I$	0
$u = 1.175820 - 0.455645I$ $a = -3.48761 - 0.46548I$ $b = -4.40383 - 0.52831I$	$-7.37232 + 5.39624I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.168430+0.475495I$ $a=-0.336072-0.294933I$ $b=-0.250512-0.709801I$	$-3.97513+6.16348I$	0
$u=-1.168430-0.475495I$ $a=-0.336072+0.294933I$ $b=-0.250512+0.709801I$	$-3.97513-6.16348I$	0
$u=1.147280+0.530502I$ $a=1.36746-0.45772I$ $b=2.09906-0.00592I$	$3.77999-6.14897I$	0
$u=1.147280-0.530502I$ $a=1.36746+0.45772I$ $b=2.09906+0.00592I$	$3.77999+6.14897I$	0
$u=-1.156540+0.519095I$ $a=-0.783210+0.061047I$ $b=-0.449800+0.733842I$	$-1.76580+5.80368I$	0
$u=-1.156540-0.519095I$ $a=-0.783210-0.061047I$ $b=-0.449800-0.733842I$	$-1.76580-5.80368I$	0
$u=0.730847$ $a=0.859169$ $b=0.587219$	-0.975467	-10.7830
$u=1.201440+0.424535I$ $a=2.70562+0.36079I$ $b=3.32854-0.27510I$	$-6.41097+1.36991I$	0
$u=1.201440-0.424535I$ $a=2.70562-0.36079I$ $b=3.32854+0.27510I$	$-6.41097-1.36991I$	0
$u=1.165460+0.519010I$ $a=-2.40659+0.70428I$ $b=-3.32698+1.18178I$	$-3.64615-8.02930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.165460 - 0.519010I$ $a = -2.40659 - 0.70428I$ $b = -3.32698 - 1.18178I$	$-3.64615 + 8.02930I$	0
$u = -1.169630 + 0.524042I$ $a = 2.37148 + 1.66417I$ $b = 3.22587 + 1.53437I$	$-2.37106 + 10.57490I$	0
$u = -1.169630 - 0.524042I$ $a = 2.37148 - 1.66417I$ $b = 3.22587 - 1.53437I$	$-2.37106 - 10.57490I$	0
$u = 0.019814 + 0.717166I$ $a = 0.29180 - 2.99926I$ $b = 0.68107 - 1.45897I$	$-4.09342 + 1.11714I$	$-12.42154 - 0.24168I$
$u = 0.019814 - 0.717166I$ $a = 0.29180 + 2.99926I$ $b = 0.68107 + 1.45897I$	$-4.09342 - 1.11714I$	$-12.42154 + 0.24168I$
$u = -1.184450 + 0.499279I$ $a = -1.72776 - 0.61095I$ $b = -2.17233 - 1.05087I$	$-4.46599 + 6.46266I$	0
$u = -1.184450 - 0.499279I$ $a = -1.72776 + 0.61095I$ $b = -2.17233 + 1.05087I$	$-4.46599 - 6.46266I$	0
$u = -1.196520 + 0.473023I$ $a = -3.17990 + 0.50039I$ $b = -4.08320 + 0.57884I$	$-6.06860 + 10.14700I$	0
$u = -1.196520 - 0.473023I$ $a = -3.17990 - 0.50039I$ $b = -4.08320 - 0.57884I$	$-6.06860 - 10.14700I$	0
$u = 1.172000 + 0.531471I$ $a = -0.773998 - 0.934602I$ $b = -0.75449 - 1.75067I$	$2.80653 - 11.03050I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.172000 - 0.531471I$ $a = -0.773998 + 0.934602I$ $b = -0.75449 + 1.75067I$	$2.80653 + 11.03050I$	0
$u = -0.088291 + 0.703345I$ $a = 0.630816 + 0.365410I$ $b = 0.014867 + 0.310885I$	$-0.89982 - 1.76035I$	$-5.36120 + 3.73367I$
$u = -0.088291 - 0.703345I$ $a = 0.630816 - 0.365410I$ $b = 0.014867 - 0.310885I$	$-0.89982 + 1.76035I$	$-5.36120 - 3.73367I$
$u = 1.178490 + 0.530922I$ $a = 3.17450 - 1.01427I$ $b = 4.20332 - 0.89915I$	$0.6844 - 16.9791I$	0
$u = 1.178490 - 0.530922I$ $a = 3.17450 + 1.01427I$ $b = 4.20332 + 0.89915I$	$0.6844 + 16.9791I$	0
$u = -0.428957 + 0.536663I$ $a = 0.39038 + 1.92007I$ $b = 0.305043 + 0.339526I$	$2.33272 - 3.00601I$	$-2.32730 + 3.43770I$
$u = -0.428957 - 0.536663I$ $a = 0.39038 - 1.92007I$ $b = 0.305043 - 0.339526I$	$2.33272 + 3.00601I$	$-2.32730 - 3.43770I$
$u = 0.439086 + 0.108364I$ $a = 2.20528 - 0.39473I$ $b = 0.701744 + 0.088421I$	$-1.091800 + 0.005248I$	$-8.43104 + 0.38768I$
$u = 0.439086 - 0.108364I$ $a = 2.20528 + 0.39473I$ $b = 0.701744 - 0.088421I$	$-1.091800 - 0.005248I$	$-8.43104 - 0.38768I$

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

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

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

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

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

$$a_{10} = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^8+u^7+3u^6-2u^5-3u^4+2u^3+1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.772920 + 0.510351I$ $a = 0.0829078 + 0.0200056I$ $b = -0.818075 + 0.614915I$	$0.13850 - 2.09337I$	$-9.40455 + 4.13635I$
$u = 0.772920 - 0.510351I$ $a = 0.0829078 - 0.0200056I$ $b = -0.818075 - 0.614915I$	$0.13850 + 2.09337I$	$-9.40455 - 4.13635I$
$u = -0.825933$ $a = 0.988778$ $b = 2.19953$	-2.84338	-12.5800
$u = -1.173910 + 0.391555I$ $a = 2.02680 - 0.95855I$ $b = 2.79337 - 0.70286I$	$-6.01628 + 1.33617I$	$-15.1179 - 0.3856I$
$u = -1.173910 - 0.391555I$ $a = 2.02680 + 0.95855I$ $b = 2.79337 + 0.70286I$	$-6.01628 - 1.33617I$	$-15.1179 + 0.3856I$
$u = 0.141484 + 0.739668I$ $a = 0.63505 - 2.20758I$ $b = 0.385576 - 0.903341I$	$-2.26187 + 2.45442I$	$-10.97405 - 3.19656I$
$u = 0.141484 - 0.739668I$ $a = 0.63505 + 2.20758I$ $b = 0.385576 + 0.903341I$	$-2.26187 - 2.45442I$	$-10.97405 + 3.19656I$
$u = 1.172470 + 0.500383I$ $a = -2.23915 + 0.47757I$ $b = -2.96063 + 0.78548I$	$-5.24306 - 7.08493I$	$-14.2133 + 6.7157I$
$u = 1.172470 - 0.500383I$ $a = -2.23915 - 0.47757I$ $b = -2.96063 - 0.78548I$	$-5.24306 + 7.08493I$	$-14.2133 - 6.7157I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^9)(u^{99}+44u^{98}+\cdots+40u+1)$
c_2	$((u-1)^9)(u^{99}-10u^{98}+\cdots-8u+1)$
c_3, c_7	$u^9(u^{99}+u^{98}+\cdots+1536u+512)$
c_4	$((u+1)^9)(u^{99}-10u^{98}+\cdots-8u+1)$
c_5	$(u^9+u^8+\cdots-u-1)(u^{99}+2u^{98}+\cdots+4u+1)$
c_6	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{99}+6u^{98}+\cdots+460u+77)$
c_8	$(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot(u^{99}-8u^{98}+\cdots+10366u+565)$
c_9	$(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{99}+6u^{98}+\cdots+460u+77)$
c_{10}	$(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{99}+52u^{98}+\cdots+12u+1)$
c_{11}	$(u^9-u^8+\cdots-u+1)(u^{99}+2u^{98}+\cdots+4u+1)$
c_{12}	$(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(u^{99}-8u^{98}+\cdots+10366u+565)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^9)(y^{99}+32y^{98}+\cdots+756y-1)$
c_2, c_4	$((y-1)^9)(y^{99}-44y^{98}+\cdots+40y-1)$
c_3, c_7	$y^9(y^{99}+57y^{98}+\cdots-6291456y-262144)$
c_5, c_{11}	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{99}-52y^{98}+\cdots+12y-1)$
c_6, c_9	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{99}+68y^{98}+\cdots-1083848y-5929)$
c_8, c_{12}	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{99}+72y^{98}+\cdots-22303944y-319225)$
c_{10}	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{99}-8y^{98}+\cdots+48y-1)$