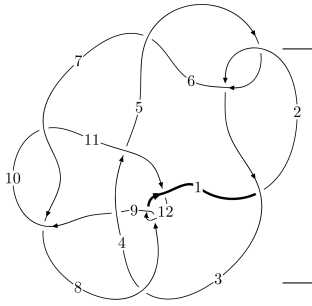
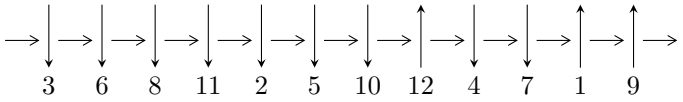
$12a_{0313}$ $(K12a_{0313})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I_1^u = \langle -1.70812 \times 10^{157} u^{106} - 3.03141 \times 10^{158} u^{105} + \cdots + 2.56694 \times 10^{158} b + 6.21022 \times 10^{158},$
$1.09767 \times 10^{160} u^{106} + 6.85071 \times 10^{160} u^{105} + \cdots + 7.18742 \times 10^{159} a - 1.03525 \times 10^{160},\ u^{107} + 7u^{106} + \cdots -$
$I_2^u = \langle -u^3 + b + u + 1,\ u^3 + u^2 + a + u - 1,\ u^4 - u^2 + 1 \rangle$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 111 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. $\boldsymbol{I_1^u = \langle -1.71 \times 10^{157} u^{106} - 3.03 \times 10^{158} u^{105} + \cdots + 2.57 \times 10^{158} b + 6.21 \times 10^{158},\ 1.10 \times 10^{160} u^{106} + 6.85 \times 10^{160} u^{105} + \cdots + 7.19 \times 10^{159} a - 1.04 \times 10^{160},\ u^{107} + 7u^{106} + \cdots - 7u - 2 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -1.52721u^{106} - 9.53153u^{105} + \cdots + 11.6434u + 1.44036 \\ 0.0665430u^{106} + 1.18095u^{105} + \cdots - 2.78415u - 2.41931 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -0.906926u^{106} - 6.15088u^{105} + \cdots + 12.2394u + 4.67446 \\ -0.0941909u^{106} - 0.564758u^{105} + \cdots + 1.37335u + 0.115362 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.46067u^{106} - 8.35058u^{105} + \cdots + 8.85926u - 0.978951 \\ 0.0665430u^{106} + 1.18095u^{105} + \cdots - 2.78415u - 2.41931 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.38743u^{106} - 8.09403u^{105} + \cdots + 0.613109u + 0.639209 \\ -0.318537u^{106} - 1.68135u^{105} + \cdots + 1.60195u + 0.444072 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.07925u^{106} - 6.86061u^{105} + \cdots - 2.88963u + 1.87350 \\ -0.628187u^{106} - 3.75798u^{105} + \cdots + 2.64801u + 1.32955 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.07654u^{106} - 6.14521u^{105} + \cdots + 8.78359u - 0.113308 \\ -0.188990u^{106} - 0.943983u^{105} + \cdots + 0.658999u - 0.957025 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.277869u^{106} + 1.24570u^{105} + \cdots - 1.71526u + 1.88041 \\ -0.108162u^{106} - 0.980032u^{105} + \cdots + 1.06338u + 0.961280 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.55581u^{106} + 12.7480u^{105} + \cdots - 20.5992u - 13.0896$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{107} + 33u^{106} + \cdots + 16u + 1$
c_2, c_5	$u^{107} + 5u^{106} + \cdots + 6u + 1$
c_3	$u^{107} - 9u^{106} + \cdots + 51550u + 30431$
c_4	$u^{107} - 29u^{106} + \cdots - 71644122u + 19604249$
c_7, c_{10}	$u^{107} - 7u^{106} + \cdots - 32u + 1$
c_8, c_{12}	$u^{107} - 7u^{106} + \cdots - 7u + 2$
c_9	$u^{107} - u^{106} + \cdots - 18u + 1$
c_{11}	$u^{107} - 47u^{106} + \cdots + 37u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{107} + 87y^{106} + \cdots - 576y - 1$
c_2, c_5	$y^{107} - 33y^{106} + \cdots + 16y - 1$
c_3	$y^{107} + 241y^{106} + \cdots - 56603744314y - 926045761$
c_4	$y^{107} - 155y^{106} + \cdots - 7615585881180646y - 384326578854001$
c_7, c_{10}	$y^{107} + 83y^{106} + \cdots + 504y - 1$
c_8, c_{12}	$y^{107} - 47y^{106} + \cdots + 37y - 4$
c_9	$y^{107} + 11y^{106} + \cdots + 64y - 1$
c_{11}	$y^{107} + 29y^{106} + \cdots + 9921y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.538348 + 0.843458I$ $a = 0.0012803 - 0.0415117I$ $b = 0.858143 + 0.471158I$	$-5.08424 - 2.07788I$	0
$u = 0.538348 - 0.843458I$ $a = 0.0012803 + 0.0415117I$ $b = 0.858143 - 0.471158I$	$-5.08424 + 2.07788I$	0
$u = 0.724167 + 0.687487I$ $a = 0.016726 - 0.450061I$ $b = 0.681883 + 0.359257I$	$-3.29442 + 3.53782I$	0
$u = 0.724167 - 0.687487I$ $a = 0.016726 + 0.450061I$ $b = 0.681883 - 0.359257I$	$-3.29442 - 3.53782I$	0
$u = 0.930019 + 0.372686I$ $a = 2.20548 + 1.35417I$ $b = -0.135750 - 0.340140I$	$1.32736 + 1.45194I$	0
$u = 0.930019 - 0.372686I$ $a = 2.20548 - 1.35417I$ $b = -0.135750 + 0.340140I$	$1.32736 - 1.45194I$	0
$u = 0.929735 + 0.381523I$ $a = 1.63048 + 1.15126I$ $b = -1.03346 - 1.83765I$	$4.37135 - 1.42306I$	0
$u = 0.929735 - 0.381523I$ $a = 1.63048 - 1.15126I$ $b = -1.03346 + 1.83765I$	$4.37135 + 1.42306I$	0
$u = 0.277946 + 0.953038I$ $a = -0.012755 - 0.142510I$ $b = -0.828557 - 0.641521I$	$0.791520 - 1.170380I$	0
$u = 0.277946 - 0.953038I$ $a = -0.012755 + 0.142510I$ $b = -0.828557 + 0.641521I$	$0.791520 + 1.170380I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.407587+0.923605I$ $a=-0.176569-0.045157I$ $b=\ \ 0.94846-1.19023I$	$6.42867+6.58412I$	0
$u=-0.407587-0.923605I$ $a=-0.176569+0.045157I$ $b=\ \ 0.94846+1.19023I$	$6.42867-6.58412I$	0
$u=\ \ 0.876007+0.506474I$ $a=-13.05690-2.84832I$ $b=\ \ 4.28571+13.04720I$	$0.55325+2.03087I$	0
$u=\ \ 0.876007-0.506474I$ $a=-13.05690+2.84832I$ $b=\ \ 4.28571-13.04720I$	$0.55325-2.03087I$	0
$u=-0.848217+0.495354I$ $a=-0.71565+1.26004I$ $b=-0.928805-0.227021I$	$-1.67631-2.03582I$	0
$u=-0.848217-0.495354I$ $a=-0.71565-1.26004I$ $b=-0.928805+0.227021I$	$-1.67631+2.03582I$	0
$u=\ \ 0.945165+0.410952I$ $a=-1.74898-1.55104I$ $b=\ \ 0.68112+2.28185I$	$4.48357+4.46503I$	0
$u=\ \ 0.945165-0.410952I$ $a=-1.74898+1.55104I$ $b=\ \ 0.68112-2.28185I$	$4.48357-4.46503I$	0
$u=-0.440601+0.945642I$ $a=\ \ 0.135398+0.088825I$ $b=-1.01143+1.20630I$	$5.56018+12.75520I$	0
$u=-0.440601-0.945642I$ $a=\ \ 0.135398-0.088825I$ $b=-1.01143-1.20630I$	$5.56018-12.75520I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.798317 + 0.518803I$ $a = -3.90926 + 4.77070I$ $b = 5.53872 + 1.77677I$	$4.57359 - 0.72532I$	0
$u = 0.798317 - 0.518803I$ $a = -3.90926 - 4.77070I$ $b = 5.53872 - 1.77677I$	$4.57359 + 0.72532I$	0
$u = -0.508044 + 0.802603I$ $a = -0.0667446 - 0.1074040I$ $b = -1.004010 + 0.955439I$	$-1.36856 + 7.06093I$	0
$u = -0.508044 - 0.802603I$ $a = -0.0667446 + 0.1074040I$ $b = -1.004010 - 0.955439I$	$-1.36856 - 7.06093I$	0
$u = 1.058620 + 0.030481I$ $a = 0.94489 - 1.88233I$ $b = -0.759151 + 0.928288I$	$4.30867 + 5.70483I$	0
$u = 1.058620 - 0.030481I$ $a = 0.94489 + 1.88233I$ $b = -0.759151 - 0.928288I$	$4.30867 - 5.70483I$	0
$u = 0.356848 + 0.998715I$ $a = 0.0357519 + 0.1146120I$ $b = 0.887175 + 0.629795I$	$0.22354 - 6.83766I$	0
$u = 0.356848 - 0.998715I$ $a = 0.0357519 - 0.1146120I$ $b = 0.887175 - 0.629795I$	$0.22354 + 6.83766I$	0
$u = -0.387087 + 0.855084I$ $a = -0.0751594 - 0.0449728I$ $b = -0.534749 - 0.556902I$	$-0.84328 - 3.63714I$	0
$u = -0.387087 - 0.855084I$ $a = -0.0751594 + 0.0449728I$ $b = -0.534749 + 0.556902I$	$-0.84328 + 3.63714I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.055210 + 0.192329I$ $a = -1.36667 - 1.48800I$ $b = 0.363322 + 0.724291I$	$6.68383 - 1.43597I$	0
$u = 1.055210 - 0.192329I$ $a = -1.36667 + 1.48800I$ $b = 0.363322 - 0.724291I$	$6.68383 + 1.43597I$	0
$u = -1.041880 + 0.278409I$ $a = 0.339830 - 1.038090I$ $b = 0.292361 + 0.591597I$	$1.84494 - 1.26782I$	0
$u = -1.041880 - 0.278409I$ $a = 0.339830 + 1.038090I$ $b = 0.292361 - 0.591597I$	$1.84494 + 1.26782I$	0
$u = -1.038020 + 0.307188I$ $a = 0.17641 + 2.03180I$ $b = 0.174520 - 1.241290I$	$9.21752 + 2.67157I$	0
$u = -1.038020 - 0.307188I$ $a = 0.17641 - 2.03180I$ $b = 0.174520 + 1.241290I$	$9.21752 - 2.67157I$	0
$u = 0.770203 + 0.465799I$ $a = 2.32672 - 4.66591I$ $b = -4.31042 - 0.31373I$	$4.51594 + 4.86267I$	0
$u = 0.770203 - 0.465799I$ $a = 2.32672 + 4.66591I$ $b = -4.31042 + 0.31373I$	$4.51594 - 4.86267I$	0
$u = 0.926764 + 0.611947I$ $a = 0.48250 + 1.45921I$ $b = 0.333322 - 0.643480I$	$-2.67373 + 1.48301I$	0
$u = 0.926764 - 0.611947I$ $a = 0.48250 - 1.45921I$ $b = 0.333322 + 0.643480I$	$-2.67373 - 1.48301I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.011350+0.474049I$ $a=\ \ 0.502600-1.155450I$ $b=\ \ 1.29093+0.65238I$	$3.92698-1.33646I$	0
$u=-1.011350-0.474049I$ $a=\ \ 0.502600+1.155450I$ $b=\ \ 1.29093-0.65238I$	$3.92698+1.33646I$	0
$u=-1.062040+0.370218I$ $a=-0.01049-2.11857I$ $b=\ \ 0.018458+1.258440I$	$9.76950-3.99814I$	0
$u=-1.062040-0.370218I$ $a=-0.01049+2.11857I$ $b=\ \ 0.018458-1.258440I$	$9.76950+3.99814I$	0
$u=-0.704313+0.513659I$ $a=-0.101839-0.850106I$ $b=\ \ 1.070720+0.331936I$	$1.41677-2.15371I$	0
$u=-0.704313-0.513659I$ $a=-0.101839+0.850106I$ $b=\ \ 1.070720-0.331936I$	$1.41677+2.15371I$	0
$u=-1.004700+0.518463I$ $a=-0.522066+1.095000I$ $b=-1.34650-0.51458I$	$3.30694-7.04306I$	0
$u=-1.004700-0.518463I$ $a=-0.522066-1.095000I$ $b=-1.34650+0.51458I$	$3.30694+7.04306I$	0
$u=-1.000950+0.537908I$ $a=-0.68059+2.40648I$ $b=-0.562724-0.877889I$	$0.09255-4.08508I$	0
$u=-1.000950-0.537908I$ $a=-0.68059-2.40648I$ $b=-0.562724+0.877889I$	$0.09255+4.08508I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.771693+0.317836I$ $a=0.409006-1.299830I$ $b=1.073410+0.818738I$	$1.34536-2.21121I$	$0.+4.32313I$
$u=-0.771693-0.317836I$ $a=0.409006+1.299830I$ $b=1.073410-0.818738I$	$1.34536+2.21121I$	$0.-4.32313I$
$u=-1.081350+0.445727I$ $a=0.533683-0.825481I$ $b=0.282314+0.748640I$	$1.89720-1.36648I$	0
$u=-1.081350-0.445727I$ $a=0.533683+0.825481I$ $b=0.282314-0.748640I$	$1.89720+1.36648I$	0
$u=1.079870+0.458369I$ $a=-1.57845-0.59593I$ $b=-0.169046+0.554260I$	$9.17947+3.04501I$	0
$u=1.079870-0.458369I$ $a=-1.57845+0.59593I$ $b=-0.169046-0.554260I$	$9.17947-3.04501I$	0
$u=1.030840+0.565624I$ $a=-0.41501-1.56335I$ $b=-0.624364+0.978591I$	$-0.03788+4.90136I$	0
$u=1.030840-0.565624I$ $a=-0.41501+1.56335I$ $b=-0.624364-0.978591I$	$-0.03788-4.90136I$	0
$u=1.067030+0.512174I$ $a=1.54443+0.34211I$ $b=0.269873-0.483227I$	$7.87495+9.47071I$	0
$u=1.067030-0.512174I$ $a=1.54443-0.34211I$ $b=0.269873+0.483227I$	$7.87495-9.47071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.540373 + 0.597872I$ $a = 0.334757 + 0.154880I$ $b = -0.754203 - 0.490202I$	$-1.50744 - 0.24032I$	$-8.09424 + 0.I$
$u = 0.540373 - 0.597872I$ $a = 0.334757 - 0.154880I$ $b = -0.754203 + 0.490202I$	$-1.50744 + 0.24032I$	$-8.09424 + 0.I$
$u = -0.592919 + 0.524868I$ $a = -0.648786 - 0.821024I$ $b = -0.770101 + 0.683514I$	$-1.154640 - 0.287146I$	$-7.71590 - 1.92694I$
$u = -0.592919 - 0.524868I$ $a = -0.648786 + 0.821024I$ $b = -0.770101 - 0.683514I$	$-1.154640 + 0.287146I$	$-7.71590 + 1.92694I$
$u = -0.395589 + 0.684115I$ $a = -0.121440 + 0.459086I$ $b = 0.805810 - 0.913854I$	$2.34224 + 3.53764I$	$-2.52473 - 3.13102I$
$u = -0.395589 - 0.684115I$ $a = -0.121440 - 0.459086I$ $b = 0.805810 + 0.913854I$	$2.34224 - 3.53764I$	$-2.52473 + 3.13102I$
$u = -1.078460 + 0.569184I$ $a = 0.58716 - 2.08700I$ $b = 0.735789 + 1.175650I$	$4.30196 - 8.37888I$	0
$u = -1.078460 - 0.569184I$ $a = 0.58716 + 2.08700I$ $b = 0.735789 - 1.175650I$	$4.30196 + 8.37888I$	0
$u = -0.622531 + 1.069870I$ $a = 0.090402 - 0.118099I$ $b = -0.206516 - 0.526777I$	$4.45498 - 7.19870I$	0
$u = -0.622531 - 1.069870I$ $a = 0.090402 + 0.118099I$ $b = -0.206516 + 0.526777I$	$4.45498 + 7.19870I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.985487+0.754984I$ $a=-0.485905+0.229999I$ $b=\ 0.066046-0.316527I$	$1.33956-3.05501I$	0
$u=-0.985487-0.754984I$ $a=-0.485905-0.229999I$ $b=\ 0.066046+0.316527I$	$1.33956+3.05501I$	0
$u=-0.689969+1.042930I$ $a=-0.127837+0.115782I$ $b=\ 0.161060+0.439270I$	$4.72011-1.41790I$	0
$u=-0.689969-1.042930I$ $a=-0.127837-0.115782I$ $b=\ 0.161060-0.439270I$	$4.72011+1.41790I$	0
$u=-1.076560+0.636852I$ $a=-0.70293+1.96926I$ $b=-1.00415-1.14381I$	$0.34151-12.46680I$	0
$u=-1.076560-0.636852I$ $a=-0.70293-1.96926I$ $b=-1.00415+1.14381I$	$0.34151+12.46680I$	0
$u=\ 1.068190+0.660431I$ $a=\ 0.36213+1.44370I$ $b=\ 0.837852-0.757760I$	$-3.47800+7.66429I$	0
$u=\ 1.068190-0.660431I$ $a=\ 0.36213-1.44370I$ $b=\ 0.837852+0.757760I$	$-3.47800-7.66429I$	0
$u=\ 1.296900+0.075750I$ $a=-0.79521-1.34498I$ $b=\ 0.398450+1.240250I$	$12.58130-3.55728I$	0
$u=\ 1.296900-0.075750I$ $a=-0.79521+1.34498I$ $b=\ 0.398450-1.240250I$	$12.58130+3.55728I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.524388+0.459382I$ $a=-0.67805+1.75349I$ $b=-0.610123+0.359489I$	$1.91784+2.87133I$	$-5.87328-1.05370I$
$u=-0.524388-0.459382I$ $a=-0.67805-1.75349I$ $b=-0.610123-0.359489I$	$1.91784-2.87133I$	$-5.87328+1.05370I$
$u=1.312490+0.036726I$ $a=0.73066+1.37105I$ $b=-0.456515-1.288520I$	$12.0506-9.8166I$	0
$u=1.312490-0.036726I$ $a=0.73066-1.37105I$ $b=-0.456515+1.288520I$	$12.0506+9.8166I$	0
$u=-1.154450+0.646362I$ $a=0.60774-1.86569I$ $b=1.06229+1.44855I$	$8.7059-12.3236I$	0
$u=-1.154450-0.646362I$ $a=0.60774+1.86569I$ $b=1.06229-1.44855I$	$8.7059+12.3236I$	0
$u=-1.153990+0.666795I$ $a=-0.63005+1.84504I$ $b=-1.14235-1.44215I$	$7.7503-18.6395I$	0
$u=-1.153990-0.666795I$ $a=-0.63005-1.84504I$ $b=-1.14235+1.44215I$	$7.7503+18.6395I$	0
$u=1.181870+0.620491I$ $a=-0.22535-1.45208I$ $b=-1.03468+0.97837I$	$3.47889+6.81457I$	0
$u=1.181870-0.620491I$ $a=-0.22535+1.45208I$ $b=-1.03468-0.97837I$	$3.47889-6.81457I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.185460 + 0.655184I$ $a = 0.23810 + 1.41547I$ $b = 1.08106 - 0.91821I$	$2.75105 + 12.77430I$	0
$u = 1.185460 - 0.655184I$ $a = 0.23810 - 1.41547I$ $b = 1.08106 + 0.91821I$	$2.75105 - 12.77430I$	0
$u = 0.283592 + 0.568153I$ $a = 1.75474 + 0.61289I$ $b = -0.298494 + 0.647514I$	$5.76290 - 5.17672I$	$-2.91656 + 3.83160I$
$u = 0.283592 - 0.568153I$ $a = 1.75474 - 0.61289I$ $b = -0.298494 - 0.647514I$	$5.76290 + 5.17672I$	$-2.91656 - 3.83160I$
$u = 0.132946 + 0.574365I$ $a = -1.66518 - 0.07867I$ $b = 0.401104 - 0.770797I$	$6.64032 + 0.88970I$	$-1.43854 - 1.57989I$
$u = 0.132946 - 0.574365I$ $a = -1.66518 + 0.07867I$ $b = 0.401104 + 0.770797I$	$6.64032 - 0.88970I$	$-1.43854 + 1.57989I$
$u = -1.43121 + 0.03367I$ $a = 0.019543 - 0.759133I$ $b = 0.029487 + 0.867765I$	$7.10252 - 2.95976I$	0
$u = -1.43121 - 0.03367I$ $a = 0.019543 + 0.759133I$ $b = 0.029487 - 0.867765I$	$7.10252 + 2.95976I$	0
$u = -1.28047 + 0.71465I$ $a = 0.324680 - 0.485114I$ $b = 0.379430 + 0.520971I$	$6.64532 + 0.24779I$	0
$u = -1.28047 - 0.71465I$ $a = 0.324680 + 0.485114I$ $b = 0.379430 - 0.520971I$	$6.64532 - 0.24779I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.25373+0.76253I$ $a=-0.326061+0.448028I$ $b=-0.373077-0.451606I$	$6.55030-5.62035I$	0
$u=-1.25373-0.76253I$ $a=-0.326061-0.448028I$ $b=-0.373077+0.451606I$	$6.55030+5.62035I$	0
$u=-0.355726+0.387785I$ $a=\ \ 0.64017-1.96532I$ $b=\ \ 0.329582-0.543050I$	$2.22896-2.43828I$	$-4.48588+4.98806I$
$u=-0.355726-0.387785I$ $a=\ \ 0.64017+1.96532I$ $b=\ \ 0.329582+0.543050I$	$2.22896+2.43828I$	$-4.48588-4.98806I$
$u=-0.071310+0.236959I$ $a=-2.28255-2.03397I$ $b=-0.670210-0.726755I$	$-0.276755+0.306121I$	$-6.99836-1.27809I$
$u=-0.071310-0.236959I$ $a=-2.28255+2.03397I$ $b=-0.670210+0.726755I$	$-0.276755-0.306121I$	$-6.99836+1.27809I$
$u=\ \ 0.215388$ $a=\ \ 1.80238$ $b=-0.538020$	-0.848981	-12.1680

II. $I_2^u = \langle -u^3 + b + u + 1,\ u^3 + u^2 + a + u - 1,\ u^4 - u^2 + 1 \rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 - u^2 - u + 1 \\ u^3 - u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 - u - 1 \\ u^3 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 - 2u \\ u^3 - u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^2 - u \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 + u \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^3 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 - 2u \\ u^3 - u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u^3 - u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^2 - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6	$(y-1)^4$
c_3	$y^4 - 6y^3 + 11y^2 + 6y + 1$
c_4	$y^4 + 6y^3 + 11y^2 - 6y + 1$
c_7, c_9, c_{10}	$(y+1)^4$
c_8, c_{12}	$(y^2 - y + 1)^2$
c_{11}	$(y^2 + y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.866025 + 0.500000I$ $a = -0.36603 - 2.36603I$ $b = -1.86603 + 0.50000I$	$2.02988I$	$-6.00000 - 3.46410I$
$u = \quad 0.866025 - 0.500000I$ $a = -0.36603 + 2.36603I$ $b = -1.86603 - 0.50000I$	$-\ 2.02988I$	$-6.00000 + 3.46410I$
$u = -0.866025 + 0.500000I$ $a = \quad 1.36603 - 0.63397I$ $b = -0.133975 + 0.500000I$	$-\ 2.02988I$	$-6.00000 + 3.46410I$
$u = -0.866025 - 0.500000I$ $a = \quad 1.36603 + 0.63397I$ $b = -0.133975 - 0.500000I$	$2.02988I$	$-6.00000 - 3.46410I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{107}+33u^{106}+\cdots+16u+1)$
c_2	$((u-1)^4)(u^{107}+5u^{106}+\cdots+6u+1)$
c_3	$(u^4-4u^3+5u^2-2u+1)(u^{107}-9u^{106}+\cdots+51550u+30431)$
c_4	$(u^4+2u^3+5u^2+4u+1)$ $\cdot(u^{107}-29u^{106}+\cdots-71644122u+19604249)$
c_5	$((u+1)^4)(u^{107}+5u^{106}+\cdots+6u+1)$
c_6	$((u+1)^4)(u^{107}+33u^{106}+\cdots+16u+1)$
c_7, c_{10}	$((u^2+1)^2)(u^{107}-7u^{106}+\cdots-32u+1)$
c_8, c_{12}	$(u^4-u^2+1)(u^{107}-7u^{106}+\cdots-7u+2)$
c_9	$((u^2+1)^2)(u^{107}-u^{106}+\cdots-18u+1)$
c_{11}	$((u^2+u+1)^2)(u^{107}-47u^{106}+\cdots+37u-4)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$((y-1)^4)(y^{107}+87y^{106}+\cdots-576y-1)$
c_2, c_5	$((y-1)^4)(y^{107}-33y^{106}+\cdots+16y-1)$
c_3	$(y^4-6y^3+11y^2+6y+1)$ $\cdot(y^{107}+241y^{106}+\cdots-56603744314y-926045761)$
c_4	$(y^4+6y^3+11y^2-6y+1)$ $\cdot(y^{107}-155y^{106}+\cdots-7615585881180646y-384326578854001)$
c_7, c_{10}	$((y+1)^4)(y^{107}+83y^{106}+\cdots+504y-1)$
c_8, c_{12}	$((y^2-y+1)^2)(y^{107}-47y^{106}+\cdots+37y-4)$
c_9	$((y+1)^4)(y^{107}+11y^{106}+\cdots+64y-1)$
c_{11}	$((y^2+y+1)^2)(y^{107}+29y^{106}+\cdots+9921y-16)$