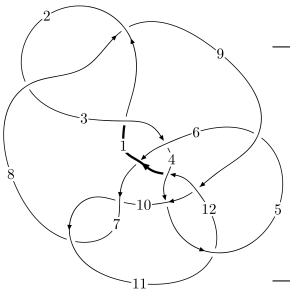
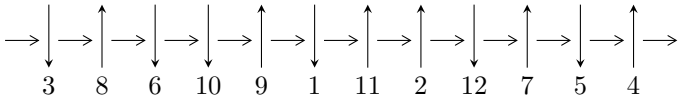
$12a_{0697}$ $(K12a_{0697})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.38429 \times 10^{798} u^{193} + 3.87152 \times 10^{798} u^{192} + \cdots + 2.19950 \times 10^{798} b - 4.90381 \times 10^{800}, \\ & - 8.75612 \times 10^{800} u^{193} + 3.14690 \times 10^{801} u^{192} + \cdots + 2.64159 \times 10^{801} a + 2.08172 \times 10^{803}, \\ & u^{194} - 4u^{193} + \cdots - 2190u + 1201 \rangle \\ I_2^u = \langle & 1.01475 \times 10^{22} u^{43} - 2.00856 \times 10^{22} u^{42} + \cdots + 3.01682 \times 10^{21} b - 9.17444 \times 10^{21}, \\ & - 6.80246 \times 10^{21} u^{43} + 1.04596 \times 10^{22} u^{42} + \cdots + 3.01682 \times 10^{21} a - 1.46523 \times 10^{22}, \ u^{44} - u^{43} + \cdots - 5u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 238 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. $\boldsymbol{I_1^u = \langle -1.38 \times 10^{798} u^{193} + 3.87 \times 10^{798} u^{192} + \cdots + 2.20 \times 10^{798} b - 4.90 \times 10^{800},\ -8.76 \times 10^{800} u^{193} + 3.15 \times 10^{801} u^{192} + \cdots + 2.64 \times 10^{801} a + 2.08 \times 10^{803},\ u^{194} - 4u^{193} + \cdots - 2190u + 1201 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 0.331471u^{193} - 1.19129u^{192} + \cdots + 396.308u - 78.8056 \\ 0.629367u^{193} - 1.76019u^{192} + \cdots + 443.354u + 222.952 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.230235u^{193} - 0.229303u^{192} + \cdots - 256.608u + 636.997 \\ 2.04507u^{193} - 7.51758u^{192} + \cdots + 3825.85u - 1438.51 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.584614u^{193} + 2.07784u^{192} + \cdots - 968.110u + 357.563 \\ 1.02690u^{193} - 3.46100u^{192} + \cdots + 1531.49u - 314.193 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.316417u^{193} - 0.526957u^{192} + \cdots - 603.289u + 840.527 \\ 0.639153u^{193} - 1.96569u^{192} + \cdots + 543.699u + 4.23901 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.341625u^{193} - 0.495401u^{192} + \cdots - 230.907u + 752.488 \\ 2.03737u^{193} - 7.36267u^{192} + \cdots + 3634.73u - 1278.45 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.899157u^{193} - 3.33150u^{192} + \cdots + 1895.23u - 716.726 \\ 0.423782u^{193} - 2.40417u^{192} + \cdots + 1856.81u - 1315.96 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.636085u^{193} - 2.44361u^{192} + \cdots + 1676.72u - 722.342 \\ 0.241514u^{193} - 1.40839u^{192} + \cdots + 1124.19u - 730.575 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.45492u^{193} + 7.04924u^{192} + \cdots - 2454.11u - 495.711$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{194} + 76u^{193} + \cdots + 17206220u + 1442401$
c_2, c_8	$u^{194} + 4u^{193} + \cdots + 2190u + 1201$
c_3	$16(16u^{194} + 316u^{193} + \cdots - 5u + 1)$
c_4	$4(4u^{194} + 6u^{193} + \cdots - 180u + 5)$
c_5	$u^{194} - 4u^{193} + \cdots + 223613010u + 9397652$
c_6	$u^{194} + 4u^{192} + \cdots + 535380u + 59536$
c_7, c_{10}	$4(4u^{194} + 10u^{193} + \cdots - 2u + 1)$
c_9	$u^{194} - 19u^{193} + \cdots - 8u + 1$
c_{11}	$4(4u^{194} + 30u^{193} + \cdots - 60u + 1)$
c_{12}	$u^{194} + 9u^{193} + \cdots + 38561386u + 5467612$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{194} + 20y^{193} + \cdots - 483570365808132y + 2080520644801$
c_2, c_8	$y^{194} + 76y^{193} + \cdots + 17206220y + 1442401$
c_3	$256(256y^{194} - 7920y^{193} + \cdots - 805y + 1)$
c_4	$16(16y^{194} - 476y^{193} + \cdots + 350y + 25)$
c_5	$y^{194} + 56y^{193} + \cdots - 15147856641788764y + 88315863113104$
c_6	$y^{194} + 8y^{193} + \cdots - 1377094192048y + 3544535296$
c_7, c_{10}	$16(16y^{194} - 1740y^{193} + \cdots - 54y + 1)$
c_9	$y^{194} - 27y^{193} + \cdots + 176y + 1$
c_{11}	$16(16y^{194} - 188y^{193} + \cdots - 218y + 1)$
c_{12}	$y^{194} + 27y^{193} + \cdots + 83542449688324y + 29894780982544$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.352856+0.935267I$ $a=-0.142936+1.156860I$ $b=-1.019070-0.047088I$	$-2.04059+1.29524I$	0
$u=-0.352856-0.935267I$ $a=-0.142936-1.156860I$ $b=-1.019070+0.047088I$	$-2.04059-1.29524I$	0
$u=-0.858241+0.500645I$ $a=-0.871810+0.893397I$ $b=-0.367726+0.658728I$	$-1.12610+9.17491I$	0
$u=-0.858241-0.500645I$ $a=-0.871810-0.893397I$ $b=-0.367726-0.658728I$	$-1.12610-9.17491I$	0
$u=\ 0.171791+0.977728I$ $a=-0.081012-0.481370I$ $b=-1.106520-0.429809I$	$-2.44322-1.19674I$	0
$u=\ 0.171791-0.977728I$ $a=-0.081012+0.481370I$ $b=-1.106520+0.429809I$	$-2.44322+1.19674I$	0
$u=\ 0.461501+0.900448I$ $a=\ 0.409589-0.627996I$ $b=\ 4.07565+2.62467I$	$-3.87773+6.12031I$	0
$u=\ 0.461501-0.900448I$ $a=\ 0.409589+0.627996I$ $b=\ 4.07565-2.62467I$	$-3.87773-6.12031I$	0
$u=-0.466956+0.870291I$ $a=\ 1.03500+1.16180I$ $b=\ 2.20505-1.18125I$	$-1.16359-1.62170I$	0
$u=-0.466956-0.870291I$ $a=\ 1.03500-1.16180I$ $b=\ 2.20505+1.18125I$	$-1.16359+1.62170I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.444555+0.881941I$		
$a=$	$1.043030+0.571776I$	$-4.76293+1.82373I$	0
$b=$	$0.02131+1.64378I$		
$u=$	$0.444555-0.881941I$		
$a=$	$1.043030-0.571776I$	$-4.76293-1.82373I$	0
$b=$	$0.02131-1.64378I$		
$u=$	$-0.473853+0.899736I$		
$a=$	$-0.79929-1.33512I$	$-1.25921-2.17281I$	0
$b=$	$-2.15545+0.63487I$		
$u=$	$-0.473853-0.899736I$		
$a=$	$-0.79929+1.33512I$	$-1.25921+2.17281I$	0
$b=$	$-2.15545-0.63487I$		
$u=$	$0.270488+0.939040I$		
$a=$	$0.502282+1.260000I$	$-1.60615-6.44241I$	0
$b=$	$-0.078034+0.758939I$		
$u=$	$0.270488-0.939040I$		
$a=$	$0.502282-1.260000I$	$-1.60615+6.44241I$	0
$b=$	$-0.078034-0.758939I$		
$u=$	$0.452051+0.858999I$		
$a=$	$-0.484321+0.613005I$	$-3.72430-2.38599I$	0
$b=$	$-4.38482-2.55892I$		
$u=$	$0.452051-0.858999I$		
$a=$	$-0.484321-0.613005I$	$-3.72430+2.38599I$	0
$b=$	$-4.38482+2.55892I$		
$u=$	$-0.507795+0.897267I$		
$a=$	$-0.081761+1.334530I$	$-0.84339-2.73028I$	0
$b=$	$0.456448-0.037680I$		
$u=$	$-0.507795-0.897267I$		
$a=$	$-0.081761-1.334530I$	$-0.84339+2.73028I$	0
$b=$	$0.456448+0.037680I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.527035+0.807287I$ $a=\ \ 1.27885-1.51703I$ $b=-0.24618-1.44845I$	$-1.80592-2.20740I$	0
$u=-0.527035-0.807287I$ $a=\ \ 1.27885+1.51703I$ $b=-0.24618+1.44845I$	$-1.80592+2.20740I$	0
$u=-0.545883+0.792695I$ $a=\ \ 0.333347+1.343860I$ $b=\ \ 1.25286-1.32258I$	$3.09387-2.25723I$	0
$u=-0.545883-0.792695I$ $a=\ \ 0.333347-1.343860I$ $b=\ \ 1.25286+1.32258I$	$3.09387+2.25723I$	0
$u=-0.482202+0.821143I$ $a=-1.157770-0.378062I$ $b=-1.46674+0.26591I$	$-0.56656-1.32350I$	0
$u=-0.482202-0.821143I$ $a=-1.157770+0.378062I$ $b=-1.46674-0.26591I$	$-0.56656+1.32350I$	0
$u=-0.772373+0.711577I$ $a=\ \ 0.530133+0.980748I$ $b=\ \ 2.14125-0.81703I$	$4.21166+5.48024I$	0
$u=-0.772373-0.711577I$ $a=\ \ 0.530133-0.980748I$ $b=\ \ 2.14125+0.81703I$	$4.21166-5.48024I$	0
$u=\ \ 0.801307+0.687595I$ $a=\ \ 1.003350-0.750219I$ $b=\ \ 2.05837+0.73821I$	$8.26907+2.25026I$	0
$u=\ \ 0.801307-0.687595I$ $a=\ \ 1.003350+0.750219I$ $b=\ \ 2.05837-0.73821I$	$8.26907-2.25026I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.998230+0.357435I$ $a=-0.904875-0.729293I$ $b=-1.37085+0.75442I$	$5.58425+6.39972I$	0
$u=-0.998230-0.357435I$ $a=-0.904875+0.729293I$ $b=-1.37085-0.75442I$	$5.58425-6.39972I$	0
$u=0.641551+0.685549I$ $a=-0.358563+1.298770I$ $b=-1.125070-0.630303I$	$3.32422-1.81568I$	0
$u=0.641551-0.685549I$ $a=-0.358563-1.298770I$ $b=-1.125070+0.630303I$	$3.32422+1.81568I$	0
$u=-0.554188+0.908975I$ $a=-1.035570-0.647178I$ $b=-2.84167+0.38500I$	$2.70820-2.16237I$	0
$u=-0.554188-0.908975I$ $a=-1.035570+0.647178I$ $b=-2.84167-0.38500I$	$2.70820+2.16237I$	0
$u=0.956954+0.469120I$ $a=-0.756887+1.194240I$ $b=-1.38208-0.55142I$	$2.92177-7.18756I$	0
$u=0.956954-0.469120I$ $a=-0.756887-1.194240I$ $b=-1.38208+0.55142I$	$2.92177+7.18756I$	0
$u=-0.558625+0.911635I$ $a=0.545019-0.408731I$ $b=0.248754-0.554857I$	$0.35179-2.52006I$	0
$u=-0.558625-0.911635I$ $a=0.545019+0.408731I$ $b=0.248754+0.554857I$	$0.35179+2.52006I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.814891 + 0.695923I$ $a = -0.589698 + 0.977948I$ $b = -1.56637 - 0.92940I$	$4.44153 - 1.39602I$	0
$u = 0.814891 - 0.695923I$ $a = -0.589698 - 0.977948I$ $b = -1.56637 + 0.92940I$	$4.44153 + 1.39602I$	0
$u = 0.815899 + 0.697491I$ $a = -1.15193 + 0.95053I$ $b = -1.99896 - 0.55484I$	$6.21880 - 3.92650I$	0
$u = 0.815899 - 0.697491I$ $a = -1.15193 - 0.95053I$ $b = -1.99896 + 0.55484I$	$6.21880 + 3.92650I$	0
$u = 0.540679 + 0.928065I$ $a = 0.200205 + 0.648447I$ $b = 1.93725 + 0.34871I$	$-2.96710 + 6.70397I$	0
$u = 0.540679 - 0.928065I$ $a = 0.200205 - 0.648447I$ $b = 1.93725 - 0.34871I$	$-2.96710 - 6.70397I$	0
$u = 0.965026 + 0.476531I$ $a = 0.799543 - 1.088150I$ $b = 1.51509 + 0.61731I$	$2.0423 - 15.7305I$	0
$u = 0.965026 - 0.476531I$ $a = 0.799543 + 1.088150I$ $b = 1.51509 - 0.61731I$	$2.0423 + 15.7305I$	0
$u = 0.024835 + 1.077440I$ $a = -0.929167 - 0.390211I$ $b = -1.71772 + 0.82024I$	$-6.73950 - 1.83807I$	0
$u = 0.024835 - 1.077440I$ $a = -0.929167 + 0.390211I$ $b = -1.71772 - 0.82024I$	$-6.73950 + 1.83807I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.574746+0.715084I$ $a=\ \ 0.328793-0.506058I$ $b=\ \ 0.053976-0.445540I$	$0.90332-2.01070I$	0
$u=-0.574746-0.715084I$ $a=\ \ 0.328793+0.506058I$ $b=\ \ 0.053976+0.445540I$	$0.90332+2.01070I$	0
$u=-0.328946+0.855888I$ $a=\ \ 0.043193-0.995853I$ $b=-0.129126-1.210010I$	$1.47032-2.23196I$	0
$u=-0.328946-0.855888I$ $a=\ \ 0.043193+0.995853I$ $b=-0.129126+1.210010I$	$1.47032+2.23196I$	0
$u=\ \ 0.890139+0.201687I$ $a=-0.647749+0.222148I$ $b=-0.814819-0.036399I$	$-0.70524-3.34036I$	0
$u=\ \ 0.890139-0.201687I$ $a=-0.647749-0.222148I$ $b=-0.814819+0.036399I$	$-0.70524+3.34036I$	0
$u=-0.861625+0.682657I$ $a=\ \ 1.158560+0.286351I$ $b=\ \ 1.77786-0.63784I$	$4.64075-1.94310I$	0
$u=-0.861625-0.682657I$ $a=\ \ 1.158560-0.286351I$ $b=\ \ 1.77786+0.63784I$	$4.64075+1.94310I$	0
$u=\ \ 0.459598+1.000590I$ $a=-0.664800+0.012834I$ $b=-0.898800+0.454534I$	$-3.86733+3.29808I$	0
$u=\ \ 0.459598-1.000590I$ $a=-0.664800-0.012834I$ $b=-0.898800-0.454534I$	$-3.86733-3.29808I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.529727 + 0.966617I$ $a = -0.680338 - 0.118273I$ $b = 0.135431 - 0.420079I$	$-0.08262 + 7.16741I$	0
$u = 0.529727 - 0.966617I$ $a = -0.680338 + 0.118273I$ $b = 0.135431 + 0.420079I$	$-0.08262 - 7.16741I$	0
$u = -0.056340 + 1.102950I$ $a = -0.371392 - 0.769289I$ $b = -1.44641 + 0.05833I$	$-2.34807 - 1.62864I$	0
$u = -0.056340 - 1.102950I$ $a = -0.371392 + 0.769289I$ $b = -1.44641 - 0.05833I$	$-2.34807 + 1.62864I$	0
$u = -0.950171 + 0.564993I$ $a = 0.699550 + 0.799784I$ $b = 1.76306 - 0.69524I$	$1.83830 + 5.77997I$	0
$u = -0.950171 - 0.564993I$ $a = 0.699550 - 0.799784I$ $b = 1.76306 + 0.69524I$	$1.83830 - 5.77997I$	0
$u = -0.363033 + 1.044210I$ $a = 0.029375 + 1.037740I$ $b = -0.31375 + 1.92955I$	$-2.05100 + 4.55845I$	0
$u = -0.363033 - 1.044210I$ $a = 0.029375 - 1.037740I$ $b = -0.31375 - 1.92955I$	$-2.05100 - 4.55845I$	0
$u = -0.783517 + 0.423177I$ $a = -0.883703 - 0.972798I$ $b = -1.66287 + 1.04127I$	$1.50052 + 6.45762I$	0
$u = -0.783517 - 0.423177I$ $a = -0.883703 + 0.972798I$ $b = -1.66287 - 1.04127I$	$1.50052 - 6.45762I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.786529 + 0.416423I$ $a = -0.617898 - 0.770584I$ $b = -0.036322 + 0.505914I$	$-1.34407 + 5.45592I$	0
$u = 0.786529 - 0.416423I$ $a = -0.617898 + 0.770584I$ $b = -0.036322 - 0.505914I$	$-1.34407 - 5.45592I$	0
$u = 0.446123 + 1.017670I$ $a = -0.255886 - 0.681936I$ $b = -1.53406 + 0.14590I$	$-3.44389 - 0.93394I$	0
$u = 0.446123 - 1.017670I$ $a = -0.255886 + 0.681936I$ $b = -1.53406 - 0.14590I$	$-3.44389 + 0.93394I$	0
$u = -0.543451 + 0.970576I$ $a = 0.886522 + 0.730130I$ $b = 3.15359 - 1.26327I$	$-0.79276 - 6.61650I$	0
$u = -0.543451 - 0.970576I$ $a = 0.886522 - 0.730130I$ $b = 3.15359 + 1.26327I$	$-0.79276 + 6.61650I$	0
$u = 0.610324 + 0.939595I$ $a = 1.045980 - 0.459740I$ $b = 2.44205 + 0.72514I$	$2.57631 + 6.72171I$	0
$u = 0.610324 - 0.939595I$ $a = 1.045980 + 0.459740I$ $b = 2.44205 - 0.72514I$	$2.57631 - 6.72171I$	0
$u = 0.752142 + 0.452326I$ $a = 0.137674 + 0.661861I$ $b = -0.021573 - 0.236399I$	$2.11127 - 2.81409I$	0
$u = 0.752142 - 0.452326I$ $a = 0.137674 - 0.661861I$ $b = -0.021573 + 0.236399I$	$2.11127 + 2.81409I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.435647 + 0.754428I$ $a = -0.375545 - 1.008050I$ $b = -0.535683 - 1.200410I$	$0.75044 - 3.14796I$	0
$u = \quad 0.435647 - 0.754428I$ $a = -0.375545 + 1.008050I$ $b = -0.535683 + 1.200410I$	$0.75044 + 3.14796I$	0
$u = -0.350863 + 1.077150I$ $a = -0.673207 - 0.684831I$ $b = -1.31873 - 0.83905I$	$-2.28589 - 3.35519I$	0
$u = -0.350863 - 1.077150I$ $a = -0.673207 + 0.684831I$ $b = -1.31873 + 0.83905I$	$-2.28589 + 3.35519I$	0
$u = \quad 0.426788 + 1.051820I$ $a = -0.090839 + 0.304659I$ $b = -0.07841 + 1.49959I$	$-4.18409 + 3.39305I$	0
$u = \quad 0.426788 - 1.051820I$ $a = -0.090839 - 0.304659I$ $b = -0.07841 - 1.49959I$	$-4.18409 - 3.39305I$	0
$u = \quad 0.660038 + 0.924385I$ $a = -0.827509 - 0.708024I$ $b = -0.614171 - 0.454722I$	$-3.53015 + 2.60312I$	0
$u = \quad 0.660038 - 0.924385I$ $a = -0.827509 + 0.708024I$ $b = -0.614171 + 0.454722I$	$-3.53015 - 2.60312I$	0
$u = -0.497089 + 1.021890I$ $a = \quad 0.811704 + 0.641576I$ $b = \quad 2.53333 + 1.37633I$	$-1.23386 - 10.99860I$	0
$u = -0.497089 - 1.021890I$ $a = \quad 0.811704 - 0.641576I$ $b = \quad 2.53333 - 1.37633I$	$-1.23386 + 10.99860I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.801772+0.316134I$ $a=\ \ 1.311960-0.340023I$ $b=\ \ 0.586322-0.321066I$	$1.66785-0.26603I$	0
$u=-0.801772-0.316134I$ $a=\ \ 1.311960+0.340023I$ $b=\ \ 0.586322+0.321066I$	$1.66785+0.26603I$	0
$u=\ \ 0.700393+0.499917I$ $a=-0.504691+0.263452I$ $b=-0.103187-0.891546I$	$1.86908-2.72024I$	0
$u=\ \ 0.700393-0.499917I$ $a=-0.504691-0.263452I$ $b=-0.103187+0.891546I$	$1.86908+2.72024I$	0
$u=\ \ 0.563530+0.990930I$ $a=-1.252540+0.653017I$ $b=-2.43821-0.94346I$	$0.25809+11.99180I$	0
$u=\ \ 0.563530-0.990930I$ $a=-1.252540-0.653017I$ $b=-2.43821+0.94346I$	$0.25809-11.99180I$	0
$u=-0.511096+0.685410I$ $a=-0.49674-1.32758I$ $b=-2.04518+1.36491I$	$0.12768+2.28444I$	0
$u=-0.511096-0.685410I$ $a=-0.49674+1.32758I$ $b=-2.04518-1.36491I$	$0.12768-2.28444I$	0
$u=-1.165370+0.044542I$ $a=\ \ 1.247400-0.243693I$ $b=\ \ 1.241440+0.017823I$	$2.29243-0.14459I$	0
$u=-1.165370-0.044542I$ $a=\ \ 1.247400+0.243693I$ $b=\ \ 1.241440-0.017823I$	$2.29243+0.14459I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.291541 + 1.137520I$ $a = -0.221315 + 0.006459I$ $b = -0.399387 + 0.221655I$	$-5.18462 - 0.24486I$	0
$u = 0.291541 - 1.137520I$ $a = -0.221315 - 0.006459I$ $b = -0.399387 - 0.221655I$	$-5.18462 + 0.24486I$	0
$u = 0.533299 + 0.619655I$ $a = 0.44414 - 1.85659I$ $b = 1.41938 + 0.27626I$	$1.39225 - 7.49012I$	0
$u = 0.533299 - 0.619655I$ $a = 0.44414 + 1.85659I$ $b = 1.41938 - 0.27626I$	$1.39225 + 7.49012I$	0
$u = -0.674081 + 0.974096I$ $a = -0.864381 - 0.594308I$ $b = -2.61086 + 1.63115I$	$3.38962 - 10.95500I$	0
$u = -0.674081 - 0.974096I$ $a = -0.864381 + 0.594308I$ $b = -2.61086 - 1.63115I$	$3.38962 + 10.95500I$	0
$u = -0.018597 + 1.190760I$ $a = 0.789241 + 0.342314I$ $b = 1.42120 - 0.49910I$	$-7.21799 + 7.18276I$	0
$u = -0.018597 - 1.190760I$ $a = 0.789241 - 0.342314I$ $b = 1.42120 + 0.49910I$	$-7.21799 - 7.18276I$	0
$u = 0.475641 + 0.648035I$ $a = 0.946520 + 0.236724I$ $b = -0.085388 - 0.726431I$	$-2.19920 - 2.38962I$	0
$u = 0.475641 - 0.648035I$ $a = 0.946520 - 0.236724I$ $b = -0.085388 + 0.726431I$	$-2.19920 + 2.38962I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.193741+1.183850I$ $a=-0.262898+0.892229I$ $b=-0.818476-0.554389I$	$-3.51232+3.92942I$	0
$u=-0.193741-1.183850I$ $a=-0.262898-0.892229I$ $b=-0.818476+0.554389I$	$-3.51232-3.92942I$	0
$u=0.694226+0.980640I$ $a=-0.669438+0.920136I$ $b=-2.04031-0.90443I$	$7.37060+3.35651I$	0
$u=0.694226-0.980640I$ $a=-0.669438-0.920136I$ $b=-2.04031+0.90443I$	$7.37060-3.35651I$	0
$u=0.308818+1.163950I$ $a=-0.287603+0.363462I$ $b=-0.854180+0.597152I$	$-5.11943-0.20016I$	0
$u=0.308818-1.163950I$ $a=-0.287603-0.363462I$ $b=-0.854180-0.597152I$	$-5.11943+0.20016I$	0
$u=0.705084+0.983531I$ $a=0.857073-1.066430I$ $b=2.13028+0.61835I$	$5.33406+9.61525I$	0
$u=0.705084-0.983531I$ $a=0.857073+1.066430I$ $b=2.13028-0.61835I$	$5.33406-9.61525I$	0
$u=0.588635+1.061140I$ $a=0.194830-0.255898I$ $b=1.34687-0.46141I$	$0.19057+7.69336I$	0
$u=0.588635-1.061140I$ $a=0.194830+0.255898I$ $b=1.34687+0.46141I$	$0.19057-7.69336I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.702284 + 0.993838I$ $a = 0.892985 - 0.557846I$ $b = 2.54331 + 0.85132I$	$3.51450 + 7.08392I$	0
$u = 0.702284 - 0.993838I$ $a = 0.892985 + 0.557846I$ $b = 2.54331 - 0.85132I$	$3.51450 - 7.08392I$	0
$u = 0.563184 + 1.082840I$ $a = -0.526243 - 0.087380I$ $b = -0.443054 - 0.075036I$	$-3.34309 + 7.92558I$	0
$u = 0.563184 - 1.082840I$ $a = -0.526243 + 0.087380I$ $b = -0.443054 + 0.075036I$	$-3.34309 - 7.92558I$	0
$u = 0.730207 + 0.269410I$ $a = 0.269298 + 0.189794I$ $b = -0.170148 - 0.015857I$	$-1.01201 - 3.30135I$	0
$u = 0.730207 - 0.269410I$ $a = 0.269298 - 0.189794I$ $b = -0.170148 + 0.015857I$	$-1.01201 + 3.30135I$	0
$u = -0.706945 + 0.310011I$ $a = 1.240170 + 0.052375I$ $b = 0.651423 - 0.299002I$	$1.66440 - 0.35187I$	0
$u = -0.706945 - 0.310011I$ $a = 1.240170 - 0.052375I$ $b = 0.651423 + 0.299002I$	$1.66440 + 0.35187I$	0
$u = -1.008580 + 0.706175I$ $a = 0.641294 + 0.746726I$ $b = 1.43228 - 0.53328I$	$1.95638 + 1.36014I$	0
$u = -1.008580 - 0.706175I$ $a = 0.641294 - 0.746726I$ $b = 1.43228 + 0.53328I$	$1.95638 - 1.36014I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.136706+1.224090I$		
$a=$	$0.471608-0.600751I$	$-5.51796+4.03330I$	0
$b=$	$0.727639+0.639634I$		
$u=$	$0.136706-1.224090I$		
$a=$	$0.471608+0.600751I$	$-5.51796-4.03330I$	0
$b=$	$0.727639-0.639634I$		
$u=$	$-0.724518+0.998585I$		
$a=$	$-0.315803-0.988115I$	$3.65898-3.92264I$	0
$b=$	$-1.246040+0.435773I$		
$u=$	$-0.724518-0.998585I$		
$a=$	$-0.315803+0.988115I$	$3.65898+3.92264I$	0
$b=$	$-1.246040-0.435773I$		
$u=$	$0.143138+1.228570I$		
$a=$	$0.419407-0.507859I$	$-5.87051-0.00222I$	0
$b=$	$0.545119+0.161875I$		
$u=$	$0.143138-1.228570I$		
$a=$	$0.419407+0.507859I$	$-5.87051+0.00222I$	0
$b=$	$0.545119-0.161875I$		
$u=$	$0.496875+1.133980I$		
$a=$	$0.484747-0.146259I$	$-3.65560+8.15638I$	0
$b=$	$0.635086+0.449957I$		
$u=$	$0.496875-1.133980I$		
$a=$	$0.484747+0.146259I$	$-3.65560-8.15638I$	0
$b=$	$0.635086-0.449957I$		
$u=$	$-0.378530+1.186340I$		
$a=$	$-0.133070-0.962640I$	$-1.80073-4.68824I$	0
$b=$	$-0.051418-0.991230I$		
$u=$	$-0.378530-1.186340I$		
$a=$	$-0.133070+0.962640I$	$-1.80073+4.68824I$	0
$b=$	$-0.051418+0.991230I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.313454+0.677036I$ $a=\ 0.04273-1.67717I$ $b=\ 1.00072+1.11876I$	$0.17964+7.26882I$	0
$u=-0.313454-0.677036I$ $a=\ 0.04273+1.67717I$ $b=\ 1.00072-1.11876I$	$0.17964-7.26882I$	0
$u=\ 0.540319+1.131560I$ $a=\ 0.050143+0.169734I$ $b=\ 0.147863+0.520157I$	$-3.50534+8.10688I$	0
$u=\ 0.540319-1.131560I$ $a=\ 0.050143-0.169734I$ $b=\ 0.147863-0.520157I$	$-3.50534-8.10688I$	0
$u=\ 0.603918+1.106710I$ $a=\ 0.388606+0.311493I$ $b=\ 0.792834+0.258179I$	$0.15130+7.98524I$	0
$u=\ 0.603918-1.106710I$ $a=\ 0.388606-0.311493I$ $b=\ 0.792834-0.258179I$	$0.15130-7.98524I$	0
$u=\ 1.26520$ $a=-0.610970$ $b=-1.83544$	-0.265156	0
$u=-0.616973+1.108750I$ $a=\ 0.754256+0.625216I$ $b=\ 2.86319-0.98382I$	$-0.52207-11.74650I$	0
$u=-0.616973-1.108750I$ $a=\ 0.754256-0.625216I$ $b=\ 2.86319+0.98382I$	$-0.52207+11.74650I$	0
$u=-1.119850+0.615007I$ $a=-0.997390-0.166084I$ $b=-1.70972+0.53402I$	$2.68440-9.71298I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.119850-0.615007I$ $a=-0.997390+0.166084I$ $b=-1.70972-0.53402I$	$2.68440+9.71298I$	0
$u=-0.591211+1.138220I$ $a=-0.021882-0.808842I$ $b=-0.676599-0.610431I$	$-0.73955-4.68557I$	0
$u=-0.591211-1.138220I$ $a=-0.021882+0.808842I$ $b=-0.676599+0.610431I$	$-0.73955+4.68557I$	0
$u=-0.662558+1.101730I$ $a=-0.677633+0.768503I$ $b=-0.296481+1.052240I$	$-2.9446-14.8246I$	0
$u=-0.662558-1.101730I$ $a=-0.677633-0.768503I$ $b=-0.296481-1.052240I$	$-2.9446+14.8246I$	0
$u=0.620880+0.331426I$ $a=1.144340-0.352340I$ $b=1.22568+1.35925I$	$1.68508+4.28171I$	0
$u=0.620880-0.331426I$ $a=1.144340+0.352340I$ $b=1.22568-1.35925I$	$1.68508-4.28171I$	0
$u=-0.713880+1.114450I$ $a=-0.768570-0.569960I$ $b=-2.39926+1.03668I$	$0.11879-11.87140I$	0
$u=-0.713880-1.114450I$ $a=-0.768570+0.569960I$ $b=-2.39926-1.03668I$	$0.11879+11.87140I$	0
$u=-0.046201+1.327280I$ $a=-0.565969-0.899148I$ $b=-1.036020-0.235434I$	$-4.01361-4.39879I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.046201-1.327280I$ $a=-0.565969+0.899148I$ $b=-1.036020+0.235434I$	$-4.01361+4.39879I$	0
$u=0.683065+1.144690I$ $a=1.021930-0.507645I$ $b=2.77876+0.72430I$	$0.84448+13.15870I$	0
$u=0.683065-1.144690I$ $a=1.021930+0.507645I$ $b=2.77876-0.72430I$	$0.84448-13.15870I$	0
$u=-0.011997+1.337920I$ $a=0.473575+0.870417I$ $b=0.904012-0.052590I$	$-4.85156-12.88550I$	0
$u=-0.011997-1.337920I$ $a=0.473575-0.870417I$ $b=0.904012+0.052590I$	$-4.85156+12.88550I$	0
$u=0.795750+1.076950I$ $a=0.453998-0.341801I$ $b=2.07265+1.36340I$	$-1.73246+7.64738I$	0
$u=0.795750-1.076950I$ $a=0.453998+0.341801I$ $b=2.07265-1.36340I$	$-1.73246-7.64738I$	0
$u=0.689101+1.149560I$ $a=-0.957485+0.548972I$ $b=-2.74510-0.77034I$	$-0.0347+21.7552I$	0
$u=0.689101-1.149560I$ $a=-0.957485-0.548972I$ $b=-2.74510+0.77034I$	$-0.0347-21.7552I$	0
$u=-0.302432+0.585478I$ $a=1.10025+1.28037I$ $b=0.208769-0.589069I$	$2.21685-0.27704I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.302432-0.585478I$ $a=\ \ 1.10025-1.28037I$ $b=\ \ 0.208769+0.589069I$	$2.21685+0.27704I$	0
$u=-0.663650+1.173940I$ $a=\ \ 0.385926-1.135850I$ $b=-0.079912-1.291430I$	$-0.88157-5.29201I$	0
$u=-0.663650-1.173940I$ $a=\ \ 0.385926+1.135850I$ $b=-0.079912+1.291430I$	$-0.88157+5.29201I$	0
$u=\ \ 0.007816+0.648581I$ $a=\ \ 1.30359-0.66834I$ $b=-0.043798-0.601479I$	$-2.27512-2.21314I$	0
$u=\ \ 0.007816-0.648581I$ $a=\ \ 1.30359+0.66834I$ $b=-0.043798+0.601479I$	$-2.27512+2.21314I$	0
$u=\ \ 0.590825+0.260170I$ $a=\ \ 0.609156-0.817765I$ $b=-0.097621-0.362191I$	$-1.22062-3.32173I$	0
$u=\ \ 0.590825-0.260170I$ $a=\ \ 0.609156+0.817765I$ $b=-0.097621+0.362191I$	$-1.22062+3.32173I$	0
$u=-0.751966+1.144240I$ $a=-0.800855-0.550420I$ $b=-2.16653+0.64148I$	$0.35416-7.94670I$	0
$u=-0.751966-1.144240I$ $a=-0.800855+0.550420I$ $b=-2.16653-0.64148I$	$0.35416+7.94670I$	0
$u=-0.669018+1.195780I$ $a=\ \ 0.731300+0.562220I$ $b=\ \ 2.54298-0.53479I$	$3.04062-12.41580I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.669018-1.195780I$ $a=\ 0.731300-0.562220I$ $b=\ 2.54298+0.53479I$	$3.04062+12.41580I$	0
$u=-0.608480+0.129415I$ $a=\ 1.35924+0.77725I$ $b=\ 1.219550+0.108287I$	$0.707710-0.732729I$	0
$u=-0.608480-0.129415I$ $a=\ 1.35924-0.77725I$ $b=\ 1.219550-0.108287I$	$0.707710+0.732729I$	0
$u=\ 0.58282+1.30799I$ $a=-0.349667+0.448965I$ $b=-1.97684-0.84151I$	$-1.266420+0.442397I$	0
$u=\ 0.58282-1.30799I$ $a=-0.349667-0.448965I$ $b=-1.97684+0.84151I$	$-1.266420-0.442397I$	0
$u=\ 0.023627+0.552633I$ $a=-0.83121-1.59692I$ $b=-0.517206-0.709252I$	$-0.92996-3.40337I$	$-1.34435+7.86126I$
$u=\ 0.023627-0.552633I$ $a=-0.83121+1.59692I$ $b=-0.517206+0.709252I$	$-0.92996+3.40337I$	$-1.34435-7.86126I$
$u=-0.44020+1.41329I$ $a=\ 0.006174+0.711447I$ $b=-0.020520-0.319175I$	$-0.31191+1.82866I$	0
$u=-0.44020-1.41329I$ $a=\ 0.006174-0.711447I$ $b=-0.020520+0.319175I$	$-0.31191-1.82866I$	0
$u=\ 0.418934+0.017977I$ $a=\ 1.103930-0.680406I$ $b=-0.463275-0.008875I$	$-1.67984+0.08020I$	$-5.56551+0.56052I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.418934 - 0.017977I$ $a = 1.103930 + 0.680406I$ $b = -0.463275 + 0.008875I$	$-1.67984 - 0.08020I$	$-5.56551 - 0.56052I$
$u = -0.310159 + 0.041589I$ $a = -4.05023 + 1.09117I$ $b = 0.319887 + 0.028448I$	$0.52646 - 7.49728I$	$-1.09930 + 6.23030I$
$u = -0.310159 - 0.041589I$ $a = -4.05023 - 1.09117I$ $b = 0.319887 - 0.028448I$	$0.52646 + 7.49728I$	$-1.09930 - 6.23030I$
$u = 2.46294$ $a = -0.344824$ $b = -3.18833$	-0.405902	0

II.

$\boldsymbol{I_2^u = \langle 1.01\times 10^{22}u^{43}-2.01\times 10^{22}u^{42}+\cdots+3.02\times 10^{21}b-9.17\times 10^{21},\ -6.80\times 10^{21}u^{43}+1.05\times 10^{22}u^{42}+\cdots+3.02\times 10^{21}a-1.47\times 10^{22},\ u^{44}-u^{43}+\cdots-5u+1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 2.25485u^{43} - 3.46710u^{42} + \cdots - 17.5762u + 4.85688 \\ -3.36364u^{43} + 6.65789u^{42} + \cdots - 18.9533u + 3.04110 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -5.67860u^{43} - 0.875500u^{42} + \cdots + 48.3036u - 12.8876 \\ -4.89862u^{43} + 2.28005u^{42} + \cdots + 2.94099u - 1.42924 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -9.14611u^{43} + 2.97309u^{42} + \cdots + 43.5343u - 11.5165 \\ -1.29436u^{43} + 5.79279u^{42} + \cdots - 23.6669u + 5.30669 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -14.8013u^{43} + 11.0195u^{42} + \cdots - 12.1993u - 4.37607 \\ -0.140851u^{43} + 8.66600u^{42} + \cdots - 51.1072u + 11.0495 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -8.02296u^{43} + 3.95199u^{42} + \cdots + 32.0598u - 9.40105 \\ -0.634632u^{43} + 5.66057u^{42} + \cdots - 25.7543u + 5.32004 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 7.73601u^{43} - 17.3955u^{42} + \cdots + 72.9804u - 16.7135 \\ -6.87700u^{43} - 0.695347u^{42} + \cdots + 32.0321u - 7.71159 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -11.5792u^{43} + 0.144119u^{42} + \cdots - 14.8593u + 2.06672 \\ -14.3015u^{43} + 14.2403u^{42} + \cdots - 43.7714u + 6.55121 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{1957481724339965734 2119}{6895586047673185116 00}u^{43} + \frac{2326857481616711218273}{13791172095346370232 00}u^{42} + \cdots + \frac{2815344357111933068603}{172389651191829627900}u - \frac{1432523817522283799 4799}{13791172095346370232 00}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{44} - 15u^{43} + \cdots - 25u + 1$
c_2	$u^{44} - u^{43} + \cdots - 5u + 1$
c_3	$16(16u^{44} - 332u^{43} + \cdots - 56u + 1)$
c_4	$4(4u^{44} + 6u^{43} + \cdots - 5u + 1)$
c_5	$u^{44} + u^{43} + \cdots - 6u + 4$
c_6	$u^{44} - u^{43} + \cdots + 396u - 16$
c_7	$4(4u^{44} - 14u^{43} + \cdots - 3u + 1)$
c_8	$u^{44} + u^{43} + \cdots + 5u + 1$
c_9	$u^{44} - 2u^{43} + \cdots - 9u + 1$
c_{10}	$4(4u^{44} + 14u^{43} + \cdots + 3u + 1)$
c_{11}	$4(4u^{44} - 6u^{43} + \cdots - 7u + 1)$
c_{12}	$u^{44} + 4u^{43} + \cdots + 90u + 20$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{44} - 37y^{43} + \cdots + 65y + 1$
c_2, c_8	$y^{44} + 15y^{43} + \cdots + 25y + 1$
c_3	$256(256y^{44} + 528y^{43} + \cdots - 2084y + 1)$
c_4	$16(16y^{44} - 428y^{43} + \cdots - 5y + 1)$
c_5	$y^{44} + 23y^{43} + \cdots + 212y + 16$
c_6	$y^{44} - y^{43} + \cdots - 204208y + 256$
c_7, c_{10}	$16(16y^{44} - 476y^{43} + \cdots - 49y + 1)$
c_9	$y^{44} - 8y^{43} + \cdots - 15y + 1$
c_{11}	$16(16y^{44} - 204y^{43} + \cdots + 31y + 1)$
c_{12}	$y^{44} - 18y^{43} + \cdots - 140y + 400$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.371271+0.933564I$ $a=-0.099128-0.465904I$ $b=\ \ 2.84323-1.88270I$	$-4.39505-5.78473I$	$-11.15280+3.29334I$
$u=-0.371271-0.933564I$ $a=-0.099128+0.465904I$ $b=\ \ 2.84323+1.88270I$	$-4.39505+5.78473I$	$-11.15280-3.29334I$
$u=-0.868502+0.533585I$ $a=-0.706178-0.924831I$ $b=-1.69870+0.84444I$	$2.60962+5.47274I$	$4.26679-4.58610I$
$u=-0.868502-0.533585I$ $a=-0.706178+0.924831I$ $b=-1.69870-0.84444I$	$2.60962-5.47274I$	$4.26679+4.58610I$
$u=-0.452736+0.868555I$ $a=-0.04550+1.83793I$ $b=\ \ 1.51191+0.30358I$	$-1.55866-2.24862I$	$-12.7586-20.0641I$
$u=-0.452736-0.868555I$ $a=-0.04550-1.83793I$ $b=\ \ 1.51191-0.30358I$	$-1.55866+2.24862I$	$-12.7586+20.0641I$
$u=\ \ 0.218616+0.937994I$ $a=-1.060670-0.020861I$ $b=-0.720226-1.049790I$	$-5.65782+0.92627I$	$-9.42065+0.34783I$
$u=\ \ 0.218616-0.937994I$ $a=-1.060670+0.020861I$ $b=-0.720226+1.049790I$	$-5.65782-0.92627I$	$-9.42065-0.34783I$
$u=\ \ 0.174515+0.945323I$ $a=-0.241156-1.038890I$ $b=-1.21511-0.87280I$	$-1.87721-2.59071I$	$-5.99214+6.08300I$
$u=\ \ 0.174515-0.945323I$ $a=-0.241156+1.038890I$ $b=-1.21511+0.87280I$	$-1.87721+2.59071I$	$-5.99214-6.08300I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.355529+0.865307I$ $a=\ \ 0.218949+0.469629I$ $b=-3.26235+1.87875I$	$-4.13022+2.75542I$	$-11.05917-8.02015I$
$u=-0.355529-0.865307I$ $a=\ \ 0.218949-0.469629I$ $b=-3.26235-1.87875I$	$-4.13022-2.75542I$	$-11.05917+8.02015I$
$u=-0.307190+1.043970I$ $a=-0.656067-0.603154I$ $b=-1.69247+0.58083I$	$-1.89832-0.93506I$	$-3.46243-1.16252I$
$u=-0.307190-1.043970I$ $a=-0.656067+0.603154I$ $b=-1.69247-0.58083I$	$-1.89832+0.93506I$	$-3.46243+1.16252I$
$u=\ \ 1.109030+0.023537I$ $a=\ \ 1.305070+0.358454I$ $b=\ \ 1.151150-0.039712I$	$2.27428+0.23897I$	$1.9428-36.9515I$
$u=\ \ 1.109030-0.023537I$ $a=\ \ 1.305070-0.358454I$ $b=\ \ 1.151150+0.039712I$	$2.27428-0.23897I$	$1.9428+36.9515I$
$u=\ \ 0.473966+1.010740I$ $a=\ \ 0.910847-0.614564I$ $b=\ \ 2.09370-0.43101I$	$-0.68850+10.29750I$	$0.-8.49978I$
$u=\ \ 0.473966-1.010740I$ $a=\ \ 0.910847+0.614564I$ $b=\ \ 2.09370+0.43101I$	$-0.68850-10.29750I$	$0.+8.49978I$
$u=\ \ 0.802383+0.802035I$ $a=-1.062650+0.499433I$ $b=-1.70674-0.95326I$	$2.05590+8.97245I$	$0.-8.67985I$
$u=\ \ 0.802383-0.802035I$ $a=-1.062650-0.499433I$ $b=-1.70674+0.95326I$	$2.05590-8.97245I$	$0.+8.67985I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.835861 + 0.208687I$ $a = 0.776714 - 0.208780I$ $b = 0.603861 - 0.025373I$	$-0.37503 - 3.25751I$	$11.25288 + 2.29185I$
$u = 0.835861 - 0.208687I$ $a = 0.776714 + 0.208780I$ $b = 0.603861 + 0.025373I$	$-0.37503 + 3.25751I$	$11.25288 - 2.29185I$
$u = 0.316288 + 1.097140I$ $a = -0.497260 + 0.816498I$ $b = -0.364683 + 0.812795I$	$-2.72758 + 4.24508I$	$-7.33429 - 7.84499I$
$u = 0.316288 - 1.097140I$ $a = -0.497260 - 0.816498I$ $b = -0.364683 - 0.812795I$	$-2.72758 - 4.24508I$	$-7.33429 + 7.84499I$
$u = 0.403585 + 0.739424I$ $a = 0.02273 + 1.58547I$ $b = 0.068795 - 0.716328I$	$0.33847 - 6.63406I$	$0.226294 + 0.452560I$
$u = 0.403585 - 0.739424I$ $a = 0.02273 - 1.58547I$ $b = 0.068795 + 0.716328I$	$0.33847 + 6.63406I$	$0.226294 - 0.452560I$
$u = -0.107452 + 1.173490I$ $a = -0.359808 + 0.895446I$ $b = -0.757067 - 0.406223I$	$-3.22800 + 3.49556I$	0
$u = -0.107452 - 1.173490I$ $a = -0.359808 - 0.895446I$ $b = -0.757067 + 0.406223I$	$-3.22800 - 3.49556I$	0
$u = 0.277229 + 1.176580I$ $a = -0.314237 + 0.477764I$ $b = -0.624124 + 0.497374I$	$-4.90361 + 0.13214I$	0
$u = 0.277229 - 1.176580I$ $a = -0.314237 - 0.477764I$ $b = -0.624124 - 0.497374I$	$-4.90361 - 0.13214I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.706437+1.016640I$ $a=\ \ 0.319055+0.396149I$ $b=\ \ 2.41021-0.70285I$	$-1.66785-7.09621I$	0
$u=-0.706437-1.016640I$ $a=\ \ 0.319055-0.396149I$ $b=\ \ 2.41021+0.70285I$	$-1.66785+7.09621I$	0
$u=\ \ 0.529888+1.151810I$ $a=-0.190266+0.360941I$ $b=-0.272936+0.239619I$	$-3.18849+8.15001I$	0
$u=\ \ 0.529888-1.151810I$ $a=-0.190266-0.360941I$ $b=-0.272936-0.239619I$	$-3.18849-8.15001I$	0
$u=-0.719486$ $a=-1.28881$ $b=-1.41026$	0.187258	-3.38030
$u=-0.676477+1.109260I$ $a=\ \ 0.798955+0.564107I$ $b=\ \ 2.61510-0.97587I$	$0.83742-11.23100I$	0
$u=-0.676477-1.109260I$ $a=\ \ 0.798955-0.564107I$ $b=\ \ 2.61510+0.97587I$	$0.83742+11.23100I$	0
$u=\ \ 0.630477+1.183860I$ $a=\ \ 0.275986+1.116660I$ $b=-0.184637+1.277250I$	$-0.98028+5.33973I$	0
$u=\ \ 0.630477-1.183860I$ $a=\ \ 0.275986-1.116660I$ $b=-0.184637-1.277250I$	$-0.98028-5.33973I$	0
$u=-0.027364+0.496956I$ $a=-1.03990-1.18738I$ $b=\ \ 0.186667-1.284300I$	$0.54351-4.23477I$	$-0.19384+8.79344I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.027364-0.496956I$ $a=-1.03990+1.18738I$ $b=\ \ 0.186667+1.284300I$	$0.54351+4.23477I$	$-0.19384-8.79344I$
$u=\ \ 0.202704+0.285915I$ $a=\ \ 2.71010-1.82204I$ $b=-0.425693-0.197579I$	$2.40743-0.47915I$	$4.78621+4.22275I$
$u=\ \ 0.202704-0.285915I$ $a=\ \ 2.71010+1.82204I$ $b=-0.425693+0.197579I$	$2.40743+0.47915I$	$4.78621-4.22275I$
$u=-2.48368$ $a=-0.342364$ $b=-3.20953$	-0.405145	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{44}-15u^{43}+\cdots-25u+1)$ $\cdot(u^{194}+76u^{193}+\cdots+17206220u+1442401)$
c_2	$(u^{44}-u^{43}+\cdots-5u+1)(u^{194}+4u^{193}+\cdots+2190u+1201)$
c_3	$256(16u^{44}-332u^{43}+\cdots-56u+1)(16u^{194}+316u^{193}+\cdots-5u+1)$
c_4	$16(4u^{44}+6u^{43}+\cdots-5u+1)(4u^{194}+6u^{193}+\cdots-180u+5)$
c_5	$(u^{44}+u^{43}+\cdots-6u+4)$ $\cdot(u^{194}-4u^{193}+\cdots+223613010u+9397652)$
c_6	$(u^{44}-u^{43}+\cdots+396u-16)(u^{194}+4u^{192}+\cdots+535380u+59536)$
c_7	$16(4u^{44}-14u^{43}+\cdots-3u+1)(4u^{194}+10u^{193}+\cdots-2u+1)$
c_8	$(u^{44}+u^{43}+\cdots+5u+1)(u^{194}+4u^{193}+\cdots+2190u+1201)$
c_9	$(u^{44}-2u^{43}+\cdots-9u+1)(u^{194}-19u^{193}+\cdots-8u+1)$
c_{10}	$16(4u^{44}+14u^{43}+\cdots+3u+1)(4u^{194}+10u^{193}+\cdots-2u+1)$
c_{11}	$16(4u^{44}-6u^{43}+\cdots-7u+1)(4u^{194}+30u^{193}+\cdots-60u+1)$
c_{12}	$(u^{44}+4u^{43}+\cdots+90u+20)$ $\cdot(u^{194}+9u^{193}+\cdots+38561386u+5467612)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{44} - 37y^{43} + \cdots + 65y + 1)$ $\cdot (y^{194} + 20y^{193} + \cdots - 483570365808132y + 2080520644801)$
c_2, c_8	$(y^{44} + 15y^{43} + \cdots + 25y + 1)$ $\cdot (y^{194} + 76y^{193} + \cdots + 17206220y + 1442401)$
c_3	$65536(256y^{44} + 528y^{43} + \cdots - 2084y + 1)$ $\cdot (256y^{194} - 7920y^{193} + \cdots - 805y + 1)$
c_4	$256(16y^{44} - 428y^{43} + \cdots - 5y + 1)$ $\cdot (16y^{194} - 476y^{193} + \cdots + 350y + 25)$
c_5	$(y^{44} + 23y^{43} + \cdots + 212y + 16)$ $\cdot (y^{194} + 56y^{193} + \cdots - 15147856641788764y + 88315863113104)$
c_6	$(y^{44} - y^{43} + \cdots - 204208y + 256)$ $\cdot (y^{194} + 8y^{193} + \cdots - 1377094192048y + 3544535296)$
c_7, c_{10}	$256(16y^{44} - 476y^{43} + \cdots - 49y + 1)$ $\cdot (16y^{194} - 1740y^{193} + \cdots - 54y + 1)$
c_9	$(y^{44} - 8y^{43} + \cdots - 15y + 1)(y^{194} - 27y^{193} + \cdots + 176y + 1)$
c_{11}	$256(16y^{44} - 204y^{43} + \cdots + 31y + 1)$ $\cdot (16y^{194} - 188y^{193} + \cdots - 218y + 1)$
c_{12}	$(y^{44} - 18y^{43} + \cdots - 140y + 400)$ $\cdot (y^{194} + 27y^{193} + \cdots + 83542449688324y + 29894780982544)$