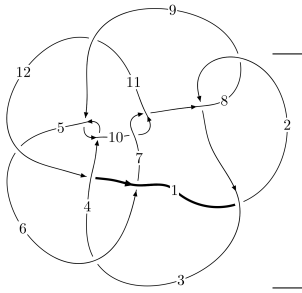
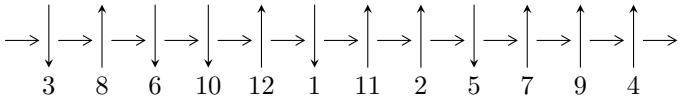
$12a_{0698}$ $(K12a_{0698})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -5.93801 \times 10^{1004} u^{165} - 6.10876 \times 10^{1004} u^{164} + \cdots + 4.43418 \times 10^{1003} b + 4.56960 \times 10^{1008}, \\ & 1.93137 \times 10^{1009} u^{165} + 1.57216 \times 10^{1009} u^{164} + \cdots + 1.53746 \times 10^{1008} a - 9.46926 \times 10^{1012}, \\ & 3u^{166} + u^{165} + \cdots + 158795u - 34673 \rangle \\ I_2^u = \langle & -3.22786 \times 10^{28} u^{40} - 2.94202 \times 10^{28} u^{39} + \cdots + 7.20126 \times 10^{23} b + 7.42965 \times 10^{27}, \\ & 2.04412 \times 10^{29} u^{40} + 2.34054 \times 10^{29} u^{39} + \cdots + 7.20126 \times 10^{23} a - 2.07039 \times 10^{28}, \ 3u^{41} + 4u^{40} + \cdots - 2u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 207 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. $\boldsymbol{I_1^u = \langle -5.94 \times 10^{1004} u^{165} - 6.11 \times 10^{1004} u^{164} + \cdots + 4.43 \times 10^{1003} b + 4.57 \times 10^{1008},\ 1.93 \times 10^{1009} u^{165} + 1.57 \times 10^{1009} u^{164} + \cdots + 1.54 \times 10^{1008} a - 9.47 \times 10^{1012},\ 3u^{166} + u^{165} + \cdots + 158795u - 34673 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -12.5620u^{165} - 10.2257u^{164} + \cdots - 115249.u + 61590.1 \\ 13.3914u^{165} + 13.7765u^{164} + \cdots + 297471.u - 103054. \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 4.50111u^{165} + 9.08946u^{164} + \cdots + 312445.u - 81523.8 \\ 4.18966u^{165} - 1.18288u^{164} + \cdots - 208987.u + 35460.0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.829406u^{165} + 3.55083u^{164} + \cdots + 182221.u - 41463.9 \\ 13.3914u^{165} + 13.7765u^{164} + \cdots + 297471.u - 103054. \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 8.10917u^{165} + 8.55775u^{164} + \cdots + 182756.u - 62856.9 \\ 1.44500u^{165} + 2.27183u^{164} + \cdots + 100018.u - 24448.9 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 3.72196u^{165} - 8.01983u^{164} + \cdots - 578450.u + 117911. \\ -6.77876u^{165} - 8.62088u^{164} + \cdots - 238138.u + 71425.4 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0.840773u^{165} + 3.51002u^{164} + \cdots + 177388.u - 40546.1 \\ 15.0557u^{165} + 14.0762u^{164} + \cdots + 254436.u - 98072.5 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 6.77989u^{165} + 11.7779u^{164} + \cdots + 387456.u - 104685. \\ 5.30148u^{165} - 2.53704u^{164} + \cdots - 323400.u + 58111.5 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -6.11877u^{165} + 0.116900u^{164} + \cdots + 211422.u - 31703.0 \\ 2.04072u^{165} + 3.41291u^{164} + \cdots + 108062.u - 29669.1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.35284u^{165} + 5.59579u^{164} + \cdots + 185940.u - 52310.4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$9(9u^{166}+548u^{165}+\cdots+1674688u+37249)$
c_2, c_8	$3(3u^{166}+10u^{165}+\cdots-72u-193)$
c_3	$u^{166}-26u^{165}+\cdots-3326078u+219087$
c_4, c_9	$3(3u^{166}+u^{165}+\cdots+158795u-34673)$
c_5	$u^{166}+u^{165}+\cdots+3422516u-262817$
c_6	$u^{166}+2u^{165}+\cdots+2824430u+436239$
c_7, c_{10}	$u^{166}-49u^{164}+\cdots+2520956u+2425663$
c_{11}	$u^{166}+9u^{165}+\cdots+3480001987u+3246415791$
c_{12}	$9(9u^{166}+98u^{165}+\cdots-12u-1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$81(81y^{166} + 5408y^{165} + \cdots - 2.42908 \times 10^{11}y + 1.38749 \times 10^9)$
c_2, c_8	$9(9y^{166} + 548y^{165} + \cdots + 1674688y + 37249)$
c_3	$y^{166} - 4y^{165} + \cdots + 1995653540696y + 47999113569$
c_4, c_9	$9(9y^{166} + 1043y^{165} + \cdots + 3.28301 \times 10^{10}y + 1.20222 \times 10^9)$
c_5	$y^{166} - 27y^{165} + \cdots + 21178704987358y + 69072775489$
c_6	$y^{166} + 34y^{165} + \cdots + 7330681481006y + 190304465121$
c_7, c_{10}	$y^{166} - 98y^{165} + \cdots + 164556690192526y + 5883840989569$
c_{11}	$y^{166} - 69y^{165} + \cdots - 4.67 \times 10^{20}y + 1.05 \times 10^{19}$
c_{12}	$81(81y^{166} - 2044y^{165} + \cdots + 118y + 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.448185+0.894932I$ $a=\ \ 2.49663-0.47452I$ $b=-1.38436-0.77923I$	$2.42095+10.29690I$	0
$u=-0.448185-0.894932I$ $a=\ \ 2.49663+0.47452I$ $b=-1.38436+0.77923I$	$2.42095-10.29690I$	0
$u=-0.242605+0.974518I$ $a=\ \ 2.69617+0.37041I$ $b=-1.67458-1.36534I$	$-0.32447+3.71499I$	0
$u=-0.242605-0.974518I$ $a=\ \ 2.69617-0.37041I$ $b=-1.67458+1.36534I$	$-0.32447-3.71499I$	0
$u=\ \ 0.029029+0.990881I$ $a=\ \ 0.09091+1.85495I$ $b=-0.014668+0.843715I$	$-0.16410-2.59463I$	0
$u=\ \ 0.029029-0.990881I$ $a=\ \ 0.09091-1.85495I$ $b=-0.014668-0.843715I$	$-0.16410+2.59463I$	0
$u=\ \ 0.082464+0.984904I$ $a=-0.1156355+0.0157277I$ $b=\ \ 0.304104-1.321090I$	$2.53184-2.60316I$	0
$u=\ \ 0.082464-0.984904I$ $a=-0.1156355-0.0157277I$ $b=\ \ 0.304104+1.321090I$	$2.53184+2.60316I$	0
$u=\ \ 0.027624+0.970485I$ $a=\ \ 0.038744+0.780028I$ $b=-0.33961-1.73805I$	$-1.11542-1.19066I$	0
$u=\ \ 0.027624-0.970485I$ $a=\ \ 0.038744-0.780028I$ $b=-0.33961+1.73805I$	$-1.11542+1.19066I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.620419+0.736789I$ $a=\ \ 0.153850-0.200517I$ $b=\ \ 0.171744+0.401489I$	$0.20448+1.78532I$	0
$u=-0.620419-0.736789I$ $a=\ \ 0.153850+0.200517I$ $b=\ \ 0.171744-0.401489I$	$0.20448-1.78532I$	0
$u=-0.936987+0.205652I$ $a=-0.022756+0.192563I$ $b=-0.662032+0.927484I$	$-4.24556-2.17045I$	0
$u=-0.936987-0.205652I$ $a=-0.022756-0.192563I$ $b=-0.662032-0.927484I$	$-4.24556+2.17045I$	0
$u=\ \ 0.042824+0.954124I$ $a=\ \ 1.97457-1.33109I$ $b=-1.17101+1.26858I$	$-1.085300+0.725929I$	0
$u=\ \ 0.042824-0.954124I$ $a=\ \ 1.97457+1.33109I$ $b=-1.17101-1.26858I$	$-1.085300-0.725929I$	0
$u=\ \ 0.732322+0.609440I$ $a=-1.13166-1.23422I$ $b=-0.334025-1.146573I$	$3.15263-7.69653I$	0
$u=\ \ 0.732322-0.609440I$ $a=-1.13166+1.23422I$ $b=-0.334025+1.146573I$	$3.15263+7.69653I$	0
$u=-0.306864+1.006208I$ $a=\ \ 0.843855-0.945019I$ $b=-0.463523-0.861437I$	$-0.28737+5.26850I$	0
$u=-0.306864-1.006208I$ $a=\ \ 0.843855+0.945019I$ $b=-0.463523+0.861437I$	$-0.28737-5.26850I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.591594 + 0.877929I$ $a = -1.142456 - 0.390484I$ $b = 0.803497 - 0.899071I$	$2.43411 - 5.62029I$	0
$u = 0.591594 - 0.877929I$ $a = -1.142456 + 0.390484I$ $b = 0.803497 + 0.899071I$	$2.43411 + 5.62029I$	0
$u = -0.271280 + 1.024509I$ $a = 1.169069 + 0.034547I$ $b = -0.354249 - 0.155729I$	$0.71103 + 1.78081I$	0
$u = -0.271280 - 1.024509I$ $a = 1.169069 - 0.034547I$ $b = -0.354249 + 0.155729I$	$0.71103 - 1.78081I$	0
$u = 0.076302 + 0.928889I$ $a = -1.06699 + 1.52148I$ $b = 0.0647555 - 0.1176325I$	$-0.19788 + 2.15408I$	0
$u = 0.076302 - 0.928889I$ $a = -1.06699 - 1.52148I$ $b = 0.0647555 + 0.1176325I$	$-0.19788 - 2.15408I$	0
$u = -0.387426 + 0.842987I$ $a = 0.0523906 + 0.0965007I$ $b = 0.127279 + 0.401261I$	$0.20278 + 1.72610I$	0
$u = -0.387426 - 0.842987I$ $a = 0.0523906 - 0.0965007I$ $b = 0.127279 - 0.401261I$	$0.20278 - 1.72610I$	0
$u = 0.873184 + 0.299580I$ $a = -0.383994 + 0.137709I$ $b = -0.484781 + 0.649363I$	$-3.60365 - 5.60521I$	0
$u = 0.873184 - 0.299580I$ $a = -0.383994 - 0.137709I$ $b = -0.484781 - 0.649363I$	$-3.60365 + 5.60521I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.146459 + 1.069029I$ $a = \quad 1.99838 - 0.73279I$ $b = -1.34690 + 0.91318I$	$1.05603 - 7.10054I$	0
$u = \quad 0.146459 - 1.069029I$ $a = \quad 1.99838 + 0.73279I$ $b = -1.34690 - 0.91318I$	$1.05603 + 7.10054I$	0
$u = \quad 0.474367 + 0.971148I$ $a = -2.31065 - 0.43014I$ $b = \quad 1.26168 - 0.84363I$	$3.50302 - 5.39022I$	0
$u = \quad 0.474367 - 0.971148I$ $a = -2.31065 + 0.43014I$ $b = \quad 1.26168 + 0.84363I$	$3.50302 + 5.39022I$	0
$u = -0.914242 + 0.062247I$ $a = \quad 0.259072 - 0.295365I$ $b = -0.678081 - 0.963901I$	$-0.42502 + 8.47270I$	0
$u = -0.914242 - 0.062247I$ $a = \quad 0.259072 + 0.295365I$ $b = -0.678081 + 0.963901I$	$-0.42502 - 8.47270I$	0
$u = -0.070987 + 1.090673I$ $a = -1.80924 - 0.83794I$ $b = \quad 1.20315 + 0.92324I$	$3.52367 + 2.23626I$	0
$u = -0.070987 - 1.090673I$ $a = -1.80924 + 0.83794I$ $b = \quad 1.20315 - 0.92324I$	$3.52367 - 2.23626I$	0
$u = -0.600344 + 0.678171I$ $a = \quad 0.376329 - 0.501686I$ $b = -0.959335 + 1.038481I$	$1.81149 - 6.08930I$	0
$u = -0.600344 - 0.678171I$ $a = \quad 0.376329 + 0.501686I$ $b = -0.959335 - 1.038481I$	$1.81149 + 6.08930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.215468 + 1.086565I$ $a = 0.002641 - 1.176387I$ $b = 0.205218 - 0.872507I$	$5.93187 - 4.58568I$	0
$u = 0.215468 - 1.086565I$ $a = 0.002641 + 1.176387I$ $b = 0.205218 + 0.872507I$	$5.93187 + 4.58568I$	0
$u = 0.862802 + 0.700688I$ $a = 0.228193 - 0.468293I$ $b = 0.428888 + 0.517607I$	$1.66600 + 0.35256I$	0
$u = 0.862802 - 0.700688I$ $a = 0.228193 + 0.468293I$ $b = 0.428888 - 0.517607I$	$1.66600 - 0.35256I$	0
$u = -0.238710 + 1.093908I$ $a = 0.141706 - 1.387120I$ $b = -0.237581 - 0.811736I$	$5.07541 + 10.34460I$	0
$u = -0.238710 - 1.093908I$ $a = 0.141706 + 1.387120I$ $b = -0.237581 + 0.811736I$	$5.07541 - 10.34460I$	0
$u = 1.12548$ $a = 0.340024$ $b = -0.285517$	2.56754	0
$u = -1.027901 + 0.459441I$ $a = -0.232635 - 0.165502I$ $b = -0.604673 + 0.741566I$	$0.06352 + 4.52538I$	0
$u = -1.027901 - 0.459441I$ $a = -0.232635 + 0.165502I$ $b = -0.604673 - 0.741566I$	$0.06352 - 4.52538I$	0
$u = 0.617295 + 0.594949I$ $a = -0.290771 - 0.336423I$ $b = 0.916716 + 0.995629I$	$2.40378 + 1.08400I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.617295 - 0.594949I$ $a = -0.290771 + 0.336423I$ $b = 0.916716 - 0.995629I$	$2.40378 - 1.08400I$	0
$u = 0.681195 + 0.517309I$ $a = 0.619353 - 0.571242I$ $b = 0.553877 + 0.376799I$	$1.74384 + 0.40504I$	0
$u = 0.681195 - 0.517309I$ $a = 0.619353 + 0.571242I$ $b = 0.553877 - 0.376799I$	$1.74384 - 0.40504I$	0
$u = 0.228471 + 0.821072I$ $a = -2.40118 + 0.11987I$ $b = 0.066724 - 0.342117I$	$-2.75019 - 3.06768I$	0
$u = 0.228471 - 0.821072I$ $a = -2.40118 - 0.11987I$ $b = 0.066724 + 0.342117I$	$-2.75019 + 3.06768I$	0
$u = 0.190536 + 1.141965I$ $a = -1.34267 - 0.90127I$ $b = 1.048590 + 0.778759I$	$5.73230 - 0.49141I$	0
$u = 0.190536 - 1.141965I$ $a = -1.34267 + 0.90127I$ $b = 1.048590 - 0.778759I$	$5.73230 + 0.49141I$	0
$u = 0.203687 + 0.817190I$ $a = 0.265312 + 1.347979I$ $b = -0.009909 + 0.924173I$	$-2.91919 + 0.68991I$	0
$u = 0.203687 - 0.817190I$ $a = 0.265312 - 1.347979I$ $b = -0.009909 - 0.924173I$	$-2.91919 - 0.68991I$	0
$u = -0.060223 + 1.164134I$ $a = 1.284188 + 0.281432I$ $b = -0.51405 - 1.40896I$	$7.93477 - 0.69221I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.060223-1.164134I$ $a=\ \ 1.284188-0.281432I$ $b=-0.51405+1.40896I$	$7.93477+0.69221I$	0
$u=-0.557267+1.026172I$ $a=\ \ 1.288995-0.377878I$ $b=-0.930748-0.825516I$	$1.99183+1.00401I$	0
$u=-0.557267-1.026172I$ $a=\ \ 1.288995+0.377878I$ $b=-0.930748+0.825516I$	$1.99183-1.00401I$	0
$u=-0.534286+1.038979I$ $a=\ \ 1.60240-0.74915I$ $b=-0.655237-0.958567I$	$2.93870+1.12688I$	0
$u=-0.534286-1.038979I$ $a=\ \ 1.60240+0.74915I$ $b=-0.655237+0.958567I$	$2.93870-1.12688I$	0
$u=-0.046916+0.829027I$ $a=\ \ 0.957981+0.292202I$ $b=-0.74295-1.33646I$	$-0.30293+6.43681I$	0
$u=-0.046916-0.829027I$ $a=\ \ 0.957981-0.292202I$ $b=-0.74295+1.33646I$	$-0.30293-6.43681I$	0
$u=-0.264341+1.149304I$ $a=\ \ 1.28218-0.88736I$ $b=-1.126059+0.739347I$	$4.64045+6.06656I$	0
$u=-0.264341-1.149304I$ $a=\ \ 1.28218+0.88736I$ $b=-1.126059-0.739347I$	$4.64045-6.06656I$	0
$u=-0.346004+0.742861I$ $a=\ \ 0.086740-1.148537I$ $b=-0.88958+1.31799I$	$-0.92183-1.13250I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.346004-0.742861I$ $a=\ \ 0.086740+1.148537I$ $b=-0.88958-1.31799I$	$-0.92183+1.13250I$	0
$u=\ \ 0.401528+1.116657I$ $a=-1.98997-0.10131I$ $b=\ \ 1.12130-1.10072I$	$3.06095-6.19234I$	0
$u=\ \ 0.401528-1.116657I$ $a=-1.98997+0.10131I$ $b=\ \ 1.12130+1.10072I$	$3.06095+6.19234I$	0
$u=\ \ 0.317069+0.747340I$ $a=-1.14247-1.99034I$ $b=\ \ 0.202394+0.420897I$	$5.75829+0.21644I$	0
$u=\ \ 0.317069-0.747340I$ $a=-1.14247+1.99034I$ $b=\ \ 0.202394-0.420897I$	$5.75829-0.21644I$	0
$u=\ \ 0.114182+1.184578I$ $a=-1.49405+0.31447I$ $b=\ \ 0.68863-1.39879I$	$7.90958-5.38606I$	0
$u=\ \ 0.114182-1.184578I$ $a=-1.49405-0.31447I$ $b=\ \ 0.68863+1.39879I$	$7.90958+5.38606I$	0
$u=-0.314627+0.737087I$ $a=\ \ 1.49494-1.68840I$ $b=-0.105188+0.453919I$	$5.26774+5.47721I$	0
$u=-0.314627-0.737087I$ $a=\ \ 1.49494+1.68840I$ $b=-0.105188-0.453919I$	$5.26774-5.47721I$	0
$u=\ \ 0.531591+1.094841I$ $a=-1.81374-0.54647I$ $b=\ \ 0.929079-0.958393I$	$3.75312-6.57195I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.531591 - 1.094841I$ $a = -1.81374 + 0.54647I$ $b = 0.929079 + 0.958393I$	$3.75312 + 6.57195I$	0
$u = 1.220878 + 0.145006I$ $a = 0.019639 - 0.161767I$ $b = -1.004585 - 0.913813I$	$4.1100 + 14.1102I$	0
$u = 1.220878 - 0.145006I$ $a = 0.019639 + 0.161767I$ $b = -1.004585 + 0.913813I$	$4.1100 - 14.1102I$	0
$u = 0.758910 + 0.055289I$ $a = -0.213196 - 0.483966I$ $b = 0.692951 - 0.949247I$	$0.82750 - 3.32659I$	0
$u = 0.758910 - 0.055289I$ $a = -0.213196 + 0.483966I$ $b = 0.692951 + 0.949247I$	$0.82750 + 3.32659I$	0
$u = -1.234587 + 0.144130I$ $a = 0.024846 - 0.212812I$ $b = 1.045983 - 0.906369I$	$5.66903 - 7.73769I$	0
$u = -1.234587 - 0.144130I$ $a = 0.024846 + 0.212812I$ $b = 1.045983 + 0.906369I$	$5.66903 + 7.73769I$	0
$u = -0.420624 + 1.195042I$ $a = -1.84369 + 0.19464I$ $b = 1.031117 + 0.158463I$	$8.14971 + 9.54900I$	0
$u = -0.420624 - 1.195042I$ $a = -1.84369 - 0.19464I$ $b = 1.031117 - 0.158463I$	$8.14971 - 9.54900I$	0
$u = -0.325482 + 1.228524I$ $a = -1.72693 - 0.09658I$ $b = 1.110376 + 0.421926I$	$5.04880 + 4.50134I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.325482-1.228524I$ $a=-1.72693+0.09658I$ $b=\ \ 1.110376-0.421926I$	$5.04880-4.50134I$	0
$u=-0.574184+0.429912I$ $a=\ \ 0.493243+0.347495I$ $b=\ \ 0.252289+0.651123I$	$-0.94950+1.69253I$	0
$u=-0.574184-0.429912I$ $a=\ \ 0.493243-0.347495I$ $b=\ \ 0.252289-0.651123I$	$-0.94950-1.69253I$	0
$u=-0.588713+1.140278I$ $a=-0.749426+1.002063I$ $b=\ \ 0.478478+0.284830I$	$7.10339-1.20294I$	0
$u=-0.588713-1.140278I$ $a=-0.749426-1.002063I$ $b=\ \ 0.478478-0.284830I$	$7.10339+1.20294I$	0
$u=\ \ 0.432886+1.215377I$ $a=\ \ 1.77333+0.27267I$ $b=-0.940619+0.170869I$	$8.89538-4.43132I$	0
$u=\ \ 0.432886-1.215377I$ $a=\ \ 1.77333-0.27267I$ $b=-0.940619-0.170869I$	$8.89538+4.43132I$	0
$u=\ \ 0.631674+0.304895I$ $a=-0.067306+0.565212I$ $b=\ \ 0.707815+0.717572I$	$1.58616+2.00474I$	0
$u=\ \ 0.631674-0.304895I$ $a=-0.067306-0.565212I$ $b=\ \ 0.707815-0.717572I$	$1.58616-2.00474I$	0
$u=\ \ 0.256776+0.639731I$ $a=-1.249302-0.460250I$ $b=\ \ 0.758236-0.997030I$	$1.24514-2.92828I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.256776 - 0.639731I$ $a = -1.249302 + 0.460250I$ $b = 0.758236 + 0.997030I$	$1.24514 + 2.92828I$	0
$u = 0.561342 + 1.191430I$ $a = 1.006085 + 0.833390I$ $b = -0.545398 + 0.282525I$	$8.09514 - 4.40790I$	0
$u = 0.561342 - 1.191430I$ $a = 1.006085 - 0.833390I$ $b = -0.545398 - 0.282525I$	$8.09514 + 4.40790I$	0
$u = 0.678945 + 0.041699I$ $a = 1.032783 - 0.654295I$ $b = -0.625010 + 0.272982I$	$5.29456 - 0.25778I$	0
$u = 0.678945 - 0.041699I$ $a = 1.032783 + 0.654295I$ $b = -0.625010 - 0.272982I$	$5.29456 + 0.25778I$	0
$u = 1.319254 + 0.040356I$ $a = -0.208584 - 0.119476I$ $b = -1.101186 - 0.606365I$	$-2.84695 + 5.81263I$	0
$u = 1.319254 - 0.040356I$ $a = -0.208584 + 0.119476I$ $b = -1.101186 + 0.606365I$	$-2.84695 - 5.81263I$	0
$u = -0.535596 + 1.231878I$ $a = 1.61476 - 0.14815I$ $b = -0.99839 - 1.06777I$	$-1.03750 + 7.48926I$	0
$u = -0.535596 - 1.231878I$ $a = 1.61476 + 0.14815I$ $b = -0.99839 + 1.06777I$	$-1.03750 - 7.48926I$	0
$u = 0.318615 + 1.317654I$ $a = 1.024191 + 0.925156I$ $b = -1.70376 - 1.19223I$	$8.54211 - 10.96890I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.318615 - 1.317654I$ $a = 1.024191 - 0.925156I$ $b = -1.70376 + 1.19223I$	$8.54211 + 10.96890I$	0
$u = -0.599127 + 0.213716I$ $a = 0.093233 + 0.872852I$ $b = -0.745623 + 0.558575I$	$0.78402 + 3.14364I$	0
$u = -0.599127 - 0.213716I$ $a = 0.093233 - 0.872852I$ $b = -0.745623 - 0.558575I$	$0.78402 - 3.14364I$	0
$u = -0.291029 + 1.341918I$ $a = 0.486628 + 0.001682I$ $b = -0.328573 + 0.051011I$	$0.46842 + 1.69442I$	0
$u = -0.291029 - 1.341918I$ $a = 0.486628 - 0.001682I$ $b = -0.328573 - 0.051011I$	$0.46842 - 1.69442I$	0
$u = 0.450099 + 1.300479I$ $a = -1.67367 - 0.01734I$ $b = 0.98071 - 1.09810I$	$4.91319 - 7.91635I$	0
$u = 0.450099 - 1.300479I$ $a = -1.67367 + 0.01734I$ $b = 0.98071 + 1.09810I$	$4.91319 + 7.91635I$	0
$u = 0.454828 + 1.320970I$ $a = 1.324429 + 0.158785I$ $b = -0.792156 + 0.420783I$	$7.04494 - 5.34627I$	0
$u = 0.454828 - 1.320970I$ $a = 1.324429 - 0.158785I$ $b = -0.792156 - 0.420783I$	$7.04494 + 5.34627I$	0
$u = 0.991380 + 0.998425I$ $a = 0.109759 - 0.352932I$ $b = 0.128947 + 0.570046I$	$2.81028 - 2.00564I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.991380 - 0.998425I$ $a = 0.109759 + 0.352932I$ $b = 0.128947 - 0.570046I$	$2.81028 + 2.00564I$	0
$u = -0.481221 + 1.323076I$ $a = 1.63686 - 0.01632I$ $b = -0.97578 - 1.08771I$	$3.79621 + 13.52400I$	0
$u = -0.481221 - 1.323076I$ $a = 1.63686 + 0.01632I$ $b = -0.97578 + 1.08771I$	$3.79621 - 13.52400I$	0
$u = -0.30486 + 1.39032I$ $a = -1.055288 + 0.766304I$ $b = 1.77086 - 0.95744I$	$10.60710 + 4.53264I$	0
$u = -0.30486 - 1.39032I$ $a = -1.055288 - 0.766304I$ $b = 1.77086 + 0.95744I$	$10.60710 - 4.53264I$	0
$u = -0.574676 + 0.003661I$ $a = -1.22652 - 0.97562I$ $b = 0.669754 + 0.381753I$	$4.75088 + 5.61590I$	$7.39538 - 6.42605I$
$u = -0.574676 - 0.003661I$ $a = -1.22652 + 0.97562I$ $b = 0.669754 - 0.381753I$	$4.75088 - 5.61590I$	$7.39538 + 6.42605I$
$u = -0.95840 + 1.06122I$ $a = -0.119955 - 0.311015I$ $b = -0.041253 + 0.550469I$	$2.36684 - 2.79502I$	0
$u = -0.95840 - 1.06122I$ $a = -0.119955 + 0.311015I$ $b = -0.041253 - 0.550469I$	$2.36684 + 2.79502I$	0
$u = -0.21904 + 1.41890I$ $a = -1.37697 - 0.35692I$ $b = 0.964821 + 0.686634I$	$10.05590 + 0.99246I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.21904-1.41890I$ $a=-1.37697+0.35692I$ $b=\ \ 0.964821-0.686634I$	$10.05590-0.99246I$	0
$u=\ \ 0.27509+1.44269I$ $a=\ \ 1.323524-0.291923I$ $b=-0.916201+0.663878I$	$10.24700-6.50428I$	0
$u=\ \ 0.27509-1.44269I$ $a=\ \ 1.323524+0.291923I$ $b=-0.916201-0.663878I$	$10.24700+6.50428I$	0
$u=\ \ 0.203171+0.474532I$ $a=\ \ 3.28050-2.03544I$ $b=\ \ 0.441287+0.040171I$	$4.02734+2.54233I$	$4.33601+3.58741I$
$u=\ \ 0.203171-0.474532I$ $a=\ \ 3.28050+2.03544I$ $b=\ \ 0.441287-0.040171I$	$4.02734-2.54233I$	$4.33601-3.58741I$
$u=-0.69263+1.31237I$ $a=-0.669076+0.314977I$ $b=\ \ 0.504102+0.450663I$	$2.14809+5.00005I$	0
$u=-0.69263-1.31237I$ $a=-0.669076-0.314977I$ $b=\ \ 0.504102-0.450663I$	$2.14809-5.00005I$	0
$u=\ \ 0.62037+1.35880I$ $a=\ \ 1.52882+0.23711I$ $b=-1.16990+1.20947I$	$7.9654-20.5595I$	0
$u=\ \ 0.62037-1.35880I$ $a=\ \ 1.52882-0.23711I$ $b=-1.16990-1.20947I$	$7.9654+20.5595I$	0
$u=\ \ 0.57595+1.38604I$ $a=\ \ 1.41734+0.16084I$ $b=-1.28855+1.24873I$	$1.52157-12.21380I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.57595 - 1.38604I$ $a = 1.41734 - 0.16084I$ $b = -1.28855 - 1.24873I$	$1.52157 + 12.21380I$	0
$u = -0.61781 + 1.36893I$ $a = -1.49609 + 0.24994I$ $b = 1.17057 + 1.24176I$	$9.5841 + 14.2280I$	0
$u = -0.61781 - 1.36893I$ $a = -1.49609 - 0.24994I$ $b = 1.17057 - 1.24176I$	$9.5841 - 14.2280I$	0
$u = 0.400082 + 0.287391I$ $a = 0.680854 + 0.167600I$ $b = 0.692103 + 0.958396I$	$0.64000 + 2.60943I$	$-1.77010 - 7.39216I$
$u = 0.400082 - 0.287391I$ $a = 0.680854 - 0.167600I$ $b = 0.692103 - 0.958396I$	$0.64000 - 2.60943I$	$-1.77010 + 7.39216I$
$u = -0.117335 + 0.463678I$ $a = -4.06301 - 2.20754I$ $b = -0.434760 - 0.045713I$	$3.03377 - 8.30316I$	$0.43502 + 1.68786I$
$u = -0.117335 - 0.463678I$ $a = -4.06301 + 2.20754I$ $b = -0.434760 + 0.045713I$	$3.03377 + 8.30316I$	$0.43502 - 1.68786I$
$u = 0.59338 + 1.42884I$ $a = 0.902018 + 0.057147I$ $b = -0.611265 + 0.550295I$	$7.50795 - 6.27771I$	0
$u = 0.59338 - 1.42884I$ $a = 0.902018 - 0.057147I$ $b = -0.611265 - 0.550295I$	$7.50795 + 6.27771I$	0
$u = -0.63004 + 1.45731I$ $a = -1.286788 + 0.246723I$ $b = 1.36353 + 1.51276I$	$7.68284 + 7.80353I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.63004-1.45731I$ $a=-1.286788-0.246723I$ $b=\ \ 1.36353-1.51276I$	$7.68284-7.80353I$	0
$u=-0.34206+1.55242I$ $a=-0.815539+0.454646I$ $b=\ \ 1.335917-0.377885I$	$11.57840-1.74366I$	0
$u=-0.34206-1.55242I$ $a=-0.815539-0.454646I$ $b=\ \ 1.335917+0.377885I$	$11.57840+1.74366I$	0
$u=-0.64633+1.45560I$ $a=-0.795823+0.012560I$ $b=\ \ 0.559743+0.579297I$	$6.16958+11.62650I$	0
$u=-0.64633-1.45560I$ $a=-0.795823-0.012560I$ $b=\ \ 0.559743-0.579297I$	$6.16958-11.62650I$	0
$u=-0.337970+0.189929I$ $a=-2.25796+1.44717I$ $b=-0.697496+0.144318I$	$-2.30648-2.46302I$	$-2.28126+2.27214I$
$u=-0.337970-0.189929I$ $a=-2.25796-1.44717I$ $b=-0.697496-0.144318I$	$-2.30648+2.46302I$	$-2.28126-2.27214I$
$u=\ \ 0.33792+1.58016I$ $a=\ \ 0.748437+0.425459I$ $b=-1.195290-0.337266I$	$10.02920+8.07714I$	0
$u=\ \ 0.33792-1.58016I$ $a=\ \ 0.748437-0.425459I$ $b=-1.195290+0.337266I$	$10.02920-8.07714I$	0
$u=\ \ 0.373675+0.068791I$ $a=-1.42062+0.08374I$ $b=-0.234606+0.971145I$	$-3.80303+1.15603I$	$-8.29159-1.10528I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.373675 - 0.068791I$ $a = -1.42062 - 0.08374I$ $b = -0.234606 - 0.971145I$	$-3.80303 - 1.15603I$	$-8.29159 + 1.10528I$
$u = \quad 0.29728 + 1.59894I$ $a = \quad 1.123534 + 0.263705I$ $b = -2.13725 + 0.18735I$	$3.20426 - 0.61985I$	0
$u = \quad 0.29728 - 1.59894I$ $a = \quad 1.123534 - 0.263705I$ $b = -2.13725 - 0.18735I$	$3.20426 + 0.61985I$	0
$u = -2.14203$ $a = \quad 0.728333$ $b = \quad 4.33847$	3.35814	0
$u = -0.16954 + 2.29789I$ $a = \quad 0.053699 + 0.132773I$ $b = -0.057367 - 0.134865I$	$2.11726 - 2.33696I$	0
$u = -0.16954 - 2.29789I$ $a = \quad 0.053699 - 0.132773I$ $b = -0.057367 + 0.134865I$	$2.11726 + 2.33696I$	0

II. $I_2^u = \langle -3.23 \times 10^{28} u^{40} - 2.94 \times 10^{28} u^{39} + \cdots + 7.20 \times 10^{23} b + 7.43 \times 10^{27},\ 2.04 \times 10^{29} u^{40} + 2.34 \times 10^{29} u^{39} + \cdots + 7.20 \times 10^{23} a - 2.07 \times 10^{28},\ 3u^{41} + 4u^{40} + \cdots - 2u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -283856.u^{40} - 325018.u^{39} + \cdots - 211340.u + 28750.4 \\ 44823.5u^{40} + 40854.2u^{39} + \cdots + 44467.3u - 10317.2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -9641.58u^{40} - 638454.u^{39} + \cdots + 667403.u - 336332. \\ 1265.52u^{40} - 7380.22u^{39} + \cdots + 10710.7u - 5069.46 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -239032.u^{40} - 284164.u^{39} + \cdots - 166873.u + 18433.2 \\ 44823.5u^{40} + 40854.2u^{39} + \cdots + 44467.3u - 10317.2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -24384.4u^{40} - 91228.4u^{39} + \cdots + 50606.2u - 31785.6 \\ 48237.7u^{40} + 113631.u^{39} + \cdots - 26777.6u + 26225.3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -22433.6u^{40} + 627576.u^{39} + \cdots - 719475.u + 353807. \\ -3048.26u^{40} + 13665.2u^{39} + \cdots - 21035.4u + 9784.89 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -188833.u^{40} - 222556.u^{39} + \cdots - 133856.u + 15631.8 \\ 81083.3u^{40} + 79871.9u^{39} + \cdots + 74120.9u - 15357.5 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -53514.5u^{40} - 404575.u^{39} + \cdots + 331630.u - 180071. \\ 49956.7u^{40} + 160332.u^{39} + \cdots - 74183.9u + 50449.8 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 897198.u^{40} + 1.67537 \times 10^6 u^{39} + \cdots - 31554.3u + 257956. \\ 266600.u^{40} + 307579.u^{39} + \cdots + 194952.u - 25819.3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{8149760548879874795550047361 75}{72012585556293202984494 97}u^{40} - \frac{37939782646062463297115246328 2}{72012585556293202984494 97}u^{39} + \cdots - \frac{120478867936691013277800205682 9}{72012585556293202984494 97}u + \frac{38190053447921696813876744579 5}{72012585556293202984494 97}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$9(9u^{41} - 161u^{40} + \cdots - 11u + 1)$
c_2	$3(3u^{41} + u^{40} + \cdots - 5u + 1)$
c_3	$u^{41} + 7u^{40} + \cdots + 37u - 9$
c_4	$3(3u^{41} + 4u^{40} + \cdots - 2u + 1)$
c_5	$u^{41} + 4u^{40} + \cdots - 3u - 1$
c_6	$u^{41} - u^{40} + \cdots + 319u - 27$
c_7	$u^{41} - 5u^{40} + \cdots - 5u + 1$
c_8	$3(3u^{41} - u^{40} + \cdots - 5u - 1)$
c_9	$3(3u^{41} - 4u^{40} + \cdots - 2u - 1)$
c_{10}	$u^{41} + 5u^{40} + \cdots - 5u - 1$
c_{11}	$u^{41} - 12u^{40} + \cdots + 112u - 3$
c_{12}	$9(9u^{41} + u^{40} + \cdots + 11u + 1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$81(81y^{41}+521y^{40}+\cdots+13y-1)$
c_2, c_8	$9(9y^{41}+161y^{40}+\cdots-11y-1)$
c_3	$y^{41}-31y^{40}+\cdots+73y-81$
c_4, c_9	$9(9y^{41}+296y^{40}+\cdots-46y-1)$
c_5	$y^{41}+22y^{40}+\cdots-13y-1$
c_6	$y^{41}+19y^{40}+\cdots+198151y-729$
c_7, c_{10}	$y^{41}-9y^{40}+\cdots+35y-1$
c_{11}	$y^{41}+12y^{39}+\cdots+4594y-9$
c_{12}	$81(81y^{41}-127y^{40}+\cdots-177y-1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.480191 + 0.920755I$ $a = -0.634429 - 0.222220I$ $b = 0.437014 - 0.917013I$	$0.54268 - 4.08928I$	0
$u = 0.480191 - 0.920755I$ $a = -0.634429 + 0.222220I$ $b = 0.437014 + 0.917013I$	$0.54268 + 4.08928I$	0
$u = 0.411995 + 1.050934I$ $a = -2.20155 - 0.17198I$ $b = 1.20390 - 0.87381I$	$2.56335 - 5.17455I$	0
$u = 0.411995 - 1.050934I$ $a = -2.20155 + 0.17198I$ $b = 1.20390 + 0.87381I$	$2.56335 + 5.17455I$	0
$u = -1.109696 + 0.220006I$ $a = -0.351439 - 0.293279I$ $b = -0.859084 - 0.449194I$	$-3.03997 + 5.13057I$	0
$u = -1.109696 - 0.220006I$ $a = -0.351439 + 0.293279I$ $b = -0.859084 + 0.449194I$	$-3.03997 - 5.13057I$	0
$u = -0.193521 + 0.843223I$ $a = 2.30431 - 0.20332I$ $b = -1.27662 - 1.03418I$	$-0.62129 + 3.15132I$	0
$u = -0.193521 - 0.843223I$ $a = 2.30431 + 0.20332I$ $b = -1.27662 + 1.03418I$	$-0.62129 - 3.15132I$	0
$u = 0.577494 + 1.003061I$ $a = -1.87567 - 0.73640I$ $b = 0.79704 - 1.21707I$	$4.40855 - 7.17341I$	0
$u = 0.577494 - 1.003061I$ $a = -1.87567 + 0.73640I$ $b = 0.79704 + 1.21707I$	$4.40855 + 7.17341I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.392106+1.118094I$ $a=\ 1.97980-0.01262I$ $b=-1.36113-0.98881I$	$1.28363+8.58828I$	0
$u=-0.392106-1.118094I$ $a=\ 1.97980+0.01262I$ $b=-1.36113+0.98881I$	$1.28363-8.58828I$	0
$u=\ -66.10+0.786404I$ $a=\ 0.775316+0.700854I$ $b=-0.198381+1.033307I$	$-2.66480+1.42721I$	0
$u=\ -66.10-0.786404I$ $a=\ 0.775316-0.700854I$ $b=-0.198381-1.033307I$	$-2.66480-1.42721I$	0
$u=\ 0.000131+0.786213I$ $a=\ 0.44498+2.80699I$ $b=-0.053879+0.678414I$	$-0.90736-2.44785I$	0
$u=\ 0.000131-0.786213I$ $a=\ 0.44498-2.80699I$ $b=-0.053879-0.678414I$	$-0.90736+2.44785I$	0
$u=-0.493518+1.130604I$ $a=\ 0.558706-0.627835I$ $b=-0.904785+0.324293I$	$0.696172-0.429971I$	0
$u=-0.493518-1.130604I$ $a=\ 0.558706+0.627835I$ $b=-0.904785-0.324293I$	$0.696172+0.429971I$	0
$u=-0.159389+0.673175I$ $a=\ 0.812171-1.023145I$ $b=-0.85413+1.29701I$	$-0.76477-6.02453I$	0
$u=-0.159389-0.673175I$ $a=\ 0.812171+1.023145I$ $b=-0.85413-1.29701I$	$-0.76477+6.02453I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.049419 + 0.680291I$ $a = 0.92873 - 1.54109I$ $b = -0.47747 + 1.52214I$	$-2.05419 + 0.90894I$	$-5.37869 + 0.I$
$u = 0.049419 - 0.680291I$ $a = 0.92873 + 1.54109I$ $b = -0.47747 - 1.52214I$	$-2.05419 - 0.90894I$	$-5.37869 + 0.I$
$u = 0.313090 + 0.596517I$ $a = -0.243419 - 0.548328I$ $b = 0.788012 + 1.080917I$	$0.98219 + 1.89202I$	0
$u = 0.313090 - 0.596517I$ $a = -0.243419 + 0.548328I$ $b = 0.788012 - 1.080917I$	$0.98219 - 1.89202I$	0
$u = 0.344075 + 1.284564I$ $a = 1.053821 - 0.167107I$ $b = -0.808506 - 0.149587I$	$6.81076 - 9.86539I$	0
$u = 0.344075 - 1.284564I$ $a = 1.053821 + 0.167107I$ $b = -0.808506 + 0.149587I$	$6.81076 + 9.86539I$	0
$u = -0.073010 + 0.657575I$ $a = 2.84171 - 2.51549I$ $b = -0.732889 - 0.384795I$	$3.41554 + 8.75299I$	$9.2926 - 11.4300I$
$u = -0.073010 - 0.657575I$ $a = 2.84171 + 2.51549I$ $b = -0.732889 + 0.384795I$	$3.41554 - 8.75299I$	$9.2926 + 11.4300I$
$u = -0.376259 + 1.284785I$ $a = -1.366301 - 0.100912I$ $b = 0.806048 + 0.127375I$	$8.06838 + 4.66157I$	0
$u = -0.376259 - 1.284785I$ $a = -1.366301 + 0.100912I$ $b = 0.806048 - 0.127375I$	$8.06838 - 4.66157I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.463614+1.296551I$ $a=-1.45284+0.26842I$ $b=\ \ 0.864083+0.591497I$	$7.56625+5.71988I$	0
$u=-0.463614-1.296551I$ $a=-1.45284-0.26842I$ $b=\ \ 0.864083-0.591497I$	$7.56625-5.71988I$	0
$u=\ \ 0.089874+0.587467I$ $a=-2.07691-2.87472I$ $b=\ \ 0.661641-0.505089I$	$4.28437-3.16642I$	$8.91907+6.46038I$
$u=\ \ 0.089874-0.587467I$ $a=-2.07691+2.87472I$ $b=\ \ 0.661641+0.505089I$	$4.28437+3.16642I$	$8.91907-6.46038I$
$u=-1.59061$ $a=\ \ 0.479307$ $b=\ \ 2.18124$	3.41205	0
$u=\ \ 0.73177+1.47236I$ $a=-0.262923-0.135084I$ $b=\ \ 0.306280-0.061588I$	$0.58079-1.89733I$	0
$u=\ \ 0.73177-1.47236I$ $a=-0.262923+0.135084I$ $b=\ \ 0.306280+0.061588I$	$0.58079+1.89733I$	0
$u=\ \ 0.152897+0.317630I$ $a=\ \ 0.60227-1.96600I$ $b=\ \ 0.602674+1.036424I$	$1.20495+2.04696I$	$5.19785-1.44013I$
$u=\ \ 0.152897-0.317630I$ $a=\ \ 0.60227+1.96600I$ $b=\ \ 0.602674-1.036424I$	$1.20495-2.04696I$	$5.19785+1.44013I$
$u=\ \ 0.23882+2.13469I$ $a=-0.076001+0.146749I$ $b=\ \ 0.0251091-0.0891723I$	$2.12729+2.35613I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.23882 - 2.13469I$		
$a = -0.076001 - 0.146749I$	$2.12729 - 2.35613I$	0
$b = \quad 0.0251091 + 0.0891723I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$81(9u^{41}-161u^{40}+\cdots-11u+1)$ $\cdot(9u^{166}+548u^{165}+\cdots+1674688u+37249)$
c_2	$9(3u^{41}+u^{40}+\cdots-5u+1)(3u^{166}+10u^{165}+\cdots-72u-193)$
c_3	$(u^{41}+7u^{40}+\cdots+37u-9)$ $\cdot(u^{166}-26u^{165}+\cdots-3326078u+219087)$
c_4	$9(3u^{41}+4u^{40}+\cdots-2u+1)(3u^{166}+u^{165}+\cdots+158795u-34673)$
c_5	$(u^{41}+4u^{40}+\cdots-3u-1)(u^{166}+u^{165}+\cdots+3422516u-262817)$
c_6	$(u^{41}-u^{40}+\cdots+319u-27)$ $\cdot(u^{166}+2u^{165}+\cdots+2824430u+436239)$
c_7	$(u^{41}-5u^{40}+\cdots-5u+1)$ $\cdot(u^{166}-49u^{164}+\cdots+2520956u+2425663)$
c_8	$9(3u^{41}-u^{40}+\cdots-5u-1)(3u^{166}+10u^{165}+\cdots-72u-193)$
c_9	$9(3u^{41}-4u^{40}+\cdots-2u-1)(3u^{166}+u^{165}+\cdots+158795u-34673)$
c_{10}	$(u^{41}+5u^{40}+\cdots-5u-1)$ $\cdot(u^{166}-49u^{164}+\cdots+2520956u+2425663)$
c_{11}	$(u^{41}-12u^{40}+\cdots+112u-3)$ $\cdot(u^{166}+9u^{165}+\cdots+3480001987u+3246415791)$
c_{12}	$81(9u^{41}+u^{40}+\cdots+11u+1)(9u^{166}+98u^{165}+\cdots-12u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$6561(81y^{41}+521y^{40}+\cdots+13y-1)$ $\cdot(81y^{166}+5408y^{165}+\cdots-242908207900y+1387488001)$
c_2, c_8	$81(9y^{41}+161y^{40}+\cdots-11y-1)$ $\cdot(9y^{166}+548y^{165}+\cdots+1674688y+37249)$
c_3	$(y^{41}-31y^{40}+\cdots+73y-81)$ $\cdot(y^{166}-4y^{165}+\cdots+1995653540696y+47999113569)$
c_4, c_9	$81(9y^{41}+296y^{40}+\cdots-46y-1)$ $\cdot(9y^{166}+1043y^{165}+\cdots+32830078583y+1202216929)$
c_5	$(y^{41}+22y^{40}+\cdots-13y-1)$ $\cdot(y^{166}-27y^{165}+\cdots+21178704987358y+69072775489)$
c_6	$(y^{41}+19y^{40}+\cdots+198151y-729)$ $\cdot(y^{166}+34y^{165}+\cdots+7330681481006y+190304465121)$
c_7, c_{10}	$(y^{41}-9y^{40}+\cdots+35y-1)$ $\cdot(y^{166}-98y^{165}+\cdots+164556690192526y+5883840989569)$
c_{11}	$(y^{41}+12y^{39}+\cdots+4594y-9)$ $\cdot(y^{166}-69y^{165}+\cdots-4.67\times10^{20}y+1.05\times10^{19})$
c_{12}	$6561(81y^{41}-127y^{40}+\cdots-177y-1)$ $\cdot(81y^{166}-2044y^{165}+\cdots+118y+1)$