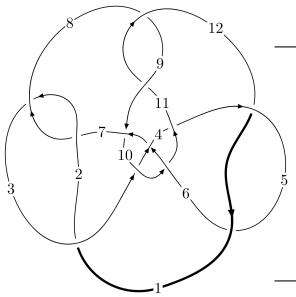
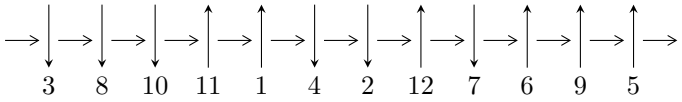
$12a_{0765}$ $(K12a_{0765})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 6.98477 \times 10^{1451} u^{193} - 1.16314 \times 10^{1452} u^{192} + \cdots + 4.93072 \times 10^{1451} b + 2.57314 \times 10^{1457},$$
$$2.31622 \times 10^{1456} u^{193} - 4.50288 \times 10^{1456} u^{192} + \cdots + 1.21029 \times 10^{1457} a + 5.08189 \times 10^{1461},$$
$$u^{194} - u^{193} + \cdots - 117893u + 245459 \rangle$$
$$I_2^u = \langle -1.19739 \times 10^{74} u^{55} + 3.12250 \times 10^{74} u^{54} + \cdots + 1.12058 \times 10^{71} b - 1.63090 \times 10^{74},$$
$$- 1.86706 \times 10^{74} u^{55} + 4.90830 \times 10^{74} u^{54} + \cdots + 1.12058 \times 10^{71} a - 2.71046 \times 10^{74},\ u^{56} - 2u^{55} + \cdots - 2u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 250 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. $\boldsymbol{I_1^u = \langle 6.98 \times 10^{1451} u^{193} - 1.16 \times 10^{1452} u^{192} + \cdots + 4.93 \times 10^{1451} b + 2.57 \times 10^{1457},\ 2.32 \times 10^{1456} u^{193} - 4.50 \times 10^{1456} u^{192} + \cdots + 1.21 \times 10^{1457} a + 5.08 \times 10^{1461},\ u^{194} - u^{193} + \cdots - 117893u + 245459 \rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} -0.191377u^{193} + 0.372050u^{192} + \cdots + 49992.0u - 41989.1 \\ -1.41658u^{193} + 2.35896u^{192} + \cdots + 1.03388 \times 10^6 u - 521859. \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.22520u^{193} - 1.98691u^{192} + \cdots - 983885.u + 479870. \\ -1.41658u^{193} + 2.35896u^{192} + \cdots + 1.03388 \times 10^6 u - 521859. \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4.07707u^{193} + 6.86053u^{192} + \cdots + 2.84866 \times 10^6 u - 1.46480 \times 10^6 \\ 2.98731u^{193} - 5.04043u^{192} + \cdots - 2.05991 \times 10^6 u + 1.06527 \times 10^6 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 3.93185u^{193} - 6.59426u^{192} + \cdots - 2.77115 \times 10^6 u + 1.42089 \times 10^6 \\ -2.17470u^{193} + 3.66893u^{192} + \cdots + 1.49760 \times 10^6 u - 775226. \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -7.14265u^{193} + 11.9908u^{192} + \cdots + 5.01907 \times 10^6 u - 2.57598 \times 10^6 \\ 3.12899u^{193} - 5.27256u^{192} + \cdots - 2.17696 \times 10^6 u + 1.12123 \times 10^6 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -6.49999u^{193} + 10.9404u^{192} + \cdots + 4.53226 \times 10^6 u - 2.33266 \times 10^6 \\ 1.69815u^{193} - 2.86783u^{192} + \cdots - 1.16638 \times 10^6 u + 604125. \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 12.0920u^{193} - 20.3712u^{192} + \cdots - 8.40520 \times 10^6 u + 4.33186 \times 10^6 \\ -4.40681u^{193} + 7.44176u^{192} + \cdots + 3.03589 \times 10^6 u - 1.57018 \times 10^6 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 7.98156u^{193} - 13.4540u^{192} + \cdots - 5.52815 \times 10^6 u + 2.85575 \times 10^6 \\ -2.41321u^{193} + 4.08087u^{192} + \cdots + 1.64843 \times 10^6 u - 856057. \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.250556u^{193} + 0.556917u^{192} + \cdots - 23356.7u - 30204.0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{194} + 93u^{193} + \cdots + 10148842326u + 242020249$
c_2, c_7	$u^{194} + u^{193} + \cdots - 18064u + 15557$
c_3	$u^{194} - 2u^{193} + \cdots - 61u + 1$
c_4	$u^{194} - 6u^{192} + \cdots + 43312357u + 11436607$
c_5, c_{12}	$u^{194} + u^{193} + \cdots + 117893u + 245459$
c_6	$u^{194} - 11u^{193} + \cdots - 190u + 23$
c_8, c_{11}	$u^{194} - 15u^{193} + \cdots + 667643u + 215671$
c_9	$u^{194} - 7u^{193} + \cdots - 76956u + 12989$
c_{10}	$u^{194} - 3u^{193} + \cdots + 74u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{194}+39y^{193}+\cdots+4148575594390299166y+58573800926022001$
c_2, c_7	$y^{194}-93y^{193}+\cdots-10148842326y+242020249$
c_3	$y^{194}+4y^{193}+\cdots+373y+1$
c_4	$y^{194}-12y^{193}+\cdots-567942991784177y+130795979672449$
c_5, c_{12}	$y^{194}-109y^{193}+\cdots-3655898635621y+60250120681$
c_6	$y^{194}-7y^{193}+\cdots+26644y+529$
c_8, c_{11}	$y^{194}+93y^{193}+\cdots+1846508165973y+46513980241$
c_9	$y^{194}-9y^{193}+\cdots+30908265410y+168714121$
c_{10}	$y^{194}-15y^{193}+\cdots-540y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.406584+0.908345I$ $a=-0.73758-1.60254I$ $b=-0.353490-1.088290I$	$-6.07466+6.11744I$	0
$u=-0.406584-0.908345I$ $a=-0.73758+1.60254I$ $b=-0.353490+1.088290I$	$-6.07466-6.11744I$	0
$u=\ \ 0.926292+0.360172I$ $a=-0.364993+1.222190I$ $b=\ \ 0.003829+1.413000I$	$-1.86936+4.91916I$	0
$u=\ \ 0.926292-0.360172I$ $a=-0.364993-1.222190I$ $b=\ \ 0.003829-1.413000I$	$-1.86936-4.91916I$	0
$u=\ \ 0.676941+0.717325I$ $a=-0.49905+1.47156I$ $b=\ \ 0.815322+1.061790I$	$0.25296+3.46087I$	0
$u=\ \ 0.676941-0.717325I$ $a=-0.49905-1.47156I$ $b=\ \ 0.815322-1.061790I$	$0.25296-3.46087I$	0
$u=\ \ 0.979477+0.015977I$ $a=-1.25886+0.88498I$ $b=\ \ 0.706198+1.047070I$	$3.24609+3.29684I$	0
$u=\ \ 0.979477-0.015977I$ $a=-1.25886-0.88498I$ $b=\ \ 0.706198-1.047070I$	$3.24609-3.29684I$	0
$u=-0.554641+0.862200I$ $a=\ \ 0.070947-0.749012I$ $b=-0.415525-0.782291I$	$0.300104-1.176760I$	0
$u=-0.554641-0.862200I$ $a=\ \ 0.070947+0.749012I$ $b=-0.415525+0.782291I$	$0.300104+1.176760I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.417360 + 0.879928I$ $a = 0.87638 - 1.45101I$ $b = -0.055433 - 1.064100I$	$-3.55925 - 0.87375I$	0
$u = 0.417360 - 0.879928I$ $a = 0.87638 + 1.45101I$ $b = -0.055433 + 1.064100I$	$-3.55925 + 0.87375I$	0
$u = 0.694909 + 0.761600I$ $a = -0.069584 + 0.920006I$ $b = -0.081231 + 1.142800I$	$-3.53436 + 5.02332I$	0
$u = 0.694909 - 0.761600I$ $a = -0.069584 - 0.920006I$ $b = -0.081231 - 1.142800I$	$-3.53436 - 5.02332I$	0
$u = 0.906011 + 0.339014I$ $a = 1.48209 - 0.51804I$ $b = -0.807898 - 0.905467I$	$-3.12542 + 7.62172I$	0
$u = 0.906011 - 0.339014I$ $a = 1.48209 + 0.51804I$ $b = -0.807898 + 0.905467I$	$-3.12542 - 7.62172I$	0
$u = -0.920167 + 0.291516I$ $a = -0.026696 + 0.208084I$ $b = 1.006110 - 0.200811I$	$1.71874 + 0.00266I$	0
$u = -0.920167 - 0.291516I$ $a = -0.026696 - 0.208084I$ $b = 1.006110 + 0.200811I$	$1.71874 - 0.00266I$	0
$u = -1.006080 + 0.264880I$ $a = 1.336690 + 0.263964I$ $b = -0.601732 + 1.181270I$	$-4.18187 - 1.38142I$	0
$u = -1.006080 - 0.264880I$ $a = 1.336690 - 0.263964I$ $b = -0.601732 - 1.181270I$	$-4.18187 + 1.38142I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.569147 + 0.877802I$ $a = 0.09933 + 1.46827I$ $b = 0.341087 + 1.302340I$	$-4.05546 + 6.89533I$	0
$u = 0.569147 - 0.877802I$ $a = 0.09933 - 1.46827I$ $b = 0.341087 - 1.302340I$	$-4.05546 - 6.89533I$	0
$u = 0.672231 + 0.802747I$ $a = 1.00713 - 1.06155I$ $b = -0.004070 - 1.291130I$	$-3.52403 - 0.61398I$	0
$u = 0.672231 - 0.802747I$ $a = 1.00713 + 1.06155I$ $b = -0.004070 + 1.291130I$	$-3.52403 + 0.61398I$	0
$u = 0.505352 + 0.780497I$ $a = -0.73504 + 1.77591I$ $b = -0.061488 + 1.108370I$	$-7.58286 + 2.15592I$	0
$u = 0.505352 - 0.780497I$ $a = -0.73504 - 1.77591I$ $b = -0.061488 - 1.108370I$	$-7.58286 - 2.15592I$	0
$u = 0.888354 + 0.203742I$ $a = -2.91367 + 0.56000I$ $b = 0.224161 + 0.950037I$	$-6.60330 + 0.92815I$	0
$u = 0.888354 - 0.203742I$ $a = -2.91367 - 0.56000I$ $b = 0.224161 - 0.950037I$	$-6.60330 - 0.92815I$	0
$u = 0.050001 + 0.900877I$ $a = -0.061413 - 1.015520I$ $b = -0.802467 - 0.281089I$	$1.87979 - 3.66071I$	0
$u = 0.050001 - 0.900877I$ $a = -0.061413 + 1.015520I$ $b = -0.802467 + 0.281089I$	$1.87979 + 3.66071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.713997+0.547809I$ $a=-0.438375-1.147880I$ $b=\ \ 0.08171-1.70026I$	$-5.00182-8.84965I$	0
$u=-0.713997-0.547809I$ $a=-0.438375+1.147880I$ $b=\ \ 0.08171+1.70026I$	$-5.00182+8.84965I$	0
$u=\ \ 0.820126+0.365115I$ $a=\ \ 0.82862-2.03229I$ $b=-0.042176-1.239600I$	$-6.33260+1.66013I$	0
$u=\ \ 0.820126-0.365115I$ $a=\ \ 0.82862+2.03229I$ $b=-0.042176+1.239600I$	$-6.33260-1.66013I$	0
$u=-1.106780+0.009307I$ $a=\ \ 0.448779+0.116546I$ $b=\ \ 0.538072+0.129745I$	$2.61070+0.15227I$	0
$u=-1.106780-0.009307I$ $a=\ \ 0.448779-0.116546I$ $b=\ \ 0.538072-0.129745I$	$2.61070-0.15227I$	0
$u=-0.874474+0.167435I$ $a=-1.64383+0.71858I$ $b=\ \ 0.647585+0.917707I$	$1.27068-2.07977I$	0
$u=-0.874474-0.167435I$ $a=-1.64383-0.71858I$ $b=\ \ 0.647585-0.917707I$	$1.27068+2.07977I$	0
$u=\ \ 0.868302+0.695008I$ $a=\ \ 0.017476+0.657665I$ $b=-0.588852+0.992156I$	$-3.10785-3.85382I$	0
$u=\ \ 0.868302-0.695008I$ $a=\ \ 0.017476-0.657665I$ $b=-0.588852-0.992156I$	$-3.10785+3.85382I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.251943+0.846329I$ $a=\ \ 0.170361+1.201550I$ $b=-0.925435+0.105369I$	$0.58405+8.87272I$	0
$u=-0.251943-0.846329I$ $a=\ \ 0.170361-1.201550I$ $b=-0.925435-0.105369I$	$0.58405-8.87272I$	0
$u=-1.089310+0.254934I$ $a=-2.04511-0.03490I$ $b=\ \ 0.425038-1.079870I$	$0.63001-4.71909I$	0
$u=-1.089310-0.254934I$ $a=-2.04511+0.03490I$ $b=\ \ 0.425038+1.079870I$	$0.63001+4.71909I$	0
$u=-0.493210+1.004910I$ $a=\ \ 0.72931+1.41815I$ $b=-0.601959+0.895829I$	$-0.09608-5.52301I$	0
$u=-0.493210-1.004910I$ $a=\ \ 0.72931-1.41815I$ $b=-0.601959-0.895829I$	$-0.09608+5.52301I$	0
$u=-0.958228+0.582368I$ $a=-0.56780-1.84248I$ $b=\ \ 0.571867-0.582135I$	$3.64674-2.41351I$	0
$u=-0.958228-0.582368I$ $a=-0.56780+1.84248I$ $b=\ \ 0.571867+0.582135I$	$3.64674+2.41351I$	0
$u=\ \ 0.742812+0.850574I$ $a=\ \ 0.98027-1.03175I$ $b=\ \ 0.001951-1.079380I$	$-3.66789-0.69831I$	0
$u=\ \ 0.742812-0.850574I$ $a=\ \ 0.98027+1.03175I$ $b=\ \ 0.001951+1.079380I$	$-3.66789+0.69831I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.054170 + 0.406779I$ $a = -0.224180 + 0.623710I$ $b = 1.40827 - 0.46099I$	$4.63126 + 3.86923I$	0
$u = 1.054170 - 0.406779I$ $a = -0.224180 - 0.623710I$ $b = 1.40827 + 0.46099I$	$4.63126 - 3.86923I$	0
$u = -1.051590 + 0.426304I$ $a = 1.52955 + 0.46597I$ $b = 0.114719 + 0.708966I$	$1.29199 - 0.63572I$	0
$u = -1.051590 - 0.426304I$ $a = 1.52955 - 0.46597I$ $b = 0.114719 - 0.708966I$	$1.29199 + 0.63572I$	0
$u = -1.113500 + 0.254079I$ $a = -0.388065 + 0.108602I$ $b = 1.38923 + 0.48796I$	$4.40392 - 3.71450I$	0
$u = -1.113500 - 0.254079I$ $a = -0.388065 - 0.108602I$ $b = 1.38923 - 0.48796I$	$4.40392 + 3.71450I$	0
$u = -0.040140 + 0.850272I$ $a = 0.703915 + 1.150220I$ $b = 0.128184 + 1.092870I$	$-4.07484 - 0.67040I$	0
$u = -0.040140 - 0.850272I$ $a = 0.703915 - 1.150220I$ $b = 0.128184 - 1.092870I$	$-4.07484 + 0.67040I$	0
$u = -1.117500 + 0.278014I$ $a = -0.198314 - 0.711860I$ $b = 1.205870 + 0.507868I$	$5.43895 + 0.91918I$	0
$u = -1.117500 - 0.278014I$ $a = -0.198314 + 0.711860I$ $b = 1.205870 - 0.507868I$	$5.43895 - 0.91918I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.937741+0.676938I$ $a=\ \ 1.092220+0.683845I$ $b=-0.32769+1.42132I$	$-4.32626+3.94835I$	0
$u=-0.937741-0.676938I$ $a=\ \ 1.092220-0.683845I$ $b=-0.32769-1.42132I$	$-4.32626-3.94835I$	0
$u=\ \ 1.167120+0.111014I$ $a=-0.342106-0.078946I$ $b=\ \ 1.236350-0.486481I$	$5.88830-0.97643I$	0
$u=\ \ 1.167120-0.111014I$ $a=-0.342106+0.078946I$ $b=\ \ 1.236350+0.486481I$	$5.88830+0.97643I$	0
$u=-1.136990+0.317788I$ $a=-0.009861+0.261852I$ $b=-1.036960-0.042390I$	$0.10715-6.16604I$	0
$u=-1.136990-0.317788I$ $a=-0.009861-0.261852I$ $b=-1.036960+0.042390I$	$0.10715+6.16604I$	0
$u=-0.808368+0.036304I$ $a=-3.61635-0.08552I$ $b=\ \ 0.233174+0.609543I$	$2.49589-1.59780I$	0
$u=-0.808368-0.036304I$ $a=-3.61635+0.08552I$ $b=\ \ 0.233174-0.609543I$	$2.49589+1.59780I$	0
$u=\ \ 0.991101+0.670236I$ $a=-0.73899+1.56919I$ $b=\ \ 0.783279+0.615116I$	$2.89198+7.70265I$	0
$u=\ \ 0.991101-0.670236I$ $a=-0.73899-1.56919I$ $b=\ \ 0.783279-0.615116I$	$2.89198-7.70265I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.114990+0.437118I$ $a=-1.29909-1.53019I$ $b=\ 0.71610-1.24239I$	$2.91515-5.87093I$	0
$u=-1.114990-0.437118I$ $a=-1.29909+1.53019I$ $b=\ 0.71610+1.24239I$	$2.91515+5.87093I$	0
$u=\ 0.754717+0.242109I$ $a=\ 0.580086-0.176389I$ $b=-0.428484-0.138522I$	$-1.97048-0.07696I$	0
$u=\ 0.754717-0.242109I$ $a=\ 0.580086+0.176389I$ $b=-0.428484+0.138522I$	$-1.97048+0.07696I$	0
$u=-1.185260+0.241746I$ $a=\ 1.46739+1.76173I$ $b=-0.329720+0.927431I$	$4.59196-2.41678I$	0
$u=-1.185260-0.241746I$ $a=\ 1.46739-1.76173I$ $b=-0.329720-0.927431I$	$4.59196+2.41678I$	0
$u=\ 0.190444+0.765613I$ $a=\ 0.988709-0.302572I$ $b=-0.356692+0.079922I$	$-1.34161-2.11514I$	0
$u=\ 0.190444-0.765613I$ $a=\ 0.988709+0.302572I$ $b=-0.356692-0.079922I$	$-1.34161+2.11514I$	0
$u=\ 0.116284+0.777318I$ $a=\ 0.44654-1.67849I$ $b=\ 0.598960-1.267800I$	$-1.49460-6.64311I$	0
$u=\ 0.116284-0.777318I$ $a=\ 0.44654+1.67849I$ $b=\ 0.598960+1.267800I$	$-1.49460+6.64311I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.168810 + 0.354086I$ $a = -1.63308 + 0.14798I$ $b = 0.431062 + 1.211240I$	$-1.61102 + 10.88200I$	0
$u = 1.168810 - 0.354086I$ $a = -1.63308 - 0.14798I$ $b = 0.431062 - 1.211240I$	$-1.61102 - 10.88200I$	0
$u = -1.068330 + 0.598519I$ $a = -0.537016 - 0.999845I$ $b = 0.572920 - 1.249900I$	$-1.34429 - 4.35715I$	0
$u = -1.068330 - 0.598519I$ $a = -0.537016 + 0.999845I$ $b = 0.572920 + 1.249900I$	$-1.34429 + 4.35715I$	0
$u = -0.750505 + 0.169348I$ $a = -0.283378 - 1.082050I$ $b = -0.29367 - 1.49189I$	$-5.18408 - 0.72793I$	0
$u = -0.750505 - 0.169348I$ $a = -0.283378 + 1.082050I$ $b = -0.29367 + 1.49189I$	$-5.18408 + 0.72793I$	0
$u = 1.221740 + 0.152272I$ $a = -0.278190 - 0.102467I$ $b = 0.876228 + 0.449321I$	$4.97076 + 2.51084I$	0
$u = 1.221740 - 0.152272I$ $a = -0.278190 + 0.102467I$ $b = 0.876228 - 0.449321I$	$4.97076 - 2.51084I$	0
$u = 1.009000 + 0.706056I$ $a = -0.580095 + 1.244170I$ $b = 0.45765 + 1.51677I$	$-2.49894 + 6.27622I$	0
$u = 1.009000 - 0.706056I$ $a = -0.580095 - 1.244170I$ $b = 0.45765 - 1.51677I$	$-2.49894 - 6.27622I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.191228 + 1.219850I$ $a = -0.168675 + 1.367300I$ $b = -0.561373 + 1.135020I$	$-0.60919 - 8.70389I$	0
$u = 0.191228 - 1.219850I$ $a = -0.168675 - 1.367300I$ $b = -0.561373 - 1.135020I$	$-0.60919 + 8.70389I$	0
$u = -0.746084 + 0.102721I$ $a = -0.461590 + 0.315355I$ $b = 1.51641 + 0.15577I$	$2.74568 + 2.05152I$	0
$u = -0.746084 - 0.102721I$ $a = -0.461590 - 0.315355I$ $b = 1.51641 - 0.15577I$	$2.74568 - 2.05152I$	0
$u = 0.960056 + 0.797259I$ $a = 0.829657 - 0.956164I$ $b = -0.547688 - 0.954400I$	$-2.84635 + 0.75079I$	0
$u = 0.960056 - 0.797259I$ $a = 0.829657 + 0.956164I$ $b = -0.547688 + 0.954400I$	$-2.84635 - 0.75079I$	0
$u = 0.734696 + 0.038295I$ $a = 1.81356 + 0.10316I$ $b = -0.520545 - 0.914419I$	$-3.45385 - 2.32752I$	0
$u = 0.734696 - 0.038295I$ $a = 1.81356 - 0.10316I$ $b = -0.520545 + 0.914419I$	$-3.45385 + 2.32752I$	0
$u = 0.674216 + 0.235813I$ $a = -0.338662 + 0.617015I$ $b = 1.51091 - 0.11507I$	$2.99073 - 0.83965I$	0
$u = 0.674216 - 0.235813I$ $a = -0.338662 - 0.617015I$ $b = 1.51091 + 0.11507I$	$2.99073 + 0.83965I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.158400 + 0.569132I$ $a = 0.355030 - 0.071400I$ $b = 0.815315 - 0.934047I$	$2.03312 + 1.73177I$	0
$u = 1.158400 - 0.569132I$ $a = 0.355030 + 0.071400I$ $b = 0.815315 + 0.934047I$	$2.03312 - 1.73177I$	0
$u = 1.256790 + 0.348122I$ $a = 1.31346 - 1.56140I$ $b = -0.470936 - 0.997123I$	$5.26615 + 9.29070I$	0
$u = 1.256790 - 0.348122I$ $a = 1.31346 + 1.56140I$ $b = -0.470936 + 0.997123I$	$5.26615 - 9.29070I$	0
$u = 1.266150 + 0.331091I$ $a = -0.762221 + 0.798143I$ $b = 0.76369 + 1.23793I$	$3.39195 + 6.06332I$	0
$u = 1.266150 - 0.331091I$ $a = -0.762221 - 0.798143I$ $b = 0.76369 - 1.23793I$	$3.39195 - 6.06332I$	0
$u = 1.198950 + 0.526172I$ $a = -1.15264 + 1.24334I$ $b = 0.78656 + 1.34135I$	$1.62166 + 11.51310I$	0
$u = 1.198950 - 0.526172I$ $a = -1.15264 - 1.24334I$ $b = 0.78656 - 1.34135I$	$1.62166 - 11.51310I$	0
$u = -0.685515 + 0.005251I$ $a = 2.15005 + 0.22559I$ $b = -0.848968 - 0.668807I$	$-2.27128 + 4.38189I$	0
$u = -0.685515 - 0.005251I$ $a = 2.15005 - 0.22559I$ $b = -0.848968 + 0.668807I$	$-2.27128 - 4.38189I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.296200+0.248561I$ $a=-0.375285+0.294479I$ $b=\ \ 0.546796-0.557292I$	$2.32836-7.00243I$	0
$u=-1.296200-0.248561I$ $a=-0.375285-0.294479I$ $b=\ \ 0.546796+0.557292I$	$2.32836+7.00243I$	0
$u=-1.189760+0.578996I$ $a=\ \ 0.87367+1.47412I$ $b=-0.545600+1.252180I$	$-3.54169-11.57990I$	0
$u=-1.189760-0.578996I$ $a=\ \ 0.87367-1.47412I$ $b=-0.545600-1.252180I$	$-3.54169+11.57990I$	0
$u=\ \ 1.195790+0.571212I$ $a=\ \ 1.193210-0.441108I$ $b=-0.062692-0.700433I$	$-0.61158+5.82211I$	0
$u=\ \ 1.195790-0.571212I$ $a=\ \ 1.193210+0.441108I$ $b=-0.062692+0.700433I$	$-0.61158-5.82211I$	0
$u=\ \ 0.559864+0.365989I$ $a=\ \ 0.668397-0.053790I$ $b=\ \ 1.018860-0.494833I$	$1.84189-3.11896I$	0
$u=\ \ 0.559864-0.365989I$ $a=\ \ 0.668397+0.053790I$ $b=\ \ 1.018860+0.494833I$	$1.84189+3.11896I$	0
$u=\ \ 0.646007+0.169555I$ $a=-4.43841+0.27824I$ $b=\ \ 0.092903-0.446816I$	$1.53814+7.91974I$	0
$u=\ \ 0.646007-0.169555I$ $a=-4.43841-0.27824I$ $b=\ \ 0.092903+0.446816I$	$1.53814-7.91974I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.205290+0.577255I$ $a=\ \ 0.015896+0.188755I$ $b=-1.267450-0.421248I$	$3.4398-14.1909I$	0
$u=-1.205290-0.577255I$ $a=\ \ 0.015896-0.188755I$ $b=-1.267450+0.421248I$	$3.4398+14.1909I$	0
$u=-0.420609+0.509926I$ $a=\ \ 0.637886-0.587909I$ $b=-0.047490-0.445395I$	$0.180489-1.333900I$	0
$u=-0.420609-0.509926I$ $a=\ \ 0.637886+0.587909I$ $b=-0.047490+0.445395I$	$0.180489+1.333900I$	0
$u=\ \ 1.305510+0.323921I$ $a=\ \ 0.61203-1.46662I$ $b=-0.417253-0.785584I$	$5.19277-4.81293I$	0
$u=\ \ 1.305510-0.323921I$ $a=\ \ 0.61203+1.46662I$ $b=-0.417253+0.785584I$	$5.19277+4.81293I$	0
$u=-0.313395+1.314740I$ $a=-0.255022-1.209530I$ $b=-0.557304-1.228230I$	$-2.7132+14.1697I$	0
$u=-0.313395-1.314740I$ $a=-0.255022+1.209530I$ $b=-0.557304+1.228230I$	$-2.7132-14.1697I$	0
$u=\ \ 1.265330+0.497643I$ $a=\ \ 0.033261-0.208612I$ $b=-1.114960+0.428640I$	$5.58093+8.71578I$	0
$u=\ \ 1.265330-0.497643I$ $a=\ \ 0.033261+0.208612I$ $b=-1.114960-0.428640I$	$5.58093-8.71578I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.241010 + 0.561883I$ $a = 0.296778 + 0.025906I$ $b = -0.834157 + 0.453582I$	$1.95190 + 7.20316I$	0
$u = 1.241010 - 0.561883I$ $a = 0.296778 - 0.025906I$ $b = -0.834157 - 0.453582I$	$1.95190 - 7.20316I$	0
$u = -0.625895 + 0.091133I$ $a = 0.49720 + 2.82927I$ $b = 0.287161 + 1.217430I$	$-1.12845 + 2.74394I$	0
$u = -0.625895 - 0.091133I$ $a = 0.49720 - 2.82927I$ $b = 0.287161 - 1.217430I$	$-1.12845 - 2.74394I$	0
$u = -1.318580 + 0.406301I$ $a = 0.342733 + 0.023091I$ $b = 0.549862 + 0.955041I$	$2.56047 + 2.15025I$	0
$u = -1.318580 - 0.406301I$ $a = 0.342733 - 0.023091I$ $b = 0.549862 - 0.955041I$	$2.56047 - 2.15025I$	0
$u = 0.164277 + 0.590673I$ $a = -1.093780 - 0.141679I$ $b = -0.312087 + 0.222223I$	$-3.64062 + 3.32789I$	0
$u = 0.164277 - 0.590673I$ $a = -1.093780 + 0.141679I$ $b = -0.312087 - 0.222223I$	$-3.64062 - 3.32789I$	0
$u = -1.320680 + 0.449158I$ $a = 0.74676 + 1.30102I$ $b = -0.502410 + 0.798029I$	$5.93176 - 1.26246I$	0
$u = -1.320680 - 0.449158I$ $a = 0.74676 - 1.30102I$ $b = -0.502410 - 0.798029I$	$5.93176 + 1.26246I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.148046 + 1.399950I$ $a = 0.111816 - 1.385270I$ $b = 0.244179 - 0.817411I$	$-3.98003 + 0.71275I$	0
$u = 0.148046 - 1.399950I$ $a = 0.111816 + 1.385270I$ $b = 0.244179 + 0.817411I$	$-3.98003 - 0.71275I$	0
$u = -0.561611 + 0.180956I$ $a = -1.15626 - 1.71773I$ $b = 0.658912 - 1.221060I$	$-1.26928 - 5.93812I$	0
$u = -0.561611 - 0.180956I$ $a = -1.15626 + 1.71773I$ $b = 0.658912 + 1.221060I$	$-1.26928 + 5.93812I$	0
$u = -1.35368 + 0.43467I$ $a = 0.355072 - 0.099636I$ $b = -0.660776 - 0.558262I$	$3.90172 - 1.51031I$	0
$u = -1.35368 - 0.43467I$ $a = 0.355072 + 0.099636I$ $b = -0.660776 + 0.558262I$	$3.90172 + 1.51031I$	0
$u = -1.36381 + 0.42693I$ $a = -0.666907 - 0.752694I$ $b = 0.77106 - 1.31188I$	$1.53991 - 11.21400I$	0
$u = -1.36381 - 0.42693I$ $a = -0.666907 + 0.752694I$ $b = 0.77106 + 1.31188I$	$1.53991 + 11.21400I$	0
$u = -1.12529 + 0.88185I$ $a = -0.400961 - 1.214430I$ $b = 0.46705 - 1.36662I$	$-3.11403 - 5.14717I$	0
$u = -1.12529 - 0.88185I$ $a = -0.400961 + 1.214430I$ $b = 0.46705 + 1.36662I$	$-3.11403 + 5.14717I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.33129 + 0.58823I$ $a = -0.566013 + 1.283660I$ $b = 0.390403 + 1.172280I$	$0.23031 + 5.81518I$	0
$u = 1.33129 - 0.58823I$ $a = -0.566013 - 1.283660I$ $b = 0.390403 - 1.172280I$	$0.23031 - 5.81518I$	0
$u = -0.59766 + 1.33124I$ $a = 0.473258 + 1.053720I$ $b = 0.096621 + 1.169710I$	$-4.91321 - 2.41372I$	0
$u = -0.59766 - 1.33124I$ $a = 0.473258 - 1.053720I$ $b = 0.096621 - 1.169710I$	$-4.91321 + 2.41372I$	0
$u = 1.43721 + 0.27587I$ $a = 0.143620 - 0.272951I$ $b = -0.557764 + 0.612259I$	$6.45356 + 5.15771I$	0
$u = 1.43721 - 0.27587I$ $a = 0.143620 + 0.272951I$ $b = -0.557764 - 0.612259I$	$6.45356 - 5.15771I$	0
$u = -0.213863 + 0.486911I$ $a = 0.93169 - 1.90172I$ $b = 0.391926 - 1.093680I$	$-0.81323 - 3.04148I$	0
$u = -0.213863 - 0.486911I$ $a = 0.93169 + 1.90172I$ $b = 0.391926 + 1.093680I$	$-0.81323 + 3.04148I$	0
$u = 1.33174 + 0.63748I$ $a = 0.91962 - 1.25059I$ $b = -0.69841 - 1.22989I$	$3.0115 + 15.1843I$	0
$u = 1.33174 - 0.63748I$ $a = 0.91962 + 1.25059I$ $b = -0.69841 + 1.22989I$	$3.0115 - 15.1843I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.308079+0.419861I$ $a=\ \ 1.27022+2.05415I$ $b=\ \ 0.523970+1.000810I$	$0.50933+2.16644I$	0
$u=-0.308079-0.419861I$ $a=\ \ 1.27022-2.05415I$ $b=\ \ 0.523970-1.000810I$	$0.50933-2.16644I$	0
$u=-1.44176+0.37269I$ $a=-0.075532+0.276728I$ $b=\ \ 0.361595+0.284432I$	$2.05329-6.60058I$	0
$u=-1.44176-0.37269I$ $a=-0.075532-0.276728I$ $b=\ \ 0.361595-0.284432I$	$2.05329+6.60058I$	0
$u=\ \ 0.01821+1.49450I$ $a=\ \ 0.389517-1.309550I$ $b=-0.343380-0.779304I$	$-2.21060-1.52728I$	0
$u=\ \ 0.01821-1.49450I$ $a=\ \ 0.389517+1.309550I$ $b=-0.343380+0.779304I$	$-2.21060+1.52728I$	0
$u=-1.48747+0.15584I$ $a=\ \ 0.261940+0.249489I$ $b=-0.338974-0.786582I$	$5.05364+0.52022I$	0
$u=-1.48747-0.15584I$ $a=\ \ 0.261940-0.249489I$ $b=-0.338974+0.786582I$	$5.05364-0.52022I$	0
$u=-1.34139+0.71087I$ $a=\ \ 0.84603+1.19372I$ $b=-0.74003+1.28941I$	$0.6103-21.2226I$	0
$u=-1.34139-0.71087I$ $a=\ \ 0.84603-1.19372I$ $b=-0.74003-1.28941I$	$0.6103+21.2226I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.29024+1.50006I$ $a=\ 0.173737+1.177220I$ $b=\ 0.305403+1.002970I$	$-4.73199+3.08085I$	0
$u=-0.29024-1.50006I$ $a=\ 0.173737-1.177220I$ $b=\ 0.305403-1.002970I$	$-4.73199-3.08085I$	0
$u=\ 1.52952+0.28535I$ $a=\ 1.079650-0.658021I$ $b=-0.377545-0.916215I$	$-4.55495+1.52297I$	0
$u=\ 1.52952-0.28535I$ $a=\ 1.079650+0.658021I$ $b=-0.377545+0.916215I$	$-4.55495-1.52297I$	0
$u=\ 1.37020+0.75530I$ $a=\ 0.846859-1.059280I$ $b=-0.630327-1.115910I$	$-0.05188+12.67200I$	0
$u=\ 1.37020-0.75530I$ $a=\ 0.846859+1.059280I$ $b=-0.630327+1.115910I$	$-0.05188-12.67200I$	0
$u=-1.40748+0.70167I$ $a=\ 0.876689+1.039810I$ $b=-0.586097+1.024810I$	$2.50884-6.38462I$	0
$u=-1.40748-0.70167I$ $a=\ 0.876689-1.039810I$ $b=-0.586097-1.024810I$	$2.50884+6.38462I$	0
$u=\ 0.380505+0.190134I$ $a=\ 1.062130+0.269634I$ $b=\ 0.938848-0.506660I$	$1.86267-3.13042I$	$4.98863+5.67838I$
$u=\ 0.380505-0.190134I$ $a=\ 1.062130-0.269634I$ $b=\ 0.938848+0.506660I$	$1.86267+3.13042I$	$4.98863-5.67838I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.40084+0.71997I$ $a=-0.583643-1.192140I$ $b=\ \ 0.503553-1.198140I$	$-0.94976-10.68140I$	0
$u=-1.40084-0.71997I$ $a=-0.583643+1.192140I$ $b=\ \ 0.503553+1.198140I$	$-0.94976+10.68140I$	0
$u=\ \ 0.53544+1.49232I$ $a=\ \ 0.079354+1.040350I$ $b=-0.452340+0.988830I$	$-3.14475-4.92454I$	0
$u=\ \ 0.53544-1.49232I$ $a=\ \ 0.079354-1.040350I$ $b=-0.452340-0.988830I$	$-3.14475+4.92454I$	0
$u=\ \ 0.342520+0.210477I$ $a=-0.23628-2.63757I$ $b=\ \ 0.38370-1.47793I$	$-4.37832-7.97858I$	$-9.21274-0.65445I$
$u=\ \ 0.342520-0.210477I$ $a=-0.23628+2.63757I$ $b=\ \ 0.38370+1.47793I$	$-4.37832+7.97858I$	$-9.21274+0.65445I$
$u=-1.61880+0.25038I$ $a=\ \ 0.103481-0.266054I$ $b=-0.486812-0.848168I$	$5.79278+2.79107I$	0
$u=-1.61880-0.25038I$ $a=\ \ 0.103481+0.266054I$ $b=-0.486812+0.848168I$	$5.79278-2.79107I$	0
$u=-0.193779+0.294692I$ $a=\ \ 1.49818+0.73333I$ $b=\ \ 0.900270-0.018598I$	$2.27986-1.11031I$	$4.33066+3.03003I$
$u=-0.193779-0.294692I$ $a=\ \ 1.49818-0.73333I$ $b=\ \ 0.900270+0.018598I$	$2.27986+1.11031I$	$4.33066-3.03003I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.65278 + 0.24737I$ $a = -0.017357 - 0.252561I$ $b = 0.100842 - 0.672801I$	$2.67438 + 3.54754I$	0
$u = 1.65278 - 0.24737I$ $a = -0.017357 + 0.252561I$ $b = 0.100842 + 0.672801I$	$2.67438 - 3.54754I$	0
$u = 1.74163 + 0.13366I$ $a = 0.063644 + 0.239182I$ $b = -0.343402 + 0.920265I$	$4.82573 - 8.02556I$	0
$u = 1.74163 - 0.13366I$ $a = 0.063644 - 0.239182I$ $b = -0.343402 - 0.920265I$	$4.82573 + 8.02556I$	0

II.

$\boldsymbol{I_2^u = \langle -1.20\times 10^{74}u^{55}+3.12\times 10^{74}u^{54}+\cdots+1.12\times 10^{71}b-1.63\times 10^{74},\ -1.87\times 10^{74}u^{55}+4.91\times 10^{74}u^{54}+\cdots+1.12\times 10^{71}a-2.71\times 10^{74},\ u^{56}-2u^{55}+\cdots-2u+1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} 1666.15u^{55} - 4380.14u^{54} + \cdots - 8774.75u + 2418.80 \\ 1068.54u^{55} - 2786.49u^{54} + \cdots - 5417.79u + 1455.41 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 597.613u^{55} - 1593.64u^{54} + \cdots - 3356.96u + 963.392 \\ 1068.54u^{55} - 2786.49u^{54} + \cdots - 5417.79u + 1455.41 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1872.95u^{55} - 4911.70u^{54} + \cdots - 9622.33u + 2620.20 \\ 604.243u^{55} - 1610.57u^{54} + \cdots - 3094.98u + 871.031 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2826.97u^{55} + 7573.83u^{54} + \cdots + 15573.0u - 4556.16 \\ -1998.47u^{55} + 5412.37u^{54} + \cdots + 11188.2u - 3313.06 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1032.37u^{55} - 2762.82u^{54} + \cdots - 5846.62u + 1745.03 \\ 1032.99u^{55} - 2816.23u^{54} + \cdots - 5900.90u + 1749.19 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2052.67u^{55} - 5376.97u^{54} + \cdots - 10581.3u + 2867.53 \\ 713.013u^{55} - 1889.87u^{54} + \cdots - 3662.54u + 1012.53 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 515.440u^{55} - 1427.52u^{54} + \cdots - 2972.79u + 854.600 \\ 109.772u^{55} - 295.482u^{54} + \cdots - 454.218u + 161.231 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -430.191u^{55} + 1086.19u^{54} + \cdots + 2161.70u - 622.076 \\ -380.196u^{55} + 984.699u^{54} + \cdots + 1901.73u - 452.246 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9558.60u^{55} + 25049.7u^{54} + \cdots + 50029.5u - 13642.1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{56} - 34u^{55} + \cdots - 55u + 1$
c_2	$u^{56} - 2u^{55} + \cdots - 9u + 1$
c_3	$u^{56} - u^{55} + \cdots + 12u^2 + 1$
c_4	$u^{56} - u^{55} + \cdots + 72u + 73$
c_5	$u^{56} + 2u^{55} + \cdots + 2u + 1$
c_6	$u^{56} + 8u^{55} + \cdots - u + 1$
c_7	$u^{56} + 2u^{55} + \cdots + 9u + 1$
c_8	$u^{56} + 16u^{55} + \cdots + 8u + 1$
c_9	$u^{56} + 4u^{55} + \cdots - 101u + 23$
c_{10}	$u^{56} - 8u^{54} + \cdots - u + 1$
c_{11}	$u^{56} - 16u^{55} + \cdots - 8u + 1$
c_{12}	$u^{56} - 2u^{55} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{56} - 2y^{55} + \cdots - 343y + 1$
c_2, c_7	$y^{56} - 34y^{55} + \cdots - 55y + 1$
c_3	$y^{56} + 7y^{55} + \cdots + 24y + 1$
c_4	$y^{56} + 15y^{55} + \cdots - 15550y + 5329$
c_5, c_{12}	$y^{56} - 30y^{55} + \cdots - 46y + 1$
c_6	$y^{56} - 20y^{55} + \cdots + 11y + 1$
c_8, c_{11}	$y^{56} + 24y^{55} + \cdots + 52y + 1$
c_9	$y^{56} - 30y^{55} + \cdots + 3277y + 529$
c_{10}	$y^{56} - 16y^{55} + \cdots - 9y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.686592+0.646320I$ $a=-0.501302-1.286830I$ $b=\ \ 0.738268-1.023050I$	$0.85197-4.56070I$	0
$u=-0.686592-0.646320I$ $a=-0.501302+1.286830I$ $b=\ \ 0.738268+1.023050I$	$0.85197+4.56070I$	0
$u=\ \ 1.065870+0.324859I$ $a=-0.405854+0.275820I$ $b=\ \ 1.35573-0.40534I$	$3.83584+4.02428I$	0
$u=\ \ 1.065870-0.324859I$ $a=-0.405854-0.275820I$ $b=\ \ 1.35573+0.40534I$	$3.83584-4.02428I$	0
$u=-1.105820+0.172053I$ $a=-0.474102-0.434430I$ $b=\ \ 1.133090+0.364996I$	$4.89565+0.56388I$	0
$u=-1.105820-0.172053I$ $a=-0.474102+0.434430I$ $b=\ \ 1.133090-0.364996I$	$4.89565-0.56388I$	0
$u=-1.108190+0.239036I$ $a=\ \ 0.548319+0.069439I$ $b=\ \ 0.582461+0.612180I$	$2.38000+0.80281I$	0
$u=-1.108190-0.239036I$ $a=\ \ 0.548319-0.069439I$ $b=\ \ 0.582461-0.612180I$	$2.38000-0.80281I$	0
$u=-0.768521+0.290799I$ $a=\ \ 3.19179+2.03186I$ $b=-0.098205+0.628128I$	$2.22793-2.18837I$	0
$u=-0.768521-0.290799I$ $a=\ \ 3.19179-2.03186I$ $b=-0.098205-0.628128I$	$2.22793+2.18837I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.768601 + 0.274457I$ $a = -0.164105 + 0.267732I$ $b = 1.55969 - 0.11542I$	$2.68074 - 1.52031I$	0
$u = 0.768601 - 0.274457I$ $a = -0.164105 - 0.267732I$ $b = 1.55969 + 0.11542I$	$2.68074 + 1.52031I$	0
$u = -0.940343 + 0.721885I$ $a = -0.317166 - 1.356530I$ $b = 0.34073 - 1.43282I$	$-2.98640 - 7.48502I$	0
$u = -0.940343 - 0.721885I$ $a = -0.317166 + 1.356530I$ $b = 0.34073 + 1.43282I$	$-2.98640 + 7.48502I$	0
$u = 0.771011 + 0.200658I$ $a = 2.78351 - 1.38553I$ $b = -0.083726 - 0.988222I$	$-6.85240 + 0.32424I$	$-7.87477 + 0.I$
$u = 0.771011 - 0.200658I$ $a = 2.78351 + 1.38553I$ $b = -0.083726 + 0.988222I$	$-6.85240 - 0.32424I$	$-7.87477 + 0.I$
$u = 0.694423 + 0.370604I$ $a = 3.61053 - 1.83626I$ $b = -0.237859 - 0.508002I$	$1.48318 + 8.34940I$	$0. - 16.8087I$
$u = 0.694423 - 0.370604I$ $a = 3.61053 + 1.83626I$ $b = -0.237859 + 0.508002I$	$1.48318 - 8.34940I$	$0. + 16.8087I$
$u = -0.265946 + 1.184640I$ $a = 0.59705 + 1.44904I$ $b = -0.043997 + 0.893313I$	$-4.47265 + 1.52504I$	0
$u = -0.265946 - 1.184640I$ $a = 0.59705 - 1.44904I$ $b = -0.043997 - 0.893313I$	$-4.47265 - 1.52504I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.552197+0.547191I$ $a=\ 1.63052+0.94821I$ $b=-0.339201+1.025770I$	$-4.24657+1.85447I$	$-7.98295+0.I$
$u=-0.552197-0.547191I$ $a=\ 1.63052-0.94821I$ $b=-0.339201-1.025770I$	$-4.24657-1.85447I$	$-7.98295+0.I$
$u=-0.763977+0.057035I$ $a=-0.059145-0.428232I$ $b=\ 1.40486-0.17471I$	$3.48815-1.53061I$	$12.26542+4.29249I$
$u=-0.763977-0.057035I$ $a=-0.059145+0.428232I$ $b=\ 1.40486+0.17471I$	$3.48815+1.53061I$	$12.26542-4.29249I$
$u=-1.199460+0.447234I$ $a=-1.10205-1.10101I$ $b=\ 0.621610-1.128230I$	$2.34214-5.17482I$	0
$u=-1.199460-0.447234I$ $a=-1.10205+1.10101I$ $b=\ 0.621610+1.128230I$	$2.34214+5.17482I$	0
$u=-0.658010+0.005393I$ $a=\ 1.35299+2.13365I$ $b=\ 0.245287+1.235140I$	$-0.97267+3.08874I$	$2.10814-12.25501I$
$u=-0.658010-0.005393I$ $a=\ 1.35299-2.13365I$ $b=\ 0.245287-1.235140I$	$-0.97267-3.08874I$	$2.10814+12.25501I$
$u=\ 0.279431+1.318880I$ $a=\ 0.390764-1.163780I$ $b=\ 0.041156-1.071620I$	$-5.20193+1.48724I$	0
$u=\ 0.279431-1.318880I$ $a=\ 0.390764+1.163780I$ $b=\ 0.041156+1.071620I$	$-5.20193-1.48724I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.124070 + 0.781925I$ $a = -0.458103 + 1.140770I$ $b = 0.45026 + 1.43810I$	$-2.59018 + 5.28371I$	0
$u = 1.124070 - 0.781925I$ $a = -0.458103 - 1.140770I$ $b = 0.45026 - 1.43810I$	$-2.59018 - 5.28371I$	0
$u = 0.484559 + 1.303970I$ $a = -0.022180 - 0.979856I$ $b = 0.449729 - 1.019470I$	$-3.17695 - 4.69866I$	0
$u = 0.484559 - 1.303970I$ $a = -0.022180 + 0.979856I$ $b = 0.449729 + 1.019470I$	$-3.17695 + 4.69866I$	0
$u = -1.403370 + 0.022207I$ $a = -0.883876 - 0.060349I$ $b = 0.211180 + 0.450931I$	$5.33643 - 0.55677I$	0
$u = -1.403370 - 0.022207I$ $a = -0.883876 + 0.060349I$ $b = 0.211180 - 0.450931I$	$5.33643 + 0.55677I$	0
$u = 1.317340 + 0.512508I$ $a = -0.898315 + 0.927856I$ $b = 0.650228 + 1.249810I$	$0.67435 + 10.73070I$	0
$u = 1.317340 - 0.512508I$ $a = -0.898315 - 0.927856I$ $b = 0.650228 - 1.249810I$	$0.67435 - 10.73070I$	0
$u = -0.02435 + 1.44625I$ $a = -0.30749 + 1.41714I$ $b = 0.348268 + 0.774756I$	$-2.17017 - 1.38687I$	0
$u = -0.02435 - 1.44625I$ $a = -0.30749 - 1.41714I$ $b = 0.348268 - 0.774756I$	$-2.17017 + 1.38687I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.456649 + 0.262826I$ $a = 1.63030 - 1.13005I$ $b = -0.304907 - 1.334800I$	$-5.69363 + 0.19025I$	$-6.11129 - 0.75867I$
$u = 0.456649 - 0.262826I$ $a = 1.63030 + 1.13005I$ $b = -0.304907 + 1.334800I$	$-5.69363 - 0.19025I$	$-6.11129 + 0.75867I$
$u = 1.48618 + 0.03743I$ $a = -0.707939 - 0.393448I$ $b = 0.065469 - 0.396743I$	$5.37880 + 6.40444I$	0
$u = 1.48618 - 0.03743I$ $a = -0.707939 + 0.393448I$ $b = 0.065469 + 0.396743I$	$5.37880 - 6.40444I$	0
$u = -1.46393 + 0.27216I$ $a = 0.282276 + 0.002379I$ $b = -0.152758 + 0.585186I$	$1.51964 - 6.95526I$	0
$u = -1.46393 - 0.27216I$ $a = 0.282276 - 0.002379I$ $b = -0.152758 - 0.585186I$	$1.51964 + 6.95526I$	0
$u = 0.425737 + 0.269090I$ $a = 2.84255 - 0.79330I$ $b = -0.780936 - 0.615351I$	$-2.73512 + 4.72320I$	$-7.75911 - 8.68693I$
$u = 0.425737 - 0.269090I$ $a = 2.84255 + 0.79330I$ $b = -0.780936 + 0.615351I$	$-2.73512 - 4.72320I$	$-7.75911 + 8.68693I$
$u = 1.47221 + 0.27325I$ $a = -1.159240 + 0.652230I$ $b = 0.370989 + 0.913382I$	$-4.48884 + 1.51795I$	0
$u = 1.47221 - 0.27325I$ $a = -1.159240 - 0.652230I$ $b = 0.370989 - 0.913382I$	$-4.48884 - 1.51795I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.490355 + 0.060592I$ $a = 0.93666 + 1.50626I$ $b = 0.33192 + 1.55243I$	$-4.07189 + 8.23877I$	$6.03731 - 11.67527I$
$u = 0.490355 - 0.060592I$ $a = 0.93666 - 1.50626I$ $b = 0.33192 - 1.55243I$	$-4.07189 - 8.23877I$	$6.03731 + 11.67527I$
$u = -0.463622 + 0.153454I$ $a = 2.49945 + 1.16476I$ $b = -0.717000 + 0.921279I$	$-3.58981 - 6.51029I$	$-4.79929 + 5.60917I$
$u = -0.463622 - 0.153454I$ $a = 2.49945 - 1.16476I$ $b = -0.717000 - 0.921279I$	$-3.58981 + 6.51029I$	$-4.79929 - 5.60917I$
$u = 1.56789 + 0.19139I$ $a = 0.164177 - 0.398683I$ $b = -0.142342 - 0.452786I$	$2.99491 + 3.94128I$	0
$u = 1.56789 - 0.19139I$ $a = 0.164177 + 0.398683I$ $b = -0.142342 + 0.452786I$	$2.99491 - 3.94128I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{56}-34u^{55}+\cdots-55u+1)$ $\cdot(u^{194}+93u^{193}+\cdots+10148842326u+242020249)$
c_2	$(u^{56}-2u^{55}+\cdots-9u+1)(u^{194}+u^{193}+\cdots-18064u+15557)$
c_3	$(u^{56}-u^{55}+\cdots+12u^2+1)(u^{194}-2u^{193}+\cdots-61u+1)$
c_4	$(u^{56}-u^{55}+\cdots+72u+73)$ $\cdot(u^{194}-6u^{192}+\cdots+43312357u+11436607)$
c_5	$(u^{56}+2u^{55}+\cdots+2u+1)(u^{194}+u^{193}+\cdots+117893u+245459)$
c_6	$(u^{56}+8u^{55}+\cdots-u+1)(u^{194}-11u^{193}+\cdots-190u+23)$
c_7	$(u^{56}+2u^{55}+\cdots+9u+1)(u^{194}+u^{193}+\cdots-18064u+15557)$
c_8	$(u^{56}+16u^{55}+\cdots+8u+1)(u^{194}-15u^{193}+\cdots+667643u+215671)$
c_9	$(u^{56}+4u^{55}+\cdots-101u+23)(u^{194}-7u^{193}+\cdots-76956u+12989)$
c_{10}	$(u^{56}-8u^{54}+\cdots-u+1)(u^{194}-3u^{193}+\cdots+74u+1)$
c_{11}	$(u^{56}-16u^{55}+\cdots-8u+1)(u^{194}-15u^{193}+\cdots+667643u+215671)$
c_{12}	$(u^{56}-2u^{55}+\cdots-2u+1)(u^{194}+u^{193}+\cdots+117893u+245459)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{56} - 2y^{55} + \cdots - 343y + 1)$ $\cdot (y^{194} + 39y^{193} + \cdots + 4148575594390299166y + 58573800926022001)$
c_2, c_7	$(y^{56} - 34y^{55} + \cdots - 55y + 1)$ $\cdot (y^{194} - 93y^{193} + \cdots - 10148842326y + 242020249)$
c_3	$(y^{56} + 7y^{55} + \cdots + 24y + 1)(y^{194} + 4y^{193} + \cdots + 373y + 1)$
c_4	$(y^{56} + 15y^{55} + \cdots - 15550y + 5329)$ $\cdot (y^{194} - 12y^{193} + \cdots - 567942991784177y + 130795979672449)$
c_5, c_{12}	$(y^{56} - 30y^{55} + \cdots - 46y + 1)$ $\cdot (y^{194} - 109y^{193} + \cdots - 3655898635621y + 60250120681)$
c_6	$(y^{56} - 20y^{55} + \cdots + 11y + 1)(y^{194} - 7y^{193} + \cdots + 26644y + 529)$
c_8, c_{11}	$(y^{56} + 24y^{55} + \cdots + 52y + 1)$ $\cdot (y^{194} + 93y^{193} + \cdots + 1846508165973y + 46513980241)$
c_9	$(y^{56} - 30y^{55} + \cdots + 3277y + 529)$ $\cdot (y^{194} - 9y^{193} + \cdots + 30908265410y + 168714121)$
c_{10}	$(y^{56} - 16y^{55} + \cdots - 9y + 1)(y^{194} - 15y^{193} + \cdots - 540y + 1)$