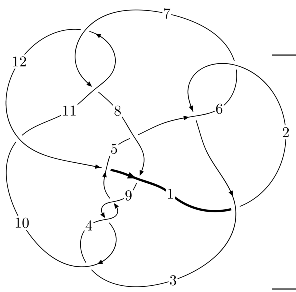
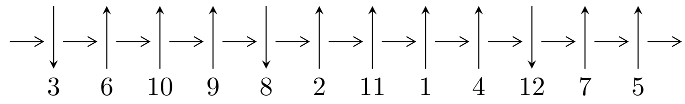
$12a_{0450}$ ($K12a_{0450}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle b - u,\ -11204011u^{28} + 11782800u^{27} + \cdots + 11150225a + 3596564,\ u^{29} - u^{28} + \cdots + u - 1\rangle$$

$$I_2^u = \langle -1.58760 \times 10^{230}u^{101} - 4.36695 \times 10^{230}u^{100} + \cdots + 1.89430 \times 10^{230}b + 1.72802 \times 10^{231},$$
$$1.44256 \times 10^{231}u^{101} + 3.32780 \times 10^{231}u^{100} + \cdots + 7.00892 \times 10^{231}a + 5.69101 \times 10^{232},$$
$$u^{102} + 2u^{101} + \cdots + 355u + 37\rangle$$

$$I_3^u = \langle b + u,$$
$$4u^{13} + 5u^{12} + 15u^{11} + 14u^{10} + 31u^9 + 27u^8 + 41u^7 + 30u^6 + 36u^5 + 25u^4 + 25u^3 + 13u^2 + a + 9u + 5,$$
$$u^{14} + u^{13} + 4u^{12} + 3u^{11} + 9u^{10} + 6u^9 + 13u^8 + 7u^7 + 13u^6 + 6u^5 + 10u^4 + 3u^3 + 5u^2 + u + 1\rangle$$

$$I_4^u = \langle -u^{13} - u^{12} - 4u^{11} - 3u^{10} - 9u^9 - 6u^8 - 14u^7 - 7u^6 - 14u^5 - 6u^4 - 9u^3 - 3u^2 + b - 4u - 1,$$
$$3u^{13} + 4u^{12} + 11u^{11} + 11u^{10} + 22u^9 + 21u^8 + 31u^7 + 24u^6 + 24u^5 + 20u^4 + 10u^3 + 9u^2 + a + 4u + 3,$$
$$u^{14} + u^{13} + 4u^{12} + 3u^{11} + 9u^{10} + 6u^9 + 14u^8 + 7u^7 + 14u^6 + 6u^5 + 9u^4 + 3u^3 + 4u^2 + u + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 159 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. $I^u_1 = \langle b-u,\ -1.12\times10^7u^{28}+1.18\times10^7u^{27}+\cdots+1.12\times10^7a+3.60\times10^6,\ u^{29}-u^{28}+\cdots+u-1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^3\\u^5+u^3+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}1.00482u^{28}-1.05673u^{27}+\cdots-1.71703u-0.322555\\u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}1.00482u^{28}-1.05673u^{27}+\cdots-2.71703u-0.322555\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0.0519083u^{28}-0.150688u^{27}+\cdots+1.32738u-0.00482376\\-u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.189436u^{28}+0.263701u^{27}+\cdots+1.76119u-0.259466\\0.108962u^{28}-0.0707161u^{27}+\cdots-0.422843u+0.0385933\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.354849u^{28}-0.895361u^{27}+\cdots+0.459547u+0.601333\\-0.147097u^{28}+0.813257u^{27}+\cdots+0.521680u-0.644748\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0.00618741u^{28}+0.549901u^{27}+\cdots+0.308783u+0.152467\\-0.113039u^{28}+0.353098u^{27}+\cdots+1.44615u-0.413071\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}1.10360u^{28}-1.27858u^{27}+\cdots-1.66030u-0.374464\\u^3+u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{32073842}{11150225}u^{28}-\frac{607928}{446009}u^{27}+\cdots+\frac{2213155}{446009}u+\frac{88659642}{11150225}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{29} + 15u^{28} + \cdots + 7u - 1$
c_2, c_6, c_7 c_{11}	$u^{29} - u^{28} + \cdots + u - 1$
c_3, c_4, c_9	$u^{29} - 11u^{28} + \cdots + 344u - 32$
c_5	$u^{29} - 25u^{28} + \cdots + 30720u - 2048$
c_8, c_{12}	$u^{29} + 7u^{27} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{29} + 7y^{28} + \cdots + 111y - 1$
c_2, c_6, c_7 c_{11}	$y^{29} + 15y^{28} + \cdots + 7y - 1$
c_3, c_4, c_9	$y^{29} + 25y^{28} + \cdots - 1728y - 1024$
c_5	$y^{29} - 3y^{28} + \cdots + 85983232y - 4194304$
c_8, c_{12}	$y^{29} + 14y^{28} + \cdots - 30y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.823702 + 0.553499I$ $a = -1.386270 + 0.264015I$ $b = -0.823702 + 0.553499I$	$4.15742 + 2.94610I$	$10.44832 - 2.08399I$
$u = -0.823702 - 0.553499I$ $a = -1.386270 - 0.264015I$ $b = -0.823702 - 0.553499I$	$4.15742 - 2.94610I$	$10.44832 + 2.08399I$
$u = 0.909923 + 0.492711I$ $a = 1.55550 + 0.08106I$ $b = 0.909923 + 0.492711I$	$-1.63366 - 6.77137I$	$6.32659 + 2.86609I$
$u = 0.909923 - 0.492711I$ $a = 1.55550 - 0.08106I$ $b = 0.909923 - 0.492711I$	$-1.63366 + 6.77137I$	$6.32659 - 2.86609I$
$u = -0.139705 + 1.052750I$ $a = -0.94818 - 1.53693I$ $b = -0.139705 + 1.052750I$	$-5.81423 + 0.14287I$	$-5.03844 - 0.22076I$
$u = -0.139705 - 1.052750I$ $a = -0.94818 + 1.53693I$ $b = -0.139705 - 1.052750I$	$-5.81423 - 0.14287I$	$-5.03844 + 0.22076I$
$u = 0.501294 + 0.940692I$ $a = 3.02556 - 0.44481I$ $b = 0.501294 + 0.940692I$	$-1.91483 + 3.97058I$	$1.30591 - 5.30743I$
$u = 0.501294 - 0.940692I$ $a = 3.02556 + 0.44481I$ $b = 0.501294 - 0.940692I$	$-1.91483 - 3.97058I$	$1.30591 + 5.30743I$
$u = 0.688832 + 0.611331I$ $a = 1.036710 + 0.591577I$ $b = 0.688832 + 0.611331I$	$2.69727 + 1.72831I$	$8.88157 - 2.20446I$
$u = 0.688832 - 0.611331I$ $a = 1.036710 - 0.591577I$ $b = 0.688832 - 0.611331I$	$2.69727 - 1.72831I$	$8.88157 + 2.20446I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.381004+0.827261I$ $a=-3.27823-1.66424I$ $b=-0.381004+0.827261I$	$-5.43501+1.14701I$	$-0.01474+3.75777I$
$u=-0.381004-0.827261I$ $a=-3.27823+1.66424I$ $b=-0.381004-0.827261I$	$-5.43501-1.14701I$	$-0.01474-3.75777I$
$u=0.200189+0.870048I$ $a=-0.372681-0.947305I$ $b=0.200189+0.870048I$	$-1.79658+2.03837I$	$4.94429-3.28871I$
$u=0.200189-0.870048I$ $a=-0.372681+0.947305I$ $b=0.200189-0.870048I$	$-1.79658-2.03837I$	$4.94429+3.28871I$
$u=-0.578952+1.009070I$ $a=-2.51075+0.14445I$ $b=-0.578952+1.009070I$	$-7.21490-9.32769I$	$-0.02899+8.70521I$
$u=-0.578952-1.009070I$ $a=-2.51075-0.14445I$ $b=-0.578952-1.009070I$	$-7.21490+9.32769I$	$-0.02899-8.70521I$
$u=-0.366567+1.150180I$ $a=-0.599376-1.180700I$ $b=-0.366567+1.150180I$	$-10.01000-4.88118I$	$-3.58337+4.01368I$
$u=-0.366567-1.150180I$ $a=-0.599376+1.180700I$ $b=-0.366567-1.150180I$	$-10.01000+4.88118I$	$-3.58337-4.01368I$
$u=0.571321+1.081410I$ $a=1.82115-1.33171I$ $b=0.571321+1.081410I$	$-0.35835+8.16861I$	$2.21656-9.01555I$
$u=0.571321-1.081410I$ $a=1.82115+1.33171I$ $b=0.571321-1.081410I$	$-0.35835-8.16861I$	$2.21656+9.01555I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.243891 + 1.224920I$ $a = 1.121270 - 0.632499I$ $b = 0.243891 + 1.224920I$	$-12.57930 - 1.15698I$	$-3.98720 + 0.28766I$
$u = 0.243891 - 1.224920I$ $a = 1.121270 + 0.632499I$ $b = 0.243891 - 1.224920I$	$-12.57930 + 1.15698I$	$-3.98720 - 0.28766I$
$u = -0.654621 + 1.124150I$ $a = -1.94822 - 0.83430I$ $b = -0.654621 + 1.124150I$	$0.6028 - 14.1894I$	$4.78129 + 10.53310I$
$u = -0.654621 - 1.124150I$ $a = -1.94822 + 0.83430I$ $b = -0.654621 - 1.124150I$	$0.6028 + 14.1894I$	$4.78129 - 10.53310I$
$u = 0.693321 + 1.177040I$ $a = 1.87545 - 0.58432I$ $b = 0.693321 + 1.177040I$	$-5.8236 + 18.7593I$	$1.79263 - 10.16559I$
$u = 0.693321 - 1.177040I$ $a = 1.87545 + 0.58432I$ $b = 0.693321 - 1.177040I$	$-5.8236 - 18.7593I$	$1.79263 + 10.16559I$
$u = -0.523955 + 0.098439I$ $a = -0.110227 - 1.340260I$ $b = -0.523955 + 0.098439I$	$-3.75088 - 2.12272I$	$6.69106 + 3.68056I$
$u = -0.523955 - 0.098439I$ $a = -0.110227 + 1.340260I$ $b = -0.523955 - 0.098439I$	$-3.75088 + 2.12272I$	$6.69106 - 3.68056I$
$u = 0.319467$ $a = -0.563407$ $b = 0.319467$	0.696514	14.5290

II. $\boldsymbol{I_2^u = \langle -1.59\times 10^{230}u^{101} - 4.37\times 10^{230}u^{100} + \cdots + 1.89\times 10^{230}b + 1.73\times 10^{231},\ 1.44\times 10^{231}u^{101} + 3.33\times 10^{231}u^{100} + \cdots + 7.01\times 10^{231}a + 5.69\times 10^{232},\ u^{102} + 2u^{101} + \cdots + 355u + 37\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.205818u^{101} - 0.474795u^{100} + \cdots - 64.7467u - 8.11967 \\ 0.838092u^{101} + 2.30531u^{100} + \cdots - 43.9751u - 9.12218 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.04391u^{101} - 2.78011u^{100} + \cdots - 20.7715u + 1.00251 \\ 0.838092u^{101} + 2.30531u^{100} + \cdots - 43.9751u - 9.12218 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.984141u^{101} - 1.37621u^{100} + \cdots + 694.233u + 78.9684 \\ 1.36924u^{101} + 3.70181u^{100} + \cdots + 5.91034u - 0.0524316 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.285754u^{101} + 1.91382u^{100} + \cdots + 609.940u + 66.2871 \\ 1.03471u^{101} + 2.90092u^{100} + \cdots + 57.2355u + 5.57705 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.939420u^{101} - 2.38631u^{100} + \cdots + 19.5952u + 6.62970 \\ -0.188605u^{101} + 0.204315u^{100} + \cdots + 279.590u + 26.3027 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2.63329u^{101} - 5.95720u^{100} + \cdots + 491.628u + 57.3639 \\ -0.991232u^{101} - 0.713435u^{100} + \cdots + 811.851u + 80.0452 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.270960u^{101} + 2.58308u^{100} + \cdots + 579.670u + 39.5655 \\ 1.65331u^{101} + 4.81448u^{100} + \cdots + 19.6099u - 9.60995 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.51275u^{101} + 5.29401u^{100} + \cdots + 609.190u + 70.3877$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{102} + 42u^{101} + \cdots - 35449u + 1369$
c_2, c_6, c_7 c_{11}	$u^{102} + 2u^{101} + \cdots + 355u + 37$
c_3, c_4, c_9	$(u^{51} + 5u^{50} + \cdots + 4u + 1)^2$
c_5	$(u^{51} + 10u^{50} + \cdots + 14u + 1)^2$
c_8, c_{12}	$u^{102} - 5u^{101} + \cdots + 1274u + 283$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{102} + 42y^{101} + \cdots - 2105827777y + 1874161$
c_2, c_6, c_7 c_{11}	$y^{102} + 42y^{101} + \cdots - 35449y + 1369$
c_3, c_4, c_9	$(y^{51} + 51y^{50} + \cdots + 34y - 1)^2$
c_5	$(y^{51} + 10y^{50} + \cdots + 6y - 1)^2$
c_8, c_{12}	$y^{102} + 13y^{101} + \cdots + 4966862y + 80089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.883326 + 0.463294I$ $a = -1.231930 - 0.443970I$ $b = -0.664065 - 1.064720I$	$2.61076 + 8.50985I$	0
$u = -0.883326 - 0.463294I$ $a = -1.231930 + 0.443970I$ $b = -0.664065 + 1.064720I$	$2.61076 - 8.50985I$	0
$u = -0.289966 + 0.954333I$ $a = -0.582972 + 0.991317I$ $b = -0.497422 - 1.198620I$	$-9.16350 + 3.64097I$	0
$u = -0.289966 - 0.954333I$ $a = -0.582972 - 0.991317I$ $b = -0.497422 + 1.198620I$	$-9.16350 - 3.64097I$	0
$u = 0.927953 + 0.394599I$ $a = -1.171310 + 0.410044I$ $b = -0.626513 + 0.835531I$	$3.12347 - 0.88237I$	0
$u = 0.927953 - 0.394599I$ $a = -1.171310 - 0.410044I$ $b = -0.626513 - 0.835531I$	$3.12347 + 0.88237I$	0
$u = 0.437910 + 0.886426I$ $a = -0.786248 + 0.965153I$ $b = -0.956072 + 0.995678I$	$-2.53266 - 1.33076I$	0
$u = 0.437910 - 0.886426I$ $a = -0.786248 - 0.965153I$ $b = -0.956072 - 0.995678I$	$-2.53266 + 1.33076I$	0
$u = 0.433026 + 0.928647I$ $a = -0.36931 + 1.49334I$ $b = 0.285145 - 1.082800I$	$-2.34731 + 1.07784I$	0
$u = 0.433026 - 0.928647I$ $a = -0.36931 - 1.49334I$ $b = 0.285145 + 1.082800I$	$-2.34731 - 1.07784I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.404366 + 0.884641I$ $a = -2.07074 + 1.38245I$ $b = -0.767699 - 1.008430I$	$-2.47454 + 4.82487I$	0
$u = 0.404366 - 0.884641I$ $a = -2.07074 - 1.38245I$ $b = -0.767699 + 1.008430I$	$-2.47454 - 4.82487I$	0
$u = 0.755781 + 0.710365I$ $a = -0.534011 + 0.998595I$ $b = -0.677343 + 1.207820I$	$-3.02328 - 3.40270I$	0
$u = 0.755781 - 0.710365I$ $a = -0.534011 - 0.998595I$ $b = -0.677343 - 1.207820I$	$-3.02328 + 3.40270I$	0
$u = 0.277630 + 1.001670I$ $a = -0.178779 - 0.751026I$ $b = -0.057194 + 0.740808I$	$-1.81087 + 1.95780I$	0
$u = 0.277630 - 1.001670I$ $a = -0.178779 + 0.751026I$ $b = -0.057194 - 0.740808I$	$-1.81087 - 1.95780I$	0
$u = -0.626513 + 0.835531I$ $a = 0.654741 + 1.003570I$ $b = 0.927953 + 0.394599I$	$3.12347 - 0.88237I$	0
$u = -0.626513 - 0.835531I$ $a = 0.654741 - 1.003570I$ $b = 0.927953 - 0.394599I$	$3.12347 + 0.88237I$	0
$u = -0.634342 + 0.842559I$ $a = 1.45930 + 0.26477I$ $b = 0.935236 - 0.574503I$	$3.10678 - 4.05702I$	0
$u = -0.634342 - 0.842559I$ $a = 1.45930 - 0.26477I$ $b = 0.935236 + 0.574503I$	$3.10678 + 4.05702I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.450001 + 0.954825I$ $a = -1.37840 - 1.44259I$ $b = -0.615703 - 0.610926I$	$-5.99173 - 4.58565I$	0
$u = -0.450001 - 0.954825I$ $a = -1.37840 + 1.44259I$ $b = -0.615703 + 0.610926I$	$-5.99173 + 4.58565I$	0
$u = 0.087230 + 1.060010I$ $a = -0.219547 - 0.428028I$ $b = -0.454749 + 0.396373I$	$-1.98416 + 1.90385I$	0
$u = 0.087230 - 1.060010I$ $a = -0.219547 + 0.428028I$ $b = -0.454749 - 0.396373I$	$-1.98416 - 1.90385I$	0
$u = 0.536643 + 0.765315I$ $a = -0.186999 + 1.349050I$ $b = -1.008530 + 0.628210I$	$-1.34733 - 1.57036I$	0
$u = 0.536643 - 0.765315I$ $a = -0.186999 - 1.349050I$ $b = -1.008530 - 0.628210I$	$-1.34733 + 1.57036I$	0
$u = 0.535064 + 0.922653I$ $a = -1.60320 + 0.23068I$ $b = -1.093070 - 0.770145I$	$-1.85244 + 5.89606I$	0
$u = 0.535064 - 0.922653I$ $a = -1.60320 - 0.23068I$ $b = -1.093070 + 0.770145I$	$-1.85244 - 5.89606I$	0
$u = -1.070460 + 0.069288I$ $a = 1.47183 - 0.43431I$ $b = 0.707727 - 0.854284I$	$0.14618 - 2.70697I$	0
$u = -1.070460 - 0.069288I$ $a = 1.47183 + 0.43431I$ $b = 0.707727 + 0.854284I$	$0.14618 + 2.70697I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.410743+0.992038I$ $a=-0.360677-0.010930I$ $b=-0.808634+0.158889I$	$-6.02820-1.17456I$	0
$u=-0.410743-0.992038I$ $a=-0.360677+0.010930I$ $b=-0.808634-0.158889I$	$-6.02820+1.17456I$	0
$u=0.935236+0.574503I$ $a=-1.39806-0.27630I$ $b=-0.634342-0.842559I$	$3.10678+4.05702I$	0
$u=0.935236-0.574503I$ $a=-1.39806+0.27630I$ $b=-0.634342+0.842559I$	$3.10678-4.05702I$	0
$u=1.011940+0.447765I$ $a=1.143230-0.616579I$ $b=0.674922-1.122140I$	$-3.56054-12.59790I$	0
$u=1.011940-0.447765I$ $a=1.143230+0.616579I$ $b=0.674922+1.122140I$	$-3.56054+12.59790I$	0
$u=-0.571975+0.684267I$ $a=0.732205+0.954750I$ $b=0.769505+1.032950I$	$1.73965+2.15384I$	0
$u=-0.571975-0.684267I$ $a=0.732205-0.954750I$ $b=0.769505-1.032950I$	$1.73965-2.15384I$	0
$u=0.707727+0.854284I$ $a=-1.28225+0.74677I$ $b=-1.070460-0.069288I$	$0.14618+2.70697I$	0
$u=0.707727-0.854284I$ $a=-1.28225-0.74677I$ $b=-1.070460+0.069288I$	$0.14618-2.70697I$	0

Solutions to I_2^u		$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.455083 + 0.761511I$		
$a =$	$1.24999 - 2.09166I$	-1.28248	0
$b =$	$0.455083 - 0.761511I$		
$u =$	$0.455083 - 0.761511I$		
$a =$	$1.24999 + 2.09166I$	-1.28248	0
$b =$	$0.455083 + 0.761511I$		
$u =$	$0.685999 + 0.880355I$		
$a =$	$-0.640843 + 0.203641I$	$1.10860 + 2.64346I$	0
$b =$	$-0.199272 - 0.020479I$		
$u =$	$0.685999 - 0.880355I$		
$a =$	$-0.640843 - 0.203641I$	$1.10860 - 2.64346I$	0
$b =$	$-0.199272 + 0.020479I$		
$u =$	$0.285145 + 1.082800I$		
$a =$	$-0.614055 + 1.266720I$	$-2.34731 - 1.07784I$	0
$b =$	$0.433026 - 0.928647I$		
$u =$	$0.285145 - 1.082800I$		
$a =$	$-0.614055 - 1.266720I$	$-2.34731 + 1.07784I$	0
$b =$	$0.433026 + 0.928647I$		
$u =$	$-0.615703 + 0.610926I$		
$a =$	$-1.09332 - 2.16809I$	$-5.99173 + 4.58565I$	0
$b =$	$-0.450001 - 0.954825I$		
$u =$	$-0.615703 - 0.610926I$		
$a =$	$-1.09332 + 2.16809I$	$-5.99173 - 4.58565I$	0
$b =$	$-0.450001 + 0.954825I$		
$u =$	$-0.592827 + 0.968328I$		
$a =$	$2.02629 + 0.65635I$	$0.84909 - 6.84814I$	0
$b =$	$0.697752 - 1.156900I$		
$u =$	$-0.592827 - 0.968328I$		
$a =$	$2.02629 - 0.65635I$	$0.84909 + 6.84814I$	0
$b =$	$0.697752 + 1.156900I$		

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.542428 + 1.004560I$ $a = 0.907869 + 0.798248I$ $b = -0.032353 - 1.204750I$	$-3.49032 - 6.17948I$	0
$u = -0.542428 - 1.004560I$ $a = 0.907869 - 0.798248I$ $b = -0.032353 + 1.204750I$	$-3.49032 + 6.17948I$	0
$u = -0.808634 + 0.158889I$ $a = -0.271966 + 0.383490I$ $b = -0.410743 + 0.992038I$	$-6.02820 - 1.17456I$	0
$u = -0.808634 - 0.158889I$ $a = -0.271966 - 0.383490I$ $b = -0.410743 - 0.992038I$	$-6.02820 + 1.17456I$	0
$u = 0.626135 + 0.999013I$ $a = -0.051918 - 0.861877I$ $b = 0.645864 - 0.429108I$	$1.54195 + 3.35933I$	0
$u = 0.626135 - 0.999013I$ $a = -0.051918 + 0.861877I$ $b = 0.645864 + 0.429108I$	$1.54195 - 3.35933I$	0
$u = -1.008530 + 0.628210I$ $a = 1.067700 + 0.089134I$ $b = 0.536643 + 0.765315I$	$-1.34733 - 1.57036I$	0
$u = -1.008530 - 0.628210I$ $a = 1.067700 - 0.089134I$ $b = 0.536643 - 0.765315I$	$-1.34733 + 1.57036I$	0
$u = 0.686733 + 0.970497I$ $a = -2.02739 + 0.27982I$ $b = -0.66825 - 1.31639I$	$-3.81313 + 8.88150I$	0
$u = 0.686733 - 0.970497I$ $a = -2.02739 - 0.27982I$ $b = -0.66825 + 1.31639I$	$-3.81313 - 8.88150I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.032353+1.204750I$ $a=-0.368491+1.084260I$ $b=-0.542428-1.004560I$	$-3.49032+6.17948I$	0
$u=-0.032353-1.204750I$ $a=-0.368491-1.084260I$ $b=-0.542428+1.004560I$	$-3.49032-6.17948I$	0
$u=\ \ 0.645864+0.429108I$ $a=\ \ 1.312110+0.044101I$ $b=\ \ 0.626135-0.999013I$	$1.54195-3.35933I$	$6.00000+3.99088I$
$u=\ \ 0.645864-0.429108I$ $a=\ \ 1.312110-0.044101I$ $b=\ \ 0.626135+0.999013I$	$1.54195+3.35933I$	$6.00000-3.99088I$
$u=-0.023255+1.228140I$ $a=\ \ 0.676336-0.446835I$ $b=\ \ 0.692834+0.181713I$	$-8.18698-4.53726I$	0
$u=-0.023255-1.228140I$ $a=\ \ 0.676336+0.446835I$ $b=\ \ 0.692834-0.181713I$	$-8.18698+4.53726I$	0
$u=\ \ 0.547155+1.099940I$ $a=-0.772638+0.327884I$ $b=\ \ 0.02015-1.42437I$	$-10.59120+9.14688I$	0
$u=\ \ 0.547155-1.099940I$ $a=-0.772638-0.327884I$ $b=\ \ 0.02015+1.42437I$	$-10.59120-9.14688I$	0
$u=-0.664065+1.064720I$ $a=-0.424925-0.950207I$ $b=-0.883326-0.463294I$	$2.61076-8.50985I$	0
$u=-0.664065-1.064720I$ $a=-0.424925+0.950207I$ $b=-0.883326+0.463294I$	$2.61076+8.50985I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.057194 + 0.740808I$ $a = -0.592886 - 0.902712I$ $b = 0.277630 + 1.001670I$	$-1.81087 + 1.95780I$	$3.49223 - 4.81893I$
$u = -0.057194 - 0.740808I$ $a = -0.592886 + 0.902712I$ $b = 0.277630 - 1.001670I$	$-1.81087 - 1.95780I$	$3.49223 + 4.81893I$
$u = -0.767699 + 1.008430I$ $a = 1.78379 + 0.68512I$ $b = 0.404366 - 0.884641I$	$-2.47454 - 4.82487I$	0
$u = -0.767699 - 1.008430I$ $a = 1.78379 - 0.68512I$ $b = 0.404366 + 0.884641I$	$-2.47454 + 4.82487I$	0
$u = 0.692834 + 0.181713I$ $a = 1.017740 + 0.946966I$ $b = -0.023255 + 1.228140I$	$-8.18698 - 4.53726I$	$0.39761 + 4.02058I$
$u = 0.692834 - 0.181713I$ $a = 1.017740 - 0.946966I$ $b = -0.023255 - 1.228140I$	$-8.18698 + 4.53726I$	$0.39761 - 4.02058I$
$u = 0.769505 + 1.032950I$ $a = -0.525306 + 0.646577I$ $b = -0.571975 + 0.684267I$	$1.73965 + 2.15384I$	0
$u = 0.769505 - 1.032950I$ $a = -0.525306 - 0.646577I$ $b = -0.571975 - 0.684267I$	$1.73965 - 2.15384I$	0
$u = -0.497422 + 1.198620I$ $a = 0.830046 + 0.303784I$ $b = -0.289966 - 0.954333I$	$-9.16350 - 3.64097I$	0
$u = -0.497422 - 1.198620I$ $a = 0.830046 - 0.303784I$ $b = -0.289966 + 0.954333I$	$-9.16350 + 3.64097I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.674922 + 1.122140I$ $a = 0.637340 - 0.893652I$ $b = 1.011940 - 0.447765I$	$-3.56054 + 12.59790I$	0
$u = 0.674922 - 1.122140I$ $a = 0.637340 + 0.893652I$ $b = 1.011940 + 0.447765I$	$-3.56054 - 12.59790I$	0
$u = -0.330282 + 1.293050I$ $a = 0.290390 - 0.963127I$ $b = 0.088687 + 0.632851I$	$-7.89454 - 5.07882I$	0
$u = -0.330282 - 1.293050I$ $a = 0.290390 + 0.963127I$ $b = 0.088687 - 0.632851I$	$-7.89454 + 5.07882I$	0
$u = -1.093070 + 0.770145I$ $a = 1.238560 - 0.367686I$ $b = 0.535064 - 0.922653I$	$-1.85244 - 5.89606I$	0
$u = -1.093070 - 0.770145I$ $a = 1.238560 + 0.367686I$ $b = 0.535064 + 0.922653I$	$-1.85244 + 5.89606I$	0
$u = 0.697752 + 1.156900I$ $a = -1.69916 + 0.56289I$ $b = -0.592827 - 0.968328I$	$0.84909 + 6.84814I$	0
$u = 0.697752 - 1.156900I$ $a = -1.69916 - 0.56289I$ $b = -0.592827 + 0.968328I$	$0.84909 - 6.84814I$	0
$u = 0.088687 + 0.632851I$ $a = 1.32451 - 1.63071I$ $b = -0.330282 + 1.293050I$	$-7.89454 - 5.07882I$	$0.44303 + 9.15635I$
$u = 0.088687 - 0.632851I$ $a = 1.32451 + 1.63071I$ $b = -0.330282 - 1.293050I$	$-7.89454 + 5.07882I$	$0.44303 - 9.15635I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.956072 + 0.995678I$ $a = \ \ 0.458696 + 0.764601I$ $b = \ \ 0.437910 + 0.886426I$	$-2.53266 - 1.33076I$	0
$u = -0.956072 - 0.995678I$ $a = \ \ 0.458696 - 0.764601I$ $b = \ \ 0.437910 - 0.886426I$	$-2.53266 + 1.33076I$	0
$u = -0.677343 + 1.207820I$ $a = \ \ 0.629553 + 0.568412I$ $b = \ \ 0.755781 + 0.710365I$	$-3.02328 - 3.40270I$	0
$u = -0.677343 - 1.207820I$ $a = \ \ 0.629553 - 0.568412I$ $b = \ \ 0.755781 - 0.710365I$	$-3.02328 + 3.40270I$	0
$u = -0.454749 + 0.396373I$ $a = -0.837192 - 0.135858I$ $b = \ \ 0.087230 + 1.060010I$	$-1.98416 + 1.90385I$	$3.55438 - 4.24551I$
$u = -0.454749 - 0.396373I$ $a = -0.837192 + 0.135858I$ $b = \ \ 0.087230 - 1.060010I$	$-1.98416 - 1.90385I$	$3.55438 + 4.24551I$
$u = \ \ 0.02015 + 1.42437I$ $a = \ \ 0.462827 + 0.556548I$ $b = \ \ 0.547155 - 1.099940I$	$-10.59120 - 9.14688I$	0
$u = \ \ 0.02015 - 1.42437I$ $a = \ \ 0.462827 - 0.556548I$ $b = \ \ 0.547155 + 1.099940I$	$-10.59120 + 9.14688I$	0
$u = -0.66825 + 1.31639I$ $a = \ \ 1.58251 + 0.46059I$ $b = \ \ 0.686733 - 0.970497I$	$-3.81313 - 8.88150I$	0
$u = -0.66825 - 1.31639I$ $a = \ \ 1.58251 - 0.46059I$ $b = \ \ 0.686733 + 0.970497I$	$-3.81313 + 8.88150I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.199272 + 0.020479I$ $a = 3.28994 - 1.79201I$ $b = 0.685999 - 0.880355I$	$1.10860 - 2.64346I$	$2.48196 + 4.19857I$
$u = -0.199272 - 0.020479I$ $a = 3.28994 + 1.79201I$ $b = 0.685999 + 0.880355I$	$1.10860 + 2.64346I$	$2.48196 - 4.19857I$

III. $I_3^u = \langle b+u,\ 4u^{13}+5u^{12}+\cdots+a+5,\ u^{14}+u^{13}+\cdots+u+1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -4u^{13}-5u^{12}+\cdots-9u-5 \\ -u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -4u^{13}-5u^{12}+\cdots-8u-5 \\ -u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{13}+u^{12}+\cdots-u+5 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{13}+u^{12}+\cdots-u+5 \\ u^8+2u^6+3u^4+u^2+1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{13}-2u^{12}+\cdots-17u^2-6 \\ u^{12}+u^{11}+3u^{10}+2u^9+5u^8+3u^7+5u^6+2u^5+3u^4+u^3+3u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 4u^{13}+3u^{12}+\cdots+22u^3+10u \\ -u^8-2u^6-3u^4+u^3-2u^2+u-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2u^{13}-3u^{12}+\cdots-3u-4 \\ -u^3-u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -u^{13}+6u^{12}+2u^{11}+17u^{10}+3u^9+31u^8+8u^7+31u^6+2u^5+20u^4+10u^2-6u+1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{14} - 7u^{13} + \cdots - 9u + 1$
c_2, c_7	$u^{14} - u^{13} + \cdots - u + 1$
c_3, c_4	$u^{14} - 2u^{13} + \cdots + 6u^2 + 1$
c_5	$u^{14} - 4u^{13} + \cdots + 2u^3 + 1$
c_6, c_{11}	$u^{14} + u^{13} + \cdots + u + 1$
c_8, c_{12}	$u^{14} + u^{12} + u^{11} + 4u^{10} + 4u^8 + u^7 + 4u^6 - 3u^5 - 2u^3 + u^2 + 1$
c_9	$u^{14} + 2u^{13} + \cdots + 6u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{14} + 7y^{13} + \cdots - 3y + 1$
c_2, c_6, c_7 c_{11}	$y^{14} + 7y^{13} + \cdots + 9y + 1$
c_3, c_4, c_9	$y^{14} + 14y^{13} + \cdots + 12y + 1$
c_5	$y^{14} - 4y^{13} + \cdots - 4y^2 + 1$
c_8, c_{12}	$y^{14} + 2y^{13} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.671182 + 0.725901I$ $a = -1.292460 - 0.243143I$ $b = -0.671182 - 0.725901I$	$2.06538 + 3.67080I$	$5.64541 - 6.66163I$
$u = 0.671182 - 0.725901I$ $a = -1.292460 + 0.243143I$ $b = -0.671182 + 0.725901I$	$2.06538 - 3.67080I$	$5.64541 + 6.66163I$
$u = -0.793038 + 0.664651I$ $a = 1.71383 + 0.30923I$ $b = 0.793038 - 0.664651I$	$-0.88145 - 3.69626I$	$6.44058 + 5.14741I$
$u = -0.793038 - 0.664651I$ $a = 1.71383 - 0.30923I$ $b = 0.793038 + 0.664651I$	$-0.88145 + 3.69626I$	$6.44058 - 5.14741I$
$u = 0.224536 + 0.872130I$ $a = 0.971389 + 0.173451I$ $b = -0.224536 - 0.872130I$	$-2.52555 + 2.12926I$	$-5.96582 - 3.57240I$
$u = 0.224536 - 0.872130I$ $a = 0.971389 - 0.173451I$ $b = -0.224536 + 0.872130I$	$-2.52555 - 2.12926I$	$-5.96582 + 3.57240I$
$u = -0.302417 + 1.114430I$ $a = 0.186586 + 0.619048I$ $b = 0.302417 - 1.114430I$	$-9.50477 - 6.59501I$	$-1.80372 + 7.43625I$
$u = -0.302417 - 1.114430I$ $a = 0.186586 - 0.619048I$ $b = 0.302417 + 1.114430I$	$-9.50477 + 6.59501I$	$-1.80372 - 7.43625I$
$u = 0.579917 + 1.045350I$ $a = -1.83805 + 0.88797I$ $b = -0.579917 - 1.045350I$	$-0.05133 + 6.16066I$	$2.99536 - 5.28102I$
$u = 0.579917 - 1.045350I$ $a = -1.83805 - 0.88797I$ $b = -0.579917 + 1.045350I$	$-0.05133 - 6.16066I$	$2.99536 + 5.28102I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.701928 + 1.086370I$ $a = 1.81639 + 0.26973I$ $b = 0.701928 - 1.086370I$	$-3.52038 - 7.74611I$	$3.61719 + 4.78597I$
$u = -0.701928 - 1.086370I$ $a = 1.81639 - 0.26973I$ $b = 0.701928 + 1.086370I$	$-3.52038 + 7.74611I$	$3.61719 - 4.78597I$
$u = -0.178252 + 0.581238I$ $a = -3.05769 - 1.63827I$ $b = 0.178252 - 0.581238I$	$-5.32110 + 2.03598I$	$0.07099 - 4.06570I$
$u = -0.178252 - 0.581238I$ $a = -3.05769 + 1.63827I$ $b = 0.178252 + 0.581238I$	$-5.32110 - 2.03598I$	$0.07099 + 4.06570I$

IV.

$\boldsymbol{I^u_4 = \langle -u^{13} - u^{12} + \cdots + b - 1,\ 3u^{13} + 4u^{12} + \cdots + a + 3,\ u^{14} + u^{13} + \cdots + u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -3u^{13} - 4u^{12} + \cdots - 4u - 3 \\ u^{13} + u^{12} + \cdots + 4u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -4u^{13} - 5u^{12} + \cdots - 8u - 4 \\ u^{13} + u^{12} + \cdots + 4u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 4u^{13} + 11u^{11} + \cdots + 4u - 3 \\ -u^{13} - 3u^{11} + \cdots - u + 3 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 4u^{13} + 11u^{11} + \cdots + 4u - 2 \\ u^6 + 2u^4 + 3u^2 + 2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{13} - 2u^{12} + \cdots - u - 5 \\ u^{12} + u^{11} + 3u^{10} + 2u^9 + 5u^8 + 3u^7 + 6u^6 + 2u^5 + 3u^4 + u^3 + u^2 + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2u^{13} + 2u^{12} + \cdots - 3u^2 + 6u \\ -u^{13} - 2u^{12} + \cdots - u - 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3u^{13} - u^{12} + \cdots - 2u^2 - 5u \\ -2u^{13} - 3u^{12} + \cdots - 2u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 7u^{13} + 3u^{12} + 23u^{11} + 5u^{10} + 46u^9 + 7u^8 + 62u^7 - 4u^6 + 50u^5 - 8u^4 + 18u^3 - 4u^2 + 3u - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{14} - 7u^{13} + \cdots - 7u + 1$
c_2, c_7	$u^{14} - u^{13} + \cdots - u + 1$
c_3, c_4	$(u^7 + u^6 + 4u^5 + 3u^4 + 4u^3 + 3u^2 + 1)^2$
c_5	$(u^7 + u^6 + 2u^4 + 2u^3 + 1)^2$
c_6, c_{11}	$u^{14} + u^{13} + \cdots + u + 1$
c_8, c_{12}	$u^{14} + 3u^{12} + \cdots + u^2 + 1$
c_9	$(u^7 - u^6 + 4u^5 - 3u^4 + 4u^3 - 3u^2 - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{14} + 7y^{13} + \cdots + 7y + 1$
c_2, c_6, c_7 c_{11}	$y^{14} + 7y^{13} + \cdots + 7y + 1$
c_3, c_4, c_9	$(y^7 + 7y^6 + 18y^5 + 17y^4 - 4y^3 - 15y^2 - 6y - 1)^2$
c_5	$(y^7 - y^6 - 4y^4 + 2y^3 - 4y^2 - 1)^2$
c_8, c_{12}	$y^{14} + 6y^{13} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.271185 + 0.962527I$ $a = 0.57562 - 2.04306I$ $b = -0.271185 + 0.962527I$	-2.92298	$-2.67806 + 0.I$
$u = 0.271185 - 0.962527I$ $a = 0.57562 + 2.04306I$ $b = -0.271185 - 0.962527I$	-2.92298	$-2.67806 + 0.I$
$u = 0.495942 + 0.666193I$ $a = -1.018620 + 0.675189I$ $b = -0.718995 + 0.965817I$	$1.30150 - 1.74054I$	$3.15536 - 3.74217I$
$u = 0.495942 - 0.666193I$ $a = -1.018620 - 0.675189I$ $b = -0.718995 - 0.965817I$	$1.30150 + 1.74054I$	$3.15536 + 3.74217I$
$u = 0.718995 + 0.965817I$ $a = -0.244617 + 0.806678I$ $b = -0.495942 + 0.666193I$	$1.30150 + 1.74054I$	$3.15536 + 3.74217I$
$u = 0.718995 - 0.965817I$ $a = -0.244617 - 0.806678I$ $b = -0.495942 - 0.666193I$	$1.30150 - 1.74054I$	$3.15536 - 3.74217I$
$u = -0.216324 + 0.753207I$ $a = -0.66599 - 2.09077I$ $b = 0.352252 + 1.226490I$	$-8.02266 + 4.40574I$	$-1.79398 + 0.51667I$
$u = -0.216324 - 0.753207I$ $a = -0.66599 + 2.09077I$ $b = 0.352252 - 1.226490I$	$-8.02266 - 4.40574I$	$-1.79398 - 0.51667I$
$u = -0.531010 + 0.563027I$ $a = 0.70050 + 1.69298I$ $b = 0.886537 + 0.939991I$	$-1.68696 + 2.64701I$	$5.97765 - 4.71404I$
$u = -0.531010 - 0.563027I$ $a = 0.70050 - 1.69298I$ $b = 0.886537 - 0.939991I$	$-1.68696 - 2.64701I$	$5.97765 + 4.71404I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.352252+1.226490I$ $a=-0.334661-1.305320I$ $b=\ \ 0.216324+0.753207I$	$-8.02266-4.40574I$	$-1.79398-0.51667I$
$u=-0.352252-1.226490I$ $a=-0.334661+1.305320I$ $b=\ \ 0.216324-0.753207I$	$-8.02266+4.40574I$	$-1.79398+0.51667I$
$u=-0.886537+0.939991I$ $a=\ \ 0.987774+0.478161I$ $b=\ \ 0.531010+0.563027I$	$-1.68696-2.64701I$	$5.97765+4.71404I$
$u=-0.886537-0.939991I$ $a=\ \ 0.987774-0.478161I$ $b=\ \ 0.531010-0.563027I$	$-1.68696+2.64701I$	$5.97765-4.71404I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^{14} - 7u^{13} + \cdots - 7u + 1)(u^{14} - 7u^{13} + \cdots - 9u + 1)$ $\cdot (u^{29} + 15u^{28} + \cdots + 7u - 1)(u^{102} + 42u^{101} + \cdots - 35449u + 1369)$
c_2, c_7	$(u^{14} - u^{13} + \cdots - u + 1)(u^{14} - u^{13} + \cdots - u + 1)(u^{29} - u^{28} + \cdots + u - 1)$ $\cdot (u^{102} + 2u^{101} + \cdots + 355u + 37)$
c_3, c_4	$((u^7 + u^6 + \cdots + 3u^2 + 1)^2)(u^{14} - 2u^{13} + \cdots + 6u^2 + 1)$ $\cdot (u^{29} - 11u^{28} + \cdots + 344u - 32)(u^{51} + 5u^{50} + \cdots + 4u + 1)^2$
c_5	$((u^7 + u^6 + 2u^4 + 2u^3 + 1)^2)(u^{14} - 4u^{13} + \cdots + 2u^3 + 1)$ $\cdot (u^{29} - 25u^{28} + \cdots + 30720u - 2048)(u^{51} + 10u^{50} + \cdots + 14u + 1)^2$
c_6, c_{11}	$(u^{14} + u^{13} + \cdots + u + 1)(u^{14} + u^{13} + \cdots + u + 1)(u^{29} - u^{28} + \cdots + u - 1)$ $\cdot (u^{102} + 2u^{101} + \cdots + 355u + 37)$
c_8, c_{12}	$(u^{14} + u^{12} + u^{11} + 4u^{10} + 4u^8 + u^7 + 4u^6 - 3u^5 - 2u^3 + u^2 + 1)$ $\cdot (u^{14} + 3u^{12} + \cdots + u^2 + 1)(u^{29} + 7u^{27} + \cdots - 2u - 1)$ $\cdot (u^{102} - 5u^{101} + \cdots + 1274u + 283)$
c_9	$((u^7 - u^6 + \cdots - 3u^2 - 1)^2)(u^{14} + 2u^{13} + \cdots + 6u^2 + 1)$ $\cdot (u^{29} - 11u^{28} + \cdots + 344u - 32)(u^{51} + 5u^{50} + \cdots + 4u + 1)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^{14}+7y^{13}+\cdots+7y+1)(y^{14}+7y^{13}+\cdots-3y+1)$ $\cdot(y^{29}+7y^{28}+\cdots+111y-1)$ $\cdot(y^{102}+42y^{101}+\cdots-2105827777y+1874161)$
c_2, c_6, c_7 c_{11}	$(y^{14}+7y^{13}+\cdots+9y+1)(y^{14}+7y^{13}+\cdots+7y+1)$ $\cdot(y^{29}+15y^{28}+\cdots+7y-1)(y^{102}+42y^{101}+\cdots-35449y+1369)$
c_3, c_4, c_9	$(y^7+7y^6+18y^5+17y^4-4y^3-15y^2-6y-1)^2$ $\cdot(y^{14}+14y^{13}+\cdots+12y+1)(y^{29}+25y^{28}+\cdots-1728y-1024)$ $\cdot(y^{51}+51y^{50}+\cdots+34y-1)^2$
c_5	$((y^7-y^6-4y^4+2y^3-4y^2-1)^2)(y^{14}-4y^{13}+\cdots-4y^2+1)$ $\cdot(y^{29}-3y^{28}+\cdots+85983232y-4194304)$ $\cdot(y^{51}+10y^{50}+\cdots+6y-1)^2$
c_8, c_{12}	$(y^{14}+2y^{13}+\cdots+2y+1)(y^{14}+6y^{13}+\cdots+2y+1)$ $\cdot(y^{29}+14y^{28}+\cdots-30y-1)$ $\cdot(y^{102}+13y^{101}+\cdots+4966862y+80089)$