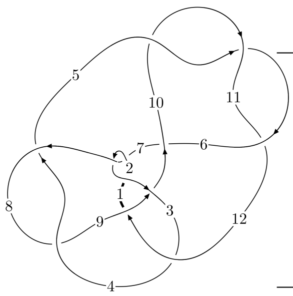
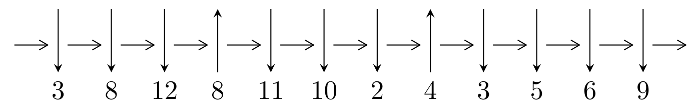
$12n_{0639}$ ($K12n_{0639}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 11u^{19} - 95u^{18} + \cdots + 2b - 86,\ -49u^{19} + 435u^{18} + \cdots + 4a + 508,\ u^{20} - 9u^{19} + \cdots - 22u + 4\rangle$$

$$\begin{aligned}I_2^u = \langle & u^{14} + 4u^{13} + 10u^{12} + 15u^{11} + 15u^{10} + 6u^9 - 6u^8 - 16u^7 - 16u^6 - 13u^5 - 6u^4 - 3u^3 + b + u + 2,\\ & - 4u^{14} - 18u^{13} + \cdots + a + 5,\\ & u^{15} + 6u^{14} + 19u^{13} + 38u^{12} + 50u^{11} + 37u^{10} - 4u^9 - 52u^8 - 74u^7 - 57u^6 - 18u^5 + 12u^4 + 18u^3 + 8u^2 - 1\rangle\end{aligned}$$

$$\begin{aligned}I_3^u = \langle & -a^3 - 2a^2u + 3u^2a - a^2 + 4au + u^2 + b + 3a + u + 3,\\ & a^3u^2 + a^4 + 2a^3u - 5a^2u^2 + a^3 - 4a^2u - 3u^2a - a^2 - 5au - 2u^2 - 4a - 1,\ u^3 + u^2 - 1\rangle\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 representations.

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[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. $I_1^u = \langle 11u^{19} - 95u^{18} + \cdots + 2b - 86,\ -49u^{19} + 435u^{18} + \cdots + 4a + 508,\ u^{20} - 9u^{19} + \cdots - 22u + 4\rangle$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{49}{4}u^{19} - \frac{435}{4}u^{18} + \cdots + \frac{1743}{4}u - 127 \\ -\frac{11}{2}u^{19} + \frac{95}{2}u^{18} + \cdots - \frac{317}{2}u + 43 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{19} + 4u^{18} + \cdots - \frac{27}{2}u + \frac{7}{2} \\ -\frac{1}{2}u^{19} + \frac{7}{2}u^{18} + \cdots + 6u^2 - \frac{1}{2}u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{43}{4}u^{19} - \frac{365}{4}u^{18} + \cdots + \frac{1173}{4}u - 78 \\ \frac{1}{2}u^{19} - \frac{3}{2}u^{18} + \cdots - \frac{129}{2}u + 27 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{41}{4}u^{19} - \frac{359}{4}u^{18} + \cdots + \frac{1431}{4}u - 105 \\ \frac{1}{2}u^{19} - \frac{3}{2}u^{18} + \cdots - \frac{129}{2}u + 27 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{2}u^{18} - \frac{7}{2}u^{17} + \cdots - 5u + \frac{3}{2} \\ \frac{1}{2}u^{19} - \frac{9}{2}u^{18} + \cdots + \frac{21}{2}u - 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{2}u^{19} - 4u^{18} + \cdots + \frac{11}{2}u - \frac{1}{2} \\ \frac{1}{2}u^{19} - \frac{9}{2}u^{18} + \cdots + \frac{21}{2}u - 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 12u^{19} - \frac{209}{2}u^{18} + \cdots + 404u - \frac{237}{2} \\ -\frac{13}{2}u^{19} + \frac{107}{2}u^{18} + \cdots - \frac{345}{2}u + 48 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{169}{4}u^{19} - \frac{1407}{4}u^{18} + \cdots + \frac{4055}{4}u - 251 \\ -\frac{63}{2}u^{19} + \frac{521}{2}u^{18} + \cdots - \frac{1441}{2}u + 173 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{55}{2}u^{19} + 227u^{18} + \cdots - \frac{1215}{2}u + \frac{285}{2} \\ \frac{57}{2}u^{19} - \frac{469}{2}u^{18} + \cdots + \frac{1243}{2}u - 146 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 90u^{19} - 751u^{18} + 3199u^{17} - 8714u^{16} + 17011u^{15} - 25494u^{14} + 31435u^{13} - 32365u^{12} + 24669u^{11} - 4672u^{10} - 23026u^9 + 47119u^8 - 58278u^7 + 55306u^6 - 40524u^5 + 20676u^4 - 5078u^3 - 2030u^2 + 2210u - 566$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20}+35u^{19}+\cdots-6u+1$
c_2, c_7, c_{12}	$u^{20}+u^{19}+\cdots-2u-1$
c_3	$u^{20}-9u^{19}+\cdots-22u+4$
c_4, c_8	$u^{20}+15u^{18}+\cdots-3u-1$
c_5, c_{10}, c_{11}	$u^{20}-7u^{19}+\cdots-16u-8$
c_6	$u^{20}+21u^{19}+\cdots+23824u+2664$
c_9	$u^{20}-24u^{18}+\cdots-197u-57$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} - 123y^{19} + \cdots - 118y + 1$
c_2, c_7, c_{12}	$y^{20} - 35y^{19} + \cdots + 6y + 1$
c_3	$y^{20} + y^{19} + \cdots - 172y + 16$
c_4, c_8	$y^{20} + 30y^{19} + \cdots - 41y + 1$
c_5, c_{10}, c_{11}	$y^{20} - 19y^{19} + \cdots - 352y + 64$
c_6	$y^{20} - 7y^{19} + \cdots - 72537184y + 7096896$
c_9	$y^{20} - 48y^{19} + \cdots + 66527y + 3249$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.263775 + 0.933613I$ $a = 0.063867 + 0.469394I$ $b = 0.635043 - 0.343749I$	$1.90324 + 1.62770I$	$-2.35623 - 4.39456I$
$u = -0.263775 - 0.933613I$ $a = 0.063867 - 0.469394I$ $b = 0.635043 + 0.343749I$	$1.90324 - 1.62770I$	$-2.35623 + 4.39456I$
$u = -1.08046$ $a = 0.288950$ $b = 0.649514$	-5.71917	-17.5810
$u = 0.288783 + 0.801332I$ $a = 0.234474 - 0.843337I$ $b = -0.484200 + 0.635373I$	$-2.01141 - 1.38113I$	$-7.57284 - 0.08377I$
$u = 0.288783 - 0.801332I$ $a = 0.234474 + 0.843337I$ $b = -0.484200 - 0.635373I$	$-2.01141 + 1.38113I$	$-7.57284 + 0.08377I$
$u = -0.626429 + 1.085280I$ $a = -0.082861 - 0.296469I$ $b = -0.711687 + 0.249730I$	$-2.18377 + 5.21287I$	$-7.17987 - 5.41855I$
$u = -0.626429 - 1.085280I$ $a = -0.082861 + 0.296469I$ $b = -0.711687 - 0.249730I$	$-2.18377 - 5.21287I$	$-7.17987 + 5.41855I$
$u = 0.727091 + 0.098566I$ $a = 0.27452 - 2.08093I$ $b = 0.036016 + 0.445425I$	$-6.93044 - 4.62901I$	$-12.95845 - 0.90844I$
$u = 0.727091 - 0.098566I$ $a = 0.27452 + 2.08093I$ $b = 0.036016 - 0.445425I$	$-6.93044 + 4.62901I$	$-12.95845 + 0.90844I$
$u = 0.622736 + 0.087717I$ $a = -0.13935 + 1.89543I$ $b = -0.007001 - 0.462890I$	$-1.13986 - 1.75347I$	$-8.00254 + 2.62344I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.622736 - 0.087717I$ $a = -0.13935 - 1.89543I$ $b = -0.007001 + 0.462890I$	$-1.13986 + 1.75347I$	$-8.00254 - 2.62344I$
$u = 1.15558 + 1.02594I$ $a = 0.454735 + 1.318780I$ $b = -2.17085 - 0.53930I$	$17.3877 - 12.0858I$	$-13.7130 + 4.9422I$
$u = 1.15558 - 1.02594I$ $a = 0.454735 - 1.318780I$ $b = -2.17085 + 0.53930I$	$17.3877 + 12.0858I$	$-13.7130 - 4.9422I$
$u = 1.04701 + 1.18287I$ $a = -0.989116 - 0.564620I$ $b = 2.06593 - 0.51777I$	$17.9143 + 3.9437I$	$-13.79737 - 1.18244I$
$u = 1.04701 - 1.18287I$ $a = -0.989116 + 0.564620I$ $b = 2.06593 + 0.51777I$	$17.9143 - 3.9437I$	$-13.79737 + 1.18244I$
$u = -0.408607$ $a = -0.763027$ $b = -0.439173$	-0.693185	-14.4620
$u = 1.16573 + 1.09145I$ $a = -0.587075 - 1.041030I$ $b = 2.09877 + 0.18587I$	$-14.6724 - 7.3263I$	$-11.70204 + 4.29722I$
$u = 1.16573 - 1.09145I$ $a = -0.587075 + 1.041030I$ $b = 2.09877 - 0.18587I$	$-14.6724 + 7.3263I$	$-11.70204 - 4.29722I$
$u = 1.12782 + 1.15737I$ $a = 0.757846 + 0.799117I$ $b = -2.06719 + 0.14611I$	$-14.4635 - 1.0817I$	$-11.69610 + 0.I$
$u = 1.12782 - 1.15737I$ $a = 0.757846 - 0.799117I$ $b = -2.06719 - 0.14611I$	$-14.4635 + 1.0817I$	$-11.69610 + 0.I$

II.
$\boldsymbol{I_2^u = \langle u^{14}+4u^{13}+\cdots+b+2,\ -4u^{14}-18u^{13}+\cdots+a+5,\ u^{15}+6u^{14}+\cdots+8u^2-1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}4u^{14}+18u^{13}+\cdots-11u-5\\-u^{14}-4u^{13}+\cdots-u-2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u^{12}-5u^{11}+\cdots-10u-7\\-u^{14}-6u^{13}+\cdots-17u^2-8u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-2u^{14}-13u^{13}+\cdots-16u-1\\-4u^{14}-22u^{13}+\cdots-7u+3\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2u^{14}+9u^{13}+\cdots-9u-4\\-4u^{14}-22u^{13}+\cdots-7u+3\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^{13}-6u^{12}+\cdots-18u-7\\-u^{14}-6u^{13}+\cdots-8u-1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^{14}-7u^{13}+\cdots-26u-8\\-u^{14}-6u^{13}+\cdots-8u-1\end{pmatrix}$$
$$a_7 = \begin{pmatrix}4u^{14}+22u^{13}+\cdots+29u+9\\2u^{14}+13u^{13}+\cdots+16u+1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-2u^{14}-11u^{13}+\cdots+4u+7\\4u^{14}+24u^{13}+\cdots+12u-6\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}5u^{14}+29u^{13}+\cdots+22u-2\\-4u^{14}-23u^{13}+\cdots-4u+9\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 15u^{14}+84u^{13}+246u^{12}+446u^{11}+504u^{10}+245u^9-262u^8-701u^7-742u^6-398u^5+24u^4+221u^3+159u^2+17u-32$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 15u^{14} + \cdots + 9u - 1$
c_2	$u^{15} + u^{14} + \cdots - u - 1$
c_3	$u^{15} + 6u^{14} + \cdots + 8u^2 - 1$
c_4	$u^{15} + 3u^{13} + \cdots - 4u^2 - 1$
c_5	$u^{15} - 8u^{13} + \cdots - 12u^3 - 1$
c_6	$u^{15} + 8u^{12} + \cdots + 3u^2 - 1$
c_7, c_{12}	$u^{15} - u^{14} + \cdots - u + 1$
c_8	$u^{15} + 3u^{13} + \cdots + 4u^2 + 1$
c_9	$u^{15} - 8u^{13} + \cdots + 2u^2 + 1$
c_{10}, c_{11}	$u^{15} - 8u^{13} + \cdots - 12u^3 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} - 31y^{14} + \cdots - 11y - 1$
c_2, c_7, c_{12}	$y^{15} - 15y^{14} + \cdots + 9y - 1$
c_3	$y^{15} + 2y^{14} + \cdots + 16y - 1$
c_4, c_8	$y^{15} + 6y^{14} + \cdots - 8y - 1$
c_5, c_{10}, c_{11}	$y^{15} - 16y^{14} + \cdots + 12y^2 - 1$
c_6	$y^{15} - 22y^{13} + \cdots + 6y - 1$
c_9	$y^{15} - 16y^{14} + \cdots - 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.02838$ $a = -0.673279$ $b = -1.40442$	-8.97607	-19.1120
$u = -0.865049 + 0.608135I$ $a = -0.280256 + 1.131020I$ $b = 0.638534 - 0.425883I$	$-1.66725 + 3.23030I$	$-7.54630 - 5.89815I$
$u = -0.865049 - 0.608135I$ $a = -0.280256 - 1.131020I$ $b = 0.638534 + 0.425883I$	$-1.66725 - 3.23030I$	$-7.54630 + 5.89815I$
$u = -0.034033 + 1.074520I$ $a = -0.708776 - 0.233805I$ $b = 1.075770 - 0.432119I$	$-3.77019 - 2.56256I$	$-12.71337 + 2.06324I$
$u = -0.034033 - 1.074520I$ $a = -0.708776 + 0.233805I$ $b = 1.075770 + 0.432119I$	$-3.77019 + 2.56256I$	$-12.71337 - 2.06324I$
$u = -0.764295 + 0.414957I$ $a = 0.38774 - 1.74222I$ $b = -0.518757 + 0.528802I$	$-6.94753 + 5.39923I$	$-13.2804 - 8.9655I$
$u = -0.764295 - 0.414957I$ $a = 0.38774 + 1.74222I$ $b = -0.518757 - 0.528802I$	$-6.94753 - 5.39923I$	$-13.2804 + 8.9655I$
$u = -0.410448 + 1.166870I$ $a = 0.612112 - 0.171673I$ $b = -0.945688 + 0.403215I$	$0.60597 + 1.58539I$	$-9.91315 - 2.10632I$
$u = -0.410448 - 1.166870I$ $a = 0.612112 + 0.171673I$ $b = -0.945688 - 0.403215I$	$0.60597 - 1.58539I$	$-9.91315 + 2.10632I$
$u = -1.122950 + 0.658583I$ $a = -0.067419 - 0.819750I$ $b = -0.652697 + 0.297689I$	$-5.15231 + 1.54512I$	$-15.9184 - 2.4740I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.122950 - 0.658583I$ $a = -0.067419 + 0.819750I$ $b = -0.652697 - 0.297689I$	$-5.15231 - 1.54512I$	$-15.9184 + 2.4740I$
$u = 0.625489$ $a = 1.58555$ $b = 1.61206$	-6.43860	-4.48120
$u = -0.76860 + 1.27462I$ $a = -0.362430 + 0.320539I$ $b = 0.872760 - 0.329613I$	$-2.95721 + 5.51163I$	$-16.1590 - 8.3531I$
$u = -0.76860 - 1.27462I$ $a = -0.362430 - 0.320539I$ $b = 0.872760 + 0.329613I$	$-2.95721 - 5.51163I$	$-16.1590 + 8.3531I$
$u = 0.276879$ $a = -6.07420$ $b = -2.14748$	-13.8955	-11.3460

III. $\boldsymbol{I_3^u = \langle 3u^2a + u^2 + \cdots + 3a + 3,\ a^3u^2 - 5a^2u^2 + \cdots - 4a - 1,\ u^3 + u^2 - 1\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} a \\ a^3 + 2a^2u - 3u^2a + a^2 - 4au - u^2 - 3a - u - 3 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} a^3u^2 - a^2u^2 - 2u^2a + 2a^2 - 4au - 2u^2 - a \\ -2a^3u^2 + 3a^2u^2 + 4u^2a - 4a^2 + 8au + 4u^2 + 2a - 2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a^3 + 2a^2u - 4u^2a + a^2 - 4au - u^2 - 2a - u - 3 \\ a^3u^2 - a^2u^2 + a^3 + 2a^2u - 6u^2a + 3a^2 - 8au - 4u^2 - 3a - 2u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -a^3u^2 + a^2u^2 + 2u^2a - 2a^2 + 4au + 3u^2 + a + u \\ a^3u^2 - a^2u^2 + a^3 + 2a^2u - 6u^2a + 3a^2 - 8au - 4u^2 - 3a - 2u - 3 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} a^3u^2 - 2a^2u^2 - 2u^2a + 2a^2 - 4au - 2u^2 - a \\ -a^3u^2 + a^3u + 3a^2u^2 - a^3 - 2a^2u + 5u^2a - 2a^2 + 6au - 4u + 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} a^3u + a^2u^2 - a^3 - 2a^2u + 3u^2a + 2au - 2u^2 - a - 4u + 2 \\ -a^3u^2 + a^3u + 3a^2u^2 - a^3 - 2a^2u + 5u^2a - 2a^2 + 6au - 4u + 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3a^3u^2 - 3a^2u^2 - 6u^2a + 6a^2 - 12au - 8u^2 - 3a - 2u \\ -5a^3u^2 + 4a^2u^2 + \cdots + 10a + 4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a^3u^2 - a^2u^2 - 2u^2a + 2a^2 - 4au - 3u^2 - a - u \\ -2a^3u^2 - a^3u - a^2u + 5u^2a - 4a^2 + 10au + 6u^2 + 5a + 5u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a^3u^2 - a^2u^2 - 2u^2a + 2a^2 - 4au - 2u^2 - a \\ -3a^3u^2 + 2a^2u^2 + \cdots + 4a - 2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} + 21u^{11} + \cdots + 54160u + 10201$
c_2, c_7, c_{12}	$u^{12} - u^{11} + \cdots - 78u + 101$
c_3	$(u^3 + u^2 - 1)^4$
c_4, c_8	$u^{12} - 3u^{11} + \cdots + 110u - 19$
c_5, c_{10}, c_{11}	$(u^2 + u - 1)^6$
c_6	$(u^2 - 3u + 1)^6$
c_9	$u^{12} - u^{11} + \cdots + 170u + 211$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} - 37y^{11} + \cdots - 490778160y + 104060401$
c_2, c_7, c_{12}	$y^{12} - 21y^{11} + \cdots - 54160y + 10201$
c_3	$(y^3 - y^2 + 2y - 1)^4$
c_4, c_8	$y^{12} + 7y^{11} + \cdots - 7160y + 361$
c_5, c_{10}, c_{11}	$(y^2 - 3y + 1)^6$
c_6	$(y^2 - 7y + 1)^6$
c_9	$y^{12} - 29y^{11} + \cdots - 124272y + 44521$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.877439+0.744862I$ $a=\ \ 0.290927-0.889122I$ $b=-0.901307+0.772844I$	$-2.89763+2.82812I$	$-14.4902-2.9794I$
$u=-0.877439+0.744862I$ $a=-0.624540+1.001960I$ $b=\ \ 0.768380+0.035014I$	$-2.89763+2.82812I$	$-14.4902-2.9794I$
$u=-0.877439+0.744862I$ $a=-0.550642+1.189890I$ $b=\ \ 1.58009-1.38831I$	$-10.79330+2.82812I$	$-14.4902-2.9794I$
$u=-0.877439+0.744862I$ $a=\ \ 1.42405-1.48532I$ $b=-1.23208-0.72669I$	$-10.79330+2.82812I$	$-14.4902-2.9794I$
$u=-0.877439-0.744862I$ $a=\ \ 0.290927+0.889122I$ $b=-0.901307-0.772844I$	$-2.89763-2.82812I$	$-14.4902+2.9794I$
$u=-0.877439-0.744862I$ $a=-0.624540-1.001960I$ $b=\ \ 0.768380-0.035014I$	$-2.89763-2.82812I$	$-14.4902+2.9794I$
$u=-0.877439-0.744862I$ $a=-0.550642-1.189890I$ $b=\ \ 1.58009+1.38831I$	$-10.79330-2.82812I$	$-14.4902+2.9794I$
$u=-0.877439-0.744862I$ $a=\ \ 1.42405+1.48532I$ $b=-1.23208+0.72669I$	$-10.79330-2.82812I$	$-14.4902+2.9794I$
$u=\ \ 0.754878$ $a=-0.777477$ $b=\ \ 2.73154$	-14.9309	-21.0200
$u=\ \ 0.754878$ $a=-0.297371$ $b=-1.83069$	-7.03522	-21.0200

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.754878$ $a = 2.20067$ $b = 1.47851$	-7.03522	-21.0200
$u = 0.754878$ $a = -4.20541$ $b = -1.80951$	-14.9309	-21.0200

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{12}+21u^{11}+\cdots+54160u+10201)(u^{15}-15u^{14}+\cdots+9u-1)$ $\cdot\,(u^{20}+35u^{19}+\cdots-6u+1)$
c_2	$(u^{12}-u^{11}+\cdots-78u+101)(u^{15}+u^{14}+\cdots-u-1)$ $\cdot\,(u^{20}+u^{19}+\cdots-2u-1)$
c_3	$((u^3+u^2-1)^4)(u^{15}+6u^{14}+\cdots+8u^2-1)(u^{20}-9u^{19}+\cdots-22u+4)$
c_4	$(u^{12}-3u^{11}+\cdots+110u-19)(u^{15}+3u^{13}+\cdots-4u^2-1)$ $\cdot\,(u^{20}+15u^{18}+\cdots-3u-1)$
c_5	$((u^2+u-1)^6)(u^{15}-8u^{13}+\cdots-12u^3-1)(u^{20}-7u^{19}+\cdots-16u-8)$
c_6	$((u^2-3u+1)^6)(u^{15}+8u^{12}+\cdots+3u^2-1)$ $\cdot\,(u^{20}+21u^{19}+\cdots+23824u+2664)$
c_7, c_{12}	$(u^{12}-u^{11}+\cdots-78u+101)(u^{15}-u^{14}+\cdots-u+1)$ $\cdot\,(u^{20}+u^{19}+\cdots-2u-1)$
c_8	$(u^{12}-3u^{11}+\cdots+110u-19)(u^{15}+3u^{13}+\cdots+4u^2+1)$ $\cdot\,(u^{20}+15u^{18}+\cdots-3u-1)$
c_9	$(u^{12}-u^{11}+\cdots+170u+211)(u^{15}-8u^{13}+\cdots+2u^2+1)$ $\cdot\,(u^{20}-24u^{18}+\cdots-197u-57)$
c_{10}, c_{11}	$((u^2+u-1)^6)(u^{15}-8u^{13}+\cdots-12u^3+1)(u^{20}-7u^{19}+\cdots-16u-8)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{12}-37y^{11}+\cdots-490778160y+104060401)$ $\cdot(y^{15}-31y^{14}+\cdots-11y-1)(y^{20}-123y^{19}+\cdots-118y+1)$
c_2, c_7, c_{12}	$(y^{12}-21y^{11}+\cdots-54160y+10201)(y^{15}-15y^{14}+\cdots+9y-1)$ $\cdot(y^{20}-35y^{19}+\cdots+6y+1)$
c_3	$((y^3-y^2+2y-1)^4)(y^{15}+2y^{14}+\cdots+16y-1)$ $\cdot(y^{20}+y^{19}+\cdots-172y+16)$
c_4, c_8	$(y^{12}+7y^{11}+\cdots-7160y+361)(y^{15}+6y^{14}+\cdots-8y-1)$ $\cdot(y^{20}+30y^{19}+\cdots-41y+1)$
c_5, c_{10}, c_{11}	$((y^2-3y+1)^6)(y^{15}-16y^{14}+\cdots+12y^2-1)$ $\cdot(y^{20}-19y^{19}+\cdots-352y+64)$
c_6	$((y^2-7y+1)^6)(y^{15}-22y^{13}+\cdots+6y-1)$ $\cdot(y^{20}-7y^{19}+\cdots-72537184y+7096896)$
c_9	$(y^{12}-29y^{11}+\cdots-124272y+44521)(y^{15}-16y^{14}+\cdots-4y-1)$ $\cdot(y^{20}-48y^{19}+\cdots+66527y+3249)$