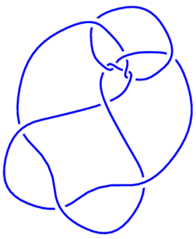
$11a_{317}$ ($K11a_{317}$)



[1]

Arc Sequences

$$\rightarrow \uparrow_{7} \rightarrow \uparrow_{9} \rightarrow \downarrow_{1} \rightarrow \downarrow_{11} \rightarrow \uparrow_{8} \rightarrow \uparrow_{2} \rightarrow \uparrow_{10} \rightarrow \uparrow_{3} \rightarrow \uparrow_{6} \rightarrow \downarrow_{4} \rightarrow \downarrow_{5} \rightarrow$$

Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{3} I_i^u$$

$$I_1^u = \langle a^{48} + a^{47} + \cdots + 30a + 4,\ 1.53744 \times 10^{111}b + 1.79984 \times 10^{111}a^{47} + \cdots + 1.40808 \times 10^{113}a + 2.46348 \times 10^{11}$$
$$3.07488 \times 10^{111}u + 2.67570 \times 10^{111}a^{47} + \cdots + 4.78776 \times 10^{113}a + 8.05309 \times 10^{112}\rangle$$
$$I_2^u = \langle u^{11} + u^{10} - 5u^9 - 4u^8 + 9u^7 + 3u^6 - 7u^5 + 5u^4 + 3u^3 - 5u^2 - u - 1,$$
$$u^{10} - 5u^8 + 8u^6 - u^5 - 3u^4 + 3u^3 + a - 2u - 3,$$
$$2u^{10} - 9u^8 + u^7 + 13u^6 - 6u^5 - 4u^4 + 9u^3 - 2u^2 + b - 3u - 1\rangle$$
$$I_3^u = \langle u^{25} - 6u^{24} + \cdots + 14u + 4,\ -13u^{24} + 52u^{23} + \cdots + 2b + 16,\ -12u^{24} + 57u^{23} + \cdots + 2a + 29\rangle$$

There are 3 irreducible components with 84 representations.

[1]The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u =$
$\langle a^{48}+a^{47}+\cdots+30a+4,\ 1.54\times10^{111}b+1.80\times10^{111}a^{47}+\cdots+1.41\times10^{113}a+2.46\times10^{112},\ 3.07\times10^{111}u+2.68\times10^{111}a^{47}+\cdots+4.79\times10^{113}a+8.05\times10^{112}\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ -0.870179a^{47} - 2.11184a^{46} + \cdots - 155.706a - 26.1899 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} a \\ -1.17068a^{47} - 1.03912a^{46} + \cdots - 91.5863a - 16.0232 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.603456a^{47} + 0.912888a^{46} + \cdots + 40.7305a + 4.96664 \\ -0.727498a^{47} - 0.583322a^{46} + \cdots - 28.7699a - 4.34394 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 1.05251a^{47} + 0.305696a^{46} + \cdots + 8.09148a - 2.70118 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.870179a^{47} - 2.11184a^{46} + \cdots - 155.706a - 26.1899 \\ 1.84864a^{47} + 2.31055a^{46} + \cdots + 144.516a + 22.2716 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.978460a^{47} + 0.198716a^{46} + \cdots - 11.1899a - 3.91830 \\ 1.84864a^{47} + 2.31055a^{46} + \cdots + 144.516a + 22.2716 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.724086a^{47} + 0.492965a^{46} + \cdots + 32.3496a + 2.52471 \\ -1.04942a^{47} - 0.404391a^{46} + \cdots - 15.1452a + 0.181238 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.38246a^{47} + 2.17212a^{46} + \cdots + 121.608a + 18.4387 \\ -1.17029a^{47} - 0.396764a^{46} + \cdots - 13.8647a + 0.895597 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.05251a^{47} + 0.305696a^{46} + \cdots + 8.09148a - 1.70118 \\ -0.967731a^{47} - 0.0584081a^{46} + \cdots + 4.98021a + 3.36330 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.407007a^{47} + 0.206328a^{46} + \cdots - 7.58813a - 4.08291 \\ -1.60709a^{47} - 0.962390a^{46} + \cdots - 14.5490a + 0.230563 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.407007a^{47} + 0.206328a^{46} + \cdots - 7.58813a - 4.08291 \\ -1.60709a^{47} - 0.962390a^{46} + \cdots - 14.5490a + 0.230563 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.228302+0.503204I$ $a=-3.28417-0.55870I$ $b=-0.91248-1.10298I$	$-4.93480+3.23200I$	$-2.00000-9.10150I$
$u=-0.228302-0.503204I$ $a=-3.28417+0.55870I$ $b=-0.91248+1.10298I$	$-4.93480-3.23200I$	$-2.00000+9.10150I$
$u=\ \ 0.851576+0.246566I$ $a=-1.150113-0.672596I$ $b=-0.330271+0.904608I$	$-1.81971+2.12349I$	$-0.00912-2.70206I$
$u=\ \ 0.851576-0.246566I$ $a=-1.150113+0.672596I$ $b=-0.330271-0.904608I$	$-1.81971-2.12349I$	$-0.00912+2.70206I$
$u=-0.228302-0.503204I$ $a=-0.720748-0.584073I$ $b=-1.10443-1.33936I$	$-4.93480-3.23200I$	$-2.00000+9.10150I$
$u=-0.228302+0.503204I$ $a=-0.720748+0.584073I$ $b=-1.10443+1.33936I$	$-4.93480+3.23200I$	$-2.00000-9.10150I$
$u=\ \ 0.227035+0.729376I$ $a=-0.71470-1.25654I$ $b=-0.256358-1.318581I$	$0.20418-5.91469I$	$2.80561+7.63550I$
$u=\ \ 0.227035-0.729376I$ $a=-0.71470+1.25654I$ $b=-0.256358+1.318581I$	$0.20418+5.91469I$	$2.80561-7.63550I$
$u=-1.343201+0.063939I$ $a=-0.667434-0.293931I$ $b=\ \ 0.33443-1.92386I$	$-8.04990+2.12349I$	$-3.99088-2.70206I$
$u=-1.343201-0.063939I$ $a=-0.667434+0.293931I$ $b=\ \ 0.33443+1.92386I$	$-8.04990-2.12349I$	$-3.99088+2.70206I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.39026+0.29206I$ $a=-0.413621-0.447728I$ $b=\ \ 1.22611-0.90934I$	$-4.93480+5.55830I$	$-2.00000-1.67128I$
$u=-1.39026-0.29206I$ $a=-0.413621+0.447728I$ $b=\ \ 1.22611+0.90934I$	$-4.93480-5.55830I$	$-2.00000+1.67128I$
$u=\ \ 1.383156+0.208829I$ $a=-0.358333-0.772190I$ $b=\ \ 0.210342-1.204407I$	$-10.07379-1.85492I$	$-6.80561+0.70730I$
$u=\ \ 1.383156-0.208829I$ $a=-0.358333+0.772190I$ $b=\ \ 0.210342+1.204407I$	$-10.07379+1.85492I$	$-6.80561-0.70730I$
$u=\ \ 0.851576-0.246566I$ $a=-0.348664-0.720974I$ $b=\ \ 0.157760+0.481567I$	$-1.81971+1.93627I$	$-0.00912-4.22614I$
$u=\ \ 0.851576+0.246566I$ $a=-0.348664+0.720974I$ $b=\ \ 0.157760-0.481567I$	$-1.81971-1.93627I$	$-0.00912+4.22614I$
$u=-1.39026+0.29206I$ $a=-0.344132-0.739214I$ $b=\ \ 1.16676-1.99069I$	$-4.93480+9.61806I$	$-2.00000-8.59949I$
$u=-1.39026-0.29206I$ $a=-0.344132+0.739214I$ $b=\ \ 1.16676+1.99069I$	$-4.93480-9.61806I$	$-2.00000+8.59949I$
$u=\ \ 1.383156-0.208829I$ $a=-0.274693-0.410854I$ $b=\ \ 2.56280-0.96102I$	$-10.07379+5.91469I$	$-6.80561-7.63550I$
$u=\ \ 1.383156+0.208829I$ $a=-0.274693+0.410854I$ $b=\ \ 2.56280+0.96102I$	$-10.07379-5.91469I$	$-6.80561+7.63550I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.343201-0.063939I$ $a=-0.261836-0.238596I$ $b=-0.68117-2.00949I$	$-8.04990+1.93627I$	$-3.99088-4.22614I$
$u=-1.343201+0.063939I$ $a=-0.261836+0.238596I$ $b=-0.68117+2.00949I$	$-8.04990-1.93627I$	$-3.99088+4.22614I$
$u=-1.39026-0.29206I$ $a=-0.163020-0.523675I$ $b=-0.557539-0.374437I$	$-4.93480-5.55830I$	$-2.00000+1.67128I$
$u=-1.39026+0.29206I$ $a=-0.163020+0.523675I$ $b=-0.557539+0.374437I$	$-4.93480+5.55830I$	$-2.00000-1.67128I$
$u=-1.343201-0.063939I$ $a=-0.132235-0.960677I$ $b=\ \ 0.539639-0.978015I$	$-8.04990-2.12349I$	$-3.99088+2.70206I$
$u=-1.343201+0.063939I$ $a=-0.132235+0.960677I$ $b=\ \ 0.539639+0.978015I$	$-8.04990+2.12349I$	$-3.99088-2.70206I$
$u=\ \ 0.227035+0.729376I$ $a=\ \ 0.027784-0.659320I$ $b=-0.296442-0.772801I$	$0.20418-1.85492I$	$2.80561+0.70730I$
$u=\ \ 0.227035-0.729376I$ $a=\ \ 0.027784+0.659320I$ $b=-0.296442+0.772801I$	$0.20418+1.85492I$	$2.80561-0.70730I$
$u=-1.343201+0.063939I$ $a=\ \ 0.084251-1.264503I$ $b=\ \ 1.063260-0.779601I$	$-8.04990-1.93627I$	$-3.99088+4.22614I$
$u=-1.343201-0.063939I$ $a=\ \ 0.084251+1.264503I$ $b=\ \ 1.063260+0.779601I$	$-8.04990+1.93627I$	$-3.99088-4.22614I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.228302+0.503204I$ $a=\ 0.15601-2.82198I$ $b=\ 1.04806-1.93436I$	$-4.93480-0.82777I$	$-2.00000-2.17330I$
$u=-0.228302-0.503204I$ $a=\ 0.15601+2.82198I$ $b=\ 1.04806+1.93436I$	$-4.93480+0.82777I$	$-2.00000+2.17330I$
$u=\ 0.227035-0.729376I$ $a=\ 0.412031-0.020853I$ $b=\ 0.022814+0.165152I$	$0.20418+1.85492I$	$2.80561-0.70730I$
$u=\ 0.227035+0.729376I$ $a=\ 0.412031+0.020853I$ $b=\ 0.022814-0.165152I$	$0.20418-1.85492I$	$2.80561+0.70730I$
$u=\ 0.851576+0.246566I$ $a=\ 0.645491-0.704478I$ $b=-0.534028-0.550753I$	$-1.81971-1.93627I$	$-0.00912+4.22614I$
$u=\ 0.851576-0.246566I$ $a=\ 0.645491+0.704478I$ $b=-0.534028+0.550753I$	$-1.81971+1.93627I$	$-0.00912-4.22614I$
$u=-1.39026-0.29206I$ $a=\ 0.698225-1.200626I$ $b=-1.96428-1.67914I$	$-4.93480-9.61806I$	$-2.00000+8.59949I$
$u=-1.39026+0.29206I$ $a=\ 0.698225+1.200626I$ $b=-1.96428+1.67914I$	$-4.93480+9.61806I$	$-2.00000-8.59949I$
$u=\ 0.851576-0.246566I$ $a=\ 1.015986-0.407288I$ $b=-0.375611+0.062591I$	$-1.81971-2.12349I$	$-0.00912+2.70206I$
$u=\ 0.851576+0.246566I$ $a=\ 1.015986+0.407288I$ $b=-0.375611-0.062591I$	$-1.81971+2.12349I$	$-0.00912-2.70206I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.227035 - 0.729376I$ $a = 1.04772 - 1.95666I$ $b = 1.20546 - 1.55059I$	$0.20418 + 5.91469I$	$2.80561 - 7.63550I$
$u = 0.227035 + 0.729376I$ $a = 1.04772 + 1.95666I$ $b = 1.20546 + 1.55059I$	$0.20418 - 5.91469I$	$2.80561 + 7.63550I$
$u = 1.383156 - 0.208829I$ $a = 1.19556 - 1.12290I$ $b = 1.057524 + 0.750313I$	$-10.07379 + 5.91469I$	$-6.80561 - 7.63550I$
$u = 1.383156 + 0.208829I$ $a = 1.19556 + 1.12290I$ $b = 1.057524 - 0.750313I$	$-10.07379 - 5.91469I$	$-6.80561 + 7.63550I$
$u = 1.383156 + 0.208829I$ $a = 1.22617 - 0.79218I$ $b = -1.83803 - 2.03623I$	$-10.07379 - 1.85492I$	$-6.80561 + 0.70730I$
$u = 1.383156 - 0.208829I$ $a = 1.22617 + 0.79218I$ $b = -1.83803 + 2.03623I$	$-10.07379 + 1.85492I$	$-6.80561 - 0.70730I$
$u = -0.228302 + 0.503204I$ $a = 1.82448 - 0.65907I$ $b = -0.244318 + 0.069470I$	$-4.93480 - 0.82777I$	$-2.00000 - 2.17330I$
$u = -0.228302 - 0.503204I$ $a = 1.82448 + 0.65907I$ $b = -0.244318 - 0.069470I$	$-4.93480 + 0.82777I$	$-2.00000 + 2.17330I$

II. $\boldsymbol{I_2^u = \langle u^{11} + u^{10} + \cdots - u - 1,\ u^{10} - 5u^8 + 8u^6 - u^5 - 3u^4 + 3u^3 + a - 2u - 3,\ 2u^{10} - 9u^8 + \cdots + b - 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + u^5 + 3u^4 - 3u^3 + 2u + 3 \\ -2u^{10} + 9u^8 - u^7 - 13u^6 + 6u^5 + 4u^4 - 9u^3 + 2u^2 + 3u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^8 - 4u^6 + u^5 + 5u^4 - 4u^3 + 4u - 2 \\ -u^7 + 3u^5 - u^4 - 2u^3 + 3u^2 - u - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + u^5 + 3u^4 - 3u^3 - u^2 + 2u + 4 \\ -u^{10} + 5u^8 - 8u^6 + 2u^5 + 4u^4 - 5u^3 - u^2 + 3u + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{10} + 2u^9 - 5u^8 - 8u^7 + 11u^6 + 8u^5 - 14u^4 + 5u^3 + 9u^2 - 9u \\ -u^{10} + 4u^8 - u^7 - 4u^6 + 4u^5 - 2u^4 - 3u^3 + 3u^2 - 2u + 2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 - 2u^2 + 3 \\ -u^{10} + 5u^8 - 8u^6 + 2u^5 + 3u^4 - 5u^3 + u^2 + 3u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 - 2u^2 + 3 \\ -u^{10} + 5u^8 - 8u^6 + 2u^5 + 3u^4 - 5u^3 + u^2 + 3u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.41250 - 0.33707I$ $a = -0.212118 + 0.543441I$ $b = 1.041625 + 0.764847I$	$-5.21814 - 6.73322I$	$-3.33459 + 9.11200I$
$u = -1.41250 + 0.33707I$ $a = -0.212118 - 0.543441I$ $b = 1.041625 - 0.764847I$	$-5.21814 + 6.73322I$	$-3.33459 - 9.11200I$
$u = -1.320671 - 0.128212I$ $a = 0.294881 - 0.947715I$ $b = -0.76149 - 2.27525I$	$-8.67034 + 0.51327I$	$-6.20283 + 0.66507I$
$u = -1.320671 + 0.128212I$ $a = 0.294881 + 0.947715I$ $b = -0.76149 + 2.27525I$	$-8.67034 - 0.51327I$	$-6.20283 - 0.66507I$
$u = -0.108024 - 0.372871I$ $a = 2.66804 - 0.95428I$ $b = 0.00407 - 1.44444I$	$-4.66204 - 2.24789I$	$1.66012 + 1.37513I$
$u = -0.108024 + 0.372871I$ $a = 2.66804 + 0.95428I$ $b = 0.00407 + 1.44444I$	$-4.66204 + 2.24789I$	$1.66012 - 1.37513I$
$u = 0.392352 - 0.812224I$ $a = 0.010266 + 0.725859I$ $b = -0.225775 + 0.707351I$	$0.39973 + 2.50595I$	$8.65215 - 11.04149I$
$u = 0.392352 + 0.812224I$ $a = 0.010266 - 0.725859I$ $b = -0.225775 - 0.707351I$	$0.39973 - 2.50595I$	$8.65215 + 11.04149I$
$u = 1.12168$ $a = 0.977334$ $b = -0.712948$	-0.313358	0.0548378
$u = 1.388003 - 0.178250I$ $a = -0.749740 + 0.398992I$ $b = 0.798046 - 0.870850I$	$-9.65640 + 4.37744I$	$-5.30226 - 2.74758I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.388003 + 0.178250I$ $a = -0.749740 - 0.398992I$ $b = 0.798046 + 0.870850I$	$-9.65640 - 4.37744I$	$-5.30226 + 2.74758I$

III. $\boldsymbol{I_3^u = \langle u^{25} - 6u^{24} + \cdots + 14u + 4,\ -13u^{24} + 52u^{23} + \cdots + 2b + 16,\ -12u^{24} + 57u^{23} + \cdots + 2a + 29\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 6u^{24} - \frac{57}{2}u^{23} + \cdots - \frac{139}{2}u - \frac{29}{2} \\ \frac{13}{2}u^{24} - 26u^{23} + \cdots - \frac{55}{2}u - 8 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{5}{4}u^{24} + 5u^{23} + \cdots - \frac{5}{4}u - 1 \\ \frac{17}{2}u^{24} - 41u^{23} + \cdots - \frac{247}{2}u - 29 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -10u^{24} + \frac{91}{2}u^{23} + \cdots + \frac{233}{2}u + \frac{59}{2} \\ -\frac{11}{2}u^{24} + 24u^{23} + \cdots + \frac{115}{2}u + 14 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{3}{4}u^{24} + 5u^{23} + \cdots + \frac{81}{4}u + 5 \\ -\frac{21}{2}u^{24} + 47u^{23} + \cdots + \frac{223}{2}u + 27 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{7}{2}u^{24} - \frac{29}{2}u^{23} + \cdots - 12u - \frac{5}{2} \\ -\frac{11}{2}u^{24} + 29u^{23} + \cdots + \frac{209}{2}u + 24 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{7}{2}u^{24} - \frac{29}{2}u^{23} + \cdots - 12u - \frac{5}{2} \\ -\frac{11}{2}u^{24} + 29u^{23} + \cdots + \frac{209}{2}u + 24 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.216246 - 0.428891I$ $a = -0.372220 + 0.354647I$ $b = 0.611951 + 0.098025I$	$-3.98322 - 6.30520I$	$2.04460 + 8.85471I$
$u = -1.216246 + 0.428891I$ $a = -0.372220 - 0.354647I$ $b = 0.611951 - 0.098025I$	$-3.98322 + 6.30520I$	$2.04460 - 8.85471I$
$u = -1.177975 - 0.155769I$ $a = 1.079620 + 0.146994I$ $b = -0.836327 - 0.481490I$	$0.027101 - 0.899324I$	$2.44779 + 5.98780I$
$u = -1.177975 + 0.155769I$ $a = 1.079620 - 0.146994I$ $b = -0.836327 + 0.481490I$	$0.027101 + 0.899324I$	$2.44779 - 5.98780I$
$u = -0.781126 - 0.530914I$ $a = -1.39206 - 0.29112I$ $b = -0.413990 + 0.895207I$	$-5.95198 + 7.41816I$	$-1.58248 - 3.87242I$
$u = -0.781126 + 0.530914I$ $a = -1.39206 + 0.29112I$ $b = -0.413990 - 0.895207I$	$-5.95198 - 7.41816I$	$-1.58248 + 3.87242I$
$u = -0.489893 - 0.790741I$ $a = 0.354526 - 0.954627I$ $b = -0.168820 - 0.998640I$	$-1.10259 - 2.56061I$	$2.13530 + 4.85725I$
$u = -0.489893 + 0.790741I$ $a = 0.354526 + 0.954627I$ $b = -0.168820 + 0.998640I$	$-1.10259 + 2.56061I$	$2.13530 - 4.85725I$
$u = -0.312314 - 0.796045I$ $a = 0.72603 + 1.70120I$ $b = 0.98191 + 1.54997I$	$-4.43838 - 12.03073I$	$0.63983 + 8.03648I$
$u = -0.312314 + 0.796045I$ $a = 0.72603 - 1.70120I$ $b = 0.98191 - 1.54997I$	$-4.43838 + 12.03073I$	$0.63983 - 8.03648I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.298559$ $a=\ \ 2.25009$ $b=\ \ 0.316763$	0.990720	10.6391
$u=-0.144370-0.636819I$ $a=-0.63239-1.70464I$ $b=-0.134233-1.341553I$	$2.97560-1.99862I$	$9.19617+1.79116I$
$u=-0.144370+0.636819I$ $a=-0.63239+1.70464I$ $b=-0.134233+1.341553I$	$2.97560+1.99862I$	$9.19617-1.79116I$
$u=\ \ 0.165443-0.771919I$ $a=\ \ 0.164777+0.407741I$ $b=-0.195646+0.516738I$	$0.24887+1.85876I$	$5.21169-1.18731I$
$u=\ \ 0.165443+0.771919I$ $a=\ \ 0.164777-0.407741I$ $b=-0.195646-0.516738I$	$0.24887-1.85876I$	$5.21169+1.18731I$
$u=\ \ 1.288407-0.179143I$ $a=-0.010868+0.454018I$ $b=-0.935541+0.828968I$	$-2.96955+0.98970I$	$0.58497+1.31216I$
$u=\ \ 1.288407+0.179143I$ $a=-0.010868-0.454018I$ $b=-0.935541-0.828968I$	$-2.96955-0.98970I$	$0.58497-1.31216I$
$u=\ \ 1.351236-0.250416I$ $a=-0.519774-0.770818I$ $b=\ \ 0.97453-1.91802I$	$-1.75933+5.22873I$	$2.70405-4.29469I$
$u=\ \ 1.351236+0.250416I$ $a=-0.519774+0.770818I$ $b=\ \ 0.97453+1.91802I$	$-1.75933-5.22873I$	$2.70405+4.29469I$
$u=\ \ 1.43697-0.31598I$ $a=\ \ 0.609580+1.010475I$ $b=-1.68786+1.75926I$	$-10.0254+16.0606I$	$-3.24174-8.45261I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.43697 + 0.31598I$ $a = 0.609580 - 1.010475I$ $b = -1.68786 - 1.75926I$	$-10.0254 - 16.0606I$	$-3.24174 + 8.45261I$
$u = 1.49575 - 0.31314I$ $a = -0.513839 - 0.448517I$ $b = 0.673122 - 1.085072I$	$-7.45610 + 6.63321I$	$-3.37442 - 6.60504I$
$u = 1.49575 + 0.31314I$ $a = -0.513839 + 0.448517I$ $b = 0.673122 + 1.085072I$	$-7.45610 - 6.63321I$	$-3.37442 + 6.60504I$
$u = 1.53340 - 0.05927I$ $a = 0.381572 - 0.722957I$ $b = 0.472524 - 0.216587I$	$-13.7635 - 5.7019I$	$-6.58533 + 4.59320I$
$u = 1.53340 + 0.05927I$ $a = 0.381572 + 0.722957I$ $b = 0.472524 + 0.216587I$	$-13.7635 + 5.7019I$	$-6.58533 - 4.59320I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_8	$(u^{11}+6u^9-u^8+15u^7-4u^6+19u^5-6u^4+12u^3-3u^2+3u-1)$ $(u^{25}+9u^{23}+\cdots+2u-1)(u^{48}+u^{47}+\cdots-114u+76)$
c_2, c_6	$(u^{11}+6u^9+u^8+15u^7+4u^6+19u^5+6u^4+12u^3+3u^2+3u+1)$ $(u^{25}+9u^{23}+\cdots+2u-1)(u^{48}+u^{47}+\cdots-114u+76)$
c_3	$(u^{11}+3u^{10}+5u^9+u^8-2u^7+6u^6+25u^5+21u^4+4u^3-2u^2+3u-1)$ $(1-4u+7u^2-7u^3+14u^4-24u^5+24u^6-14u^7+5u^8-4u^9+5u^{10}-3u^{11}+u^{12})^4$ $(u^{25}+18u^{24}+\cdots+1946u+188)$
c_4	$(u^{11}-u^{10}-5u^9+4u^8+9u^7-3u^6-7u^5-5u^4+3u^3+5u^2-u+1)$ $(u^{12}-u^{11}-5u^{10}+4u^9+9u^8-4u^7-6u^6-2u^5+3u^3+u^2+1)^4$ $(u^{25}+6u^{24}+\cdots+14u-4)$
c_5, c_7	$(u^{11}-u^{10}+u^9+2u^8-u^7+u^6+2u^5+2u^4+u^2+2u+1)$ $(u^{25}-u^{24}+\cdots-3u-1)(u^{48}+13u^{47}+\cdots+54u+4)$
c_9	$(u^2+u+1)^{24}(u^{11}-2u^{10}+\cdots-u-1)$ $(u^{25}-23u^{24}+\cdots+49152u-4096)$
c_{10}, c_{11}	$(u^{11}+u^{10}-5u^9-4u^8+9u^7+3u^6-7u^5+5u^4+3u^3-5u^2-u-1)$ $(u^{12}-u^{11}-5u^{10}+4u^9+9u^8-4u^7-6u^6-2u^5+3u^3+u^2+1)^4$ $(u^{25}+6u^{24}+\cdots+14u-4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_2, c_6	$(y^{11}+12y^{10}+\cdots+3y-1)(y^{25}+18y^{24}+\cdots+4y-1)$
c_8	$(y^{48}+39y^{47}+\cdots+220932y+5776)$
c_3	$(y^{11}+y^{10}+\cdots+5y-1)$ $(1-2y+21y^2+3y^3+94y^4-52y^5+36y^6-36y^7+37y^8-2y^9+11y^{10}+y^{11}+y^{12})^4$ $(y^{25}+2y^{24}+\cdots+360428y-35344)$
c_4, c_{10}, c_{11}	$(y^{11}-11y^{10}+\cdots-9y-1)$ $(1+2y+y^2-21y^3+18y^4+28y^5-12y^6-100y^7+169y^8-126y^9+51y^{10}-11y^{11}+y^{12})^4$ $(y^{25}-22y^{24}+\cdots+140y-16)$
c_5, c_7	$(y^{11}+y^{10}+3y^9+5y^7-7y^6+2y^5-14y^4+2y^3-5y^2+2y-1)$ $(y^{25}-5y^{24}+\cdots+19y-1)(y^{48}+11y^{47}+\cdots+356y+16)$
c_9	$(y^2+y+1)^{24}$ $(y^{11}-2y^{10}+5y^9-2y^8+14y^7-2y^6+7y^5-5y^4-3y^2-y-1)$ $(y^{25}-y^{24}+\cdots+25165824y-16777216)$