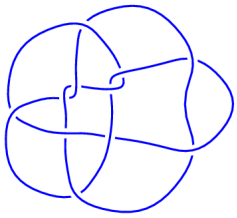
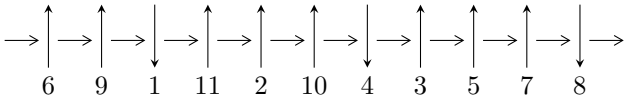
$11a_{283}$ ($K11a_{283}$)



1

Arc Sequences



Solving Sequence

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

Representation Ideals

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

$I_1^u = \langle u^7 - 2u^6 + u^5 - 2u^4 + 2u^3 + u + 1,\ -u^4 + u^3 + b + u,\ u^3 - u^2 + a - 1 \rangle$

$I_2^u = \langle u^{20} - 3u^{19} + \cdots + 2u + 1,\ 4.51619 \times 10^{16} u^{19} - 1.54413 \times 10^{17} u^{18} + \cdots + 8.87160 \times 10^{16} b + 2.44218 \times 10^{16}$
$6.53718 \times 10^{16} u^{19} - 2.20241 \times 10^{17} u^{18} + \cdots + 8.87160 \times 10^{16} a - 5.87784 \times 10^{16} \rangle$

$I_3^u = \langle u^{86} + 10u^{85} + \cdots + 578u + 79,$
$9.59266 \times 10^{474} u^{85} + 9.00126 \times 10^{475} u^{84} + \cdots + 1.62663 \times 10^{477} b - 6.15787 \times 10^{476},$
$-2.75954 \times 10^{478} u^{85} - 2.67363 \times 10^{479} u^{84} + \cdots + 6.42520 \times 10^{479} a - 3.92446 \times 10^{480} \rangle$

There are 3 irreducible components with 113 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. $\boldsymbol{I_1^u = \langle u^7 - 2u^6 + u^5 - 2u^4 + 2u^3 + u + 1,\ -u^4 + u^3 + b + u,\ u^3 - u^2 + a - 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 + u^2 + 1 \\ u^4 - u^3 - u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^3 + u^2 + 1 \\ u^5 - u^3 - u^2 - u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^6 - 2u^5 + u^4 - 2u^3 + 2u^2 + 1 \\ -u^6 + 2u^5 - u^2 - u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

(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
$u=-0.512372$ $a=\ \ 1.39704$ $b=\ \ 0.715802$	1.64493	6.00000
$u=-0.439591-0.951858I$ $a=-0.822700+0.526253I$ $b=-0.862570-0.551757I$	1.64493	6.00000
$u=-0.439591+0.951858I$ $a=-0.822700-0.526253I$ $b=-0.862570+0.551757I$	1.64493	6.00000
$u=\ \ 0.173654-0.849744I$ $a=\ \ 0.679021-0.831820I$ $b=\ \ 0.588920+0.721443I$	1.64493	6.00000
$u=\ \ 0.173654+0.849744I$ $a=\ \ 0.679021+0.831820I$ $b=\ \ 0.588920-0.721443I$	1.64493	6.00000
$u=\ \ 1.52212-0.20837I$ $a=-0.054839+0.804922I$ $b=-0.084251-1.236617I$	1.64493	6.00000
$u=\ \ 1.52212+0.20837I$ $a=-0.054839-0.804922I$ $b=-0.084251+1.236617I$	1.64493	6.00000

II. $I_2^u =$
$\langle u^{20}-3u^{19}+\cdots+2u+1,\ 4.52\times10^{16}u^{19}-1.54\times10^{17}u^{18}+\cdots+8.87\times10^{16}b+2.44\times10^{16},\ 6.54\times10^{16}u^{19}-2.20\times10^{17}u^{18}+\cdots+8.87\times10^{16}a-5.88\times10^{16}\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.736865u^{19}+2.48253u^{18}+\cdots-3.49550u+0.662545\\-0.509062u^{19}+1.74053u^{18}+\cdots-4.14605u-0.275281\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.736865u^{19}+2.48253u^{18}+\cdots-3.49550u+0.662545\\-0.570131u^{19}+1.92327u^{18}+\cdots-4.33904u-0.00334204\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.144919u^{19}+0.295174u^{18}+\cdots-4.75070u-0.464302\\0.483433u^{19}-1.71707u^{18}+\cdots+1.44365u-0.221180\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.781078u^{19}+2.62798u^{18}+\cdots-3.22014u+0.177262\\-0.464850u^{19}+1.59508u^{18}+\cdots-4.42141u+0.210003\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.0815984u^{19}+0.372640u^{18}+\cdots+6.58573u+2.03093\\-0.0443048u^{19}+0.165402u^{18}+\cdots+1.70655u+0.880340\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.659142u^{19}-2.66504u^{18}+\cdots-5.39296u-1.56492\\-0.0635505u^{19}+0.0209443u^{18}+\cdots-0.00750863u-1.84693\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.782962u^{19}-3.58708u^{18}+\cdots-1.18862u-2.44788\\-0.205309u^{19}+0.787547u^{18}+\cdots-0.290611u-0.953486\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.950052u^{19}+4.20746u^{18}+\cdots+1.22523u+2.82209\\-0.381503u^{19}+1.16132u^{18}+\cdots-3.18636u+0.778525\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.950052u^{19}+4.20746u^{18}+\cdots+1.22523u+2.82209\\-0.381503u^{19}+1.16132u^{18}+\cdots-3.18636u+0.778525\end{pmatrix}$$

(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
$u=-2.05932-0.51289I$ $a=-0.022590-0.624437I$ $b=\ \ 0.428420+0.634387I$	$-3.70849-7.77575I$	$1.98042+8.91503I$
$u=-2.05932+0.51289I$ $a=-0.022590+0.624437I$ $b=\ \ 0.428420-0.634387I$	$-3.70849+7.77575I$	$1.98042-8.91503I$
$u=-0.564894-0.693008I$ $a=\ \ 0.77649+1.45312I$ $b=-1.22470-1.34250I$	$-4.70501-3.26631I$	$10.94198+7.13391I$
$u=-0.564894+0.693008I$ $a=\ \ 0.77649-1.45312I$ $b=-1.22470+1.34250I$	$-4.70501+3.26631I$	$10.94198-7.13391I$
$u=-0.460291-0.362148I$ $a=-2.40026-0.69294I$ $b=-0.569025-0.383444I$	$0.96215-2.51362I$	$0.64139+9.41977I$
$u=-0.460291+0.362148I$ $a=-2.40026+0.69294I$ $b=-0.569025+0.383444I$	$0.96215+2.51362I$	$0.64139-9.41977I$
$u=-0.398273-0.505596I$ $a=-1.87132-1.16017I$ $b=\ \ 1.008725+0.396393I$	$-7.04665+2.30270I$	$-1.55456-0.79605I$
$u=-0.398273+0.505596I$ $a=-1.87132+1.16017I$ $b=\ \ 1.008725-0.396393I$	$-7.04665-2.30270I$	$-1.55456+0.79605I$
$u=-0.041274-0.327366I$ $a=\ \ 2.12898+0.27491I$ $b=\ \ 0.370853+1.112918I$	$3.67242+1.15933I$	$9.29729-1.48128I$
$u=-0.041274+0.327366I$ $a=\ \ 2.12898-0.27491I$ $b=\ \ 0.370853-1.112918I$	$3.67242-1.15933I$	$9.29729+1.48128I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.345896 - 1.225691I$ $a = 0.210558 - 0.124153I$ $b = 0.788726 + 0.189203I$	$3.10647 + 2.21537I$	$10.72853 - 2.81043I$
$u = 0.345896 + 1.225691I$ $a = 0.210558 + 0.124153I$ $b = 0.788726 - 0.189203I$	$3.10647 - 2.21537I$	$10.72853 + 2.81043I$
$u = 0.892681 - 0.271514I$ $a = -1.090428 + 0.100284I$ $b = -0.448804 + 0.393731I$	$-0.64266 + 3.90221I$	$3.24651 - 7.37049I$
$u = 0.892681 + 0.271514I$ $a = -1.090428 - 0.100284I$ $b = -0.448804 - 0.393731I$	$-0.64266 - 3.90221I$	$3.24651 + 7.37049I$
$u = 0.897651 - 0.884576I$ $a = 0.063361 - 0.732937I$ $b = -0.976142 + 0.655162I$	$-1.58446 + 3.70556I$	$-0.94050 - 4.83089I$
$u = 0.897651 + 0.884576I$ $a = 0.063361 + 0.732937I$ $b = -0.976142 - 0.655162I$	$-1.58446 - 3.70556I$	$-0.94050 + 4.83089I$
$u = 1.28550 - 0.59311I$ $a = 0.356979 - 0.778562I$ $b = -0.385793 + 1.177103I$	$1.65051 - 1.14565I$	$6.04640 + 4.20488I$
$u = 1.28550 + 0.59311I$ $a = 0.356979 + 0.778562I$ $b = -0.385793 - 1.177103I$	$1.65051 + 1.14565I$	$6.04640 - 4.20488I$
$u = 1.60233 - 1.19450I$ $a = -0.151782 + 0.463541I$ $b = 1.007736 - 0.591502I$	$1.71598 + 6.19605I$	$8.61255 - 6.55788I$
$u = 1.60233 + 1.19450I$ $a = -0.151782 - 0.463541I$ $b = 1.007736 + 0.591502I$	$1.71598 - 6.19605I$	$8.61255 + 6.55788I$

III. $I_3^u = \langle u^{86} + 10u^{85} + \cdots + 578u + 79,\ 9.59 \times 10^{474}u^{85} + 9.00 \times 10^{475}u^{84} + \cdots + 1.63 \times 10^{477}b - 6.16 \times 10^{476},\ -2.76 \times 10^{478}u^{85} - 2.67 \times 10^{479}u^{84} + \cdots + 6.43 \times 10^{479}a - 3.92 \times 10^{480} \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0429487u^{85} + 0.416117u^{84} + \cdots + 50.3426u + 6.10793 \\ -0.00589725u^{85} - 0.0553367u^{84} + \cdots - 5.20215u + 0.378565 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0429487u^{85} + 0.416117u^{84} + \cdots + 50.3426u + 6.10793 \\ -0.00897296u^{85} - 0.0853405u^{84} + \cdots - 9.53721u - 0.677684 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0426467u^{85} - 0.422351u^{84} + \cdots - 56.6166u - 20.1735 \\ 0.0149468u^{85} + 0.146409u^{84} + \cdots + 13.5030u + 3.50014 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0448924u^{85} + 0.435090u^{84} + \cdots + 53.0421u + 6.87695 \\ -0.00784092u^{85} - 0.0743096u^{84} + \cdots - 7.90161u - 0.390458 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0401899u^{85} - 0.387516u^{84} + \cdots - 75.3380u - 8.73656 \\ 0.00184411u^{85} + 0.0157898u^{84} + \cdots + 9.72247u - 0.564930 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0261521u^{85} + 0.265885u^{84} + \cdots + 56.9667u + 26.7454 \\ -0.0101131u^{85} - 0.100488u^{84} + \cdots - 27.7922u - 6.56219 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0402227u^{85} + 0.395119u^{84} + \cdots + 70.0078u + 14.5373 \\ -0.00338721u^{85} - 0.0322823u^{84} + \cdots - 9.52461u - 0.761642 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0865597u^{85} - 0.842662u^{84} + \cdots - 131.076u - 18.0842 \\ 0.00797848u^{85} + 0.0750717u^{84} + \cdots + 15.2370u + 0.172451 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0865597u^{85} - 0.842662u^{84} + \cdots - 131.076u - 18.0842 \\ 0.00797848u^{85} + 0.0750717u^{84} + \cdots + 15.2370u + 0.172451 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-2.20649-0.94736I$ $a=\ \ 0.266652+0.447978I$ $b=-0.604045-0.163616I$	$-4.48521+6.86672I$	$-1.90243-4.16210I$
$u=-2.20649+0.94736I$ $a=\ \ 0.266652-0.447978I$ $b=-0.604045+0.163616I$	$-4.48521-6.86672I$	$-1.90243+4.16210I$
$u=-1.79532-1.18311I$ $a=-0.219361-0.501685I$ $b=\ \ 0.996687+0.618711I$	$0.51451-6.45826I$	$1.76014+6.43944I$
$u=-1.79532+1.18311I$ $a=-0.219361+0.501685I$ $b=\ \ 0.996687-0.618711I$	$0.51451+6.45826I$	$1.76014-6.43944I$
$u=-1.61628-1.34034I$ $a=-0.329118-0.593932I$ $b=\ \ 0.467174+0.794714I$	$-2.71748-7.52821I$	$8.84323+6.90477I$
$u=-1.61628+1.34034I$ $a=-0.329118+0.593932I$ $b=\ \ 0.467174-0.794714I$	$-2.71748+7.52821I$	$8.84323-6.90477I$
$u=-1.58581-1.00036I$ $a=\ \ 0.277790+0.673136I$ $b=-0.793262-0.757007I$	$-5.14196-5.75508I$	$0.53063+6.31940I$
$u=-1.58581+1.00036I$ $a=\ \ 0.277790-0.673136I$ $b=-0.793262+0.757007I$	$-5.14196+5.75508I$	$0.53063-6.31940I$
$u=-1.37620-0.78896I$ $a=\ \ 0.388565+0.742403I$ $b=-1.12032-0.97919I$	$-6.21226-5.37580I$	$-0.06492+5.30246I$
$u=-1.37620+0.78896I$ $a=\ \ 0.388565-0.742403I$ $b=-1.12032+0.97919I$	$-6.21226+5.37580I$	$-0.06492-5.30246I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.353187-0.385379I$ $a=-0.100586+1.071322I$ $b=-0.886329-0.336760I$	$-5.61570-9.08985I$	$-0.32107+8.28317I$
$u=-1.353187+0.385379I$ $a=-0.100586-1.071322I$ $b=-0.886329+0.336760I$	$-5.61570+9.08985I$	$-0.32107-8.28317I$
$u=-1.27008-1.27440I$ $a=\ \ 0.401734+0.784748I$ $b=-1.28157-0.90744I$	$-3.4892-17.6295I$	$3.06884+9.10802I$
$u=-1.27008+1.27440I$ $a=\ \ 0.401734-0.784748I$ $b=-1.28157+0.90744I$	$-3.4892+17.6295I$	$3.06884-9.10802I$
$u=-1.25108-1.27334I$ $a=-0.593678-0.447117I$ $b=\ \ 0.786372+0.097584I$	$-8.25891+3.00812I$	$-6.79941-2.91249I$
$u=-1.25108+1.27334I$ $a=-0.593678+0.447117I$ $b=\ \ 0.786372-0.097584I$	$-8.25891-3.00812I$	$-6.79941+2.91249I$
$u=-1.07442-1.07358I$ $a=-0.489062-0.943535I$ $b=\ \ 1.33874+0.92434I$	$-8.42324-11.27470I$	$-0.50654+7.93296I$
$u=-1.07442+1.07358I$ $a=-0.489062+0.943535I$ $b=\ \ 1.33874-0.92434I$	$-8.42324+11.27470I$	$-0.50654-7.93296I$
$u=-0.872563-0.427374I$ $a=-0.30827-1.72104I$ $b=\ \ 0.696897+0.215062I$	$-7.86731-4.29450I$	$-3.32355+4.55601I$
$u=-0.872563+0.427374I$ $a=-0.30827+1.72104I$ $b=\ \ 0.696897-0.215062I$	$-7.86731+4.29450I$	$-3.32355-4.55601I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.816502-0.731762I$ $a=-0.797817-0.811692I$ $b=\ \ 1.58024+0.96432I$	$-7.29903+0.31589I$	$-0.11598+2.44941I$
$u=-0.816502+0.731762I$ $a=-0.797817+0.811692I$ $b=\ \ 1.58024-0.96432I$	$-7.29903-0.31589I$	$-0.11598-2.44941I$
$u=-0.781265-0.093712I$ $a=\ \ 0.15649+1.76213I$ $b=-0.982343-0.478243I$	$-6.14811+0.65193I$	$0.47300+1.86196I$
$u=-0.781265+0.093712I$ $a=\ \ 0.15649-1.76213I$ $b=-0.982343+0.478243I$	$-6.14811-0.65193I$	$0.47300-1.86196I$
$u=-0.780824-0.879312I$ $a=-0.288894+0.182447I$ $b=-0.020347-0.776368I$	$4.95207+1.65937I$	$17.2147-3.6067I$
$u=-0.780824+0.879312I$ $a=-0.288894-0.182447I$ $b=-0.020347+0.776368I$	$4.95207-1.65937I$	$17.2147+3.6067I$
$u=-0.742449-0.769656I$ $a=\ \ 0.464364-0.620052I$ $b=\ \ 0.908284+0.879263I$	$4.82477-6.81993I$	$10.08009+4.71115I$
$u=-0.742449+0.769656I$ $a=\ \ 0.464364+0.620052I$ $b=\ \ 0.908284-0.879263I$	$4.82477+6.81993I$	$10.08009-4.71115I$
$u=-0.525472-0.785193I$ $a=\ \ 0.93268+1.48381I$ $b=-1.48810-1.18066I$	$-5.01653-3.29033I$	$-14.7213+8.7999I$
$u=-0.525472+0.785193I$ $a=\ \ 0.93268-1.48381I$ $b=-1.48810+1.18066I$	$-5.01653+3.29033I$	$-14.7213-8.7999I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.447264-0.472519I$ $a=-0.865893+0.639221I$ $b=-0.783105-0.781755I$	$0.06236-2.46466I$	$6.83396+3.77647I$
$u=-0.447264+0.472519I$ $a=-0.865893-0.639221I$ $b=-0.783105+0.781755I$	$0.06236+2.46466I$	$6.83396-3.77647I$
$u=-0.393183-0.598655I$ $a=1.240330+0.528905I$ $b=0.553669-0.538966I$	$1.71658-1.70443I$	$3.26271+0.57830I$
$u=-0.393183+0.598655I$ $a=1.240330-0.528905I$ $b=0.553669+0.538966I$	$1.71658+1.70443I$	$3.26271-0.57830I$
$u=-0.370149-0.378564I$ $a=-1.16621-2.22185I$ $b=-0.51756+1.53574I$	$-1.10942-9.46579I$	$5.88505+7.75269I$
$u=-0.370149+0.378564I$ $a=-1.16621+2.22185I$ $b=-0.51756-1.53574I$	$-1.10942+9.46579I$	$5.88505-7.75269I$
$u=-0.340450-0.211846I$ $a=0.68348+3.04420I$ $b=-0.33975-1.62541I$	$-4.58690-2.56469I$	$8.50204-1.29154I$
$u=-0.340450+0.211846I$ $a=0.68348-3.04420I$ $b=-0.33975+1.62541I$	$-4.58690+2.56469I$	$8.50204+1.29154I$
$u=-0.21108-1.59629I$ $a=0.939679-0.018101I$ $b=-1.151205+0.056856I$	$-3.17742-0.08844I$	$-1.82214-0.21597I$
$u=-0.21108+1.59629I$ $a=0.939679+0.018101I$ $b=-1.151205-0.056856I$	$-3.17742+0.08844I$	$-1.82214+0.21597I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.191885-0.124177I$ $a=-3.96105-5.26029I$ $b=\ \ 1.157362+0.247059I$	$-5.72875+3.11452I$	$2.35660-2.88543I$
$u=-0.191885+0.124177I$ $a=-3.96105+5.26029I$ $b=\ \ 1.157362-0.247059I$	$-5.72875-3.11452I$	$2.35660+2.88543I$
$u=-0.186619-0.529078I$ $a=\ \ 0.948670-0.611240I$ $b=\ \ 0.262372+0.594253I$	$0.948430+0.603776I$	$9.01347-4.18465I$
$u=-0.186619+0.529078I$ $a=\ \ 0.948670+0.611240I$ $b=\ \ 0.262372-0.594253I$	$0.948430-0.603776I$	$9.01347+4.18465I$
$u=-0.106872-0.454744I$ $a=-2.66551+2.22451I$ $b=-0.458312-0.731943I$	$0.43071-3.88005I$	$8.57640+9.33204I$
$u=-0.106872+0.454744I$ $a=-2.66551-2.22451I$ $b=-0.458312+0.731943I$	$0.43071+3.88005I$	$8.57640-9.33204I$
$u=\ \ 0.113314-0.988562I$ $a=-0.220994-0.927982I$ $b=\ \ 0.937868+1.042349I$	$2.54751+4.69288I$	$8.01340-6.49441I$
$u=\ \ 0.113314+0.988562I$ $a=-0.220994+0.927982I$ $b=\ \ 0.937868-1.042349I$	$2.54751-4.69288I$	$8.01340+6.49441I$
$u=\ \ 0.208990-0.160847I$ $a=-2.14296+3.65421I$ $b=-0.59050-1.70373I$	$2.56807+2.29900I$	$6.18096-6.37760I$
$u=\ \ 0.208990+0.160847I$ $a=-2.14296-3.65421I$ $b=-0.59050+1.70373I$	$2.56807-2.29900I$	$6.18096+6.37760I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.214147 - 0.808833I$ $a = -0.341089 + 0.606239I$ $b = 1.04113 - 0.97357I$	$4.56662 - 0.11637I$	$12.84009 - 2.25680I$
$u = 0.214147 + 0.808833I$ $a = -0.341089 - 0.606239I$ $b = 1.04113 + 0.97357I$	$4.56662 + 0.11637I$	$12.84009 + 2.25680I$
$u = 0.265781 - 0.181610I$ $a = 0.63664 - 4.70598I$ $b = -0.320711 - 0.381753I$	$1.18894 - 2.12493I$	$10.53913 - 4.74272I$
$u = 0.265781 + 0.181610I$ $a = 0.63664 + 4.70598I$ $b = -0.320711 + 0.381753I$	$1.18894 + 2.12493I$	$10.53913 + 4.74272I$
$u = 0.33118 - 1.65651I$ $a = 0.587665 - 0.200822I$ $b = -1.307116 + 0.135504I$	$1.54553 + 2.70454I$	$5.51874 - 3.86994I$
$u = 0.33118 + 1.65651I$ $a = 0.587665 + 0.200822I$ $b = -1.307116 - 0.135504I$	$1.54553 - 2.70454I$	$5.51874 + 3.86994I$
$u = 0.529003 - 0.826672I$ $a = -0.31067 - 1.51145I$ $b = -0.796678 + 1.008823I$	$-2.09582 + 4.89045I$	$-0.76502 - 11.52498I$
$u = 0.529003 + 0.826672I$ $a = -0.31067 + 1.51145I$ $b = -0.796678 - 1.008823I$	$-2.09582 - 4.89045I$	$-0.76502 + 11.52498I$
$u = 0.59084 - 1.38375I$ $a = 0.007010 - 0.481523I$ $b = -0.455370 + 0.640337I$	$2.64706 + 4.13307I$	$10.06650 - 7.67107I$
$u = 0.59084 + 1.38375I$ $a = 0.007010 + 0.481523I$ $b = -0.455370 - 0.640337I$	$2.64706 - 4.13307I$	$10.06650 + 7.67107I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.710124 - 1.063139I$ $a = 0.298844 + 0.932510I$ $b = 0.975904 - 0.898638I$	$2.30617 + 11.65448I$	$5.71441 - 9.09907I$
$u = 0.710124 + 1.063139I$ $a = 0.298844 - 0.932510I$ $b = 0.975904 + 0.898638I$	$2.30617 - 11.65448I$	$5.71441 + 9.09907I$
$u = 0.758858 - 0.316144I$ $a = 1.191836 + 0.514142I$ $b = 0.565760 + 0.049963I$	$-1.17731 + 3.15707I$	$-1.95153 - 2.62504I$
$u = 0.758858 + 0.316144I$ $a = 1.191836 - 0.514142I$ $b = 0.565760 - 0.049963I$	$-1.17731 - 3.15707I$	$-1.95153 + 2.62504I$
$u = 0.849759 - 0.240272I$ $a = 0.424992 - 0.002820I$ $b = -0.907520 - 0.549937I$	$-3.81257 - 0.89485I$	$-2.25949 + 1.18834I$
$u = 0.849759 + 0.240272I$ $a = 0.424992 + 0.002820I$ $b = -0.907520 + 0.549937I$	$-3.81257 + 0.89485I$	$-2.25949 - 1.18834I$
$u = 0.877618 - 0.715990I$ $a = 0.427831 + 0.308325I$ $b = 0.633218 - 0.298276I$	$-0.80790 + 2.80909I$	$5.98332 + 0.21201I$
$u = 0.877618 + 0.715990I$ $a = 0.427831 - 0.308325I$ $b = 0.633218 + 0.298276I$	$-0.80790 - 2.80909I$	$5.98332 - 0.21201I$
$u = 0.882379 - 1.029063I$ $a = -0.560491 + 0.769666I$ $b = 1.43905 - 0.82459I$	$-3.52274 + 6.07547I$	$1.55536 - 5.92381I$
$u = 0.882379 + 1.029063I$ $a = -0.560491 - 0.769666I$ $b = 1.43905 + 0.82459I$	$-3.52274 - 6.07547I$	$1.55536 + 5.92381I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.883652 - 0.950390I$ $a = 0.307223 - 0.811697I$ $b = -1.007473 + 0.744538I$	$-0.75390 + 3.34791I$	$8.33721 - 1.05489I$
$u = 0.883652 + 0.950390I$ $a = 0.307223 + 0.811697I$ $b = -1.007473 - 0.744538I$	$-0.75390 - 3.34791I$	$8.33721 + 1.05489I$
$u = 0.942729 - 0.702573I$ $a = -0.497003 + 0.989629I$ $b = 0.733721 - 0.111808I$	$-4.40326 + 0.41121I$	$-0.491158 + 0.871285I$
$u = 0.942729 + 0.702573I$ $a = -0.497003 - 0.989629I$ $b = 0.733721 + 0.111808I$	$-4.40326 - 0.41121I$	$-0.491158 - 0.871285I$
$u = 0.96988 - 1.17660I$ $a = 0.623775 - 0.598550I$ $b = -0.406763 - 0.030358I$	$0.50203 - 2.48920I$	$6.55080 + 4.53304I$
$u = 0.96988 + 1.17660I$ $a = 0.623775 + 0.598550I$ $b = -0.406763 + 0.030358I$	$0.50203 + 2.48920I$	$6.55080 - 4.53304I$
$u = 0.992238 - 0.794552I$ $a = -0.589589 + 0.091732I$ $b = -0.815814 + 0.353442I$	$2.45089 + 3.89737I$	$6.40177 - 6.57898I$
$u = 0.992238 + 0.794552I$ $a = -0.589589 - 0.091732I$ $b = -0.815814 - 0.353442I$	$2.45089 - 3.89737I$	$6.40177 + 6.57898I$
$u = 1.060493 - 0.536610I$ $a = 0.203449 - 1.085227I$ $b = -0.951281 + 0.344539I$	$-2.11426 + 4.00334I$	$3.09554 - 4.75495I$
$u = 1.060493 + 0.536610I$ $a = 0.203449 + 1.085227I$ $b = -0.951281 - 0.344539I$	$-2.11426 - 4.00334I$	$3.09554 + 4.75495I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.16986 - 1.10198I$ $a = 0.412530 - 0.764289I$ $b = -1.30457 + 0.96288I$	$0.23737 + 11.07658I$	$4.89931 - 7.25180I$
$u = 1.16986 + 1.10198I$ $a = 0.412530 + 0.764289I$ $b = -1.30457 - 0.96288I$	$0.23737 - 11.07658I$	$4.89931 + 7.25180I$
$u = 1.32260 - 1.26903I$ $a = -0.118829 + 0.594580I$ $b = 1.013537 - 0.674443I$	$0.43505 + 5.35734I$	$3.49660 - 4.38372I$
$u = 1.32260 + 1.26903I$ $a = -0.118829 - 0.594580I$ $b = 1.013537 + 0.674443I$	$0.43505 - 5.35734I$	$3.49660 + 4.38372I$
$u = 1.62199 - 0.09003I$ $a = -0.115912 + 0.123935I$ $b = 0.702069 - 0.520997I$	$-1.21164 + 5.29604I$	$2.45054 - 8.48280I$
$u = 1.62199 + 0.09003I$ $a = -0.115912 - 0.123935I$ $b = 0.702069 + 0.520997I$	$-1.21164 - 5.29604I$	$2.45054 + 8.48280I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^7-2u^6+\cdots+u+1)(u^{20}-u^{19}+\cdots+3u+1)$ $(u^{86}+2u^{85}+\cdots-4061u+367)$
c_2	$(u^7+u^5+u-1)(u^{20}+8u^{18}+\cdots-3u+1)$ $(u^{86}+u^{85}+\cdots+4313u+839)$
c_3	$(u^7-2u^6+\cdots+u+1)(u^{20}+3u^{19}+\cdots-2u+1)$ $(u^{86}+10u^{85}+\cdots+578u+79)$
c_4	$(u^7-2u^6+\cdots+u-1)(u^{20}-7u^{18}+\cdots-4u+1)$ $(u^{86}+5u^{85}+\cdots-16u+1)$
c_5	$(u^7-2u^6+\cdots+u+1)(u^{20}+u^{19}+\cdots-3u+1)$ $(u^{86}+2u^{85}+\cdots-4061u+367)$
c_6	$(u+1)^7(u^{20}-8u^{18}+\cdots+2u+3)(u^{86}-6u^{85}+\cdots+2700u+200)$
c_7	$(u^7+3u^5+\cdots+3u-2)(u^{20}-u^{19}+\cdots-3u+1)$ $(u^{86}+4u^{85}+\cdots+379u+169)$
c_8	$(u^7+u^5+u-1)(u^{20}+8u^{18}+\cdots+3u+1)$ $(u^{86}+u^{85}+\cdots+4313u+839)$
c_9	$(u^7+3u^5+\cdots+3u-2)(u^{20}-3u^{18}+\cdots-6u+1)$ $(u^{86}+u^{85}+\cdots+760186u+130319)$
c_{10}	$(u+1)^7(u^{20}-8u^{18}+\cdots-2u+3)(u^{86}-6u^{85}+\cdots+2700u+200)$
c_{11}	$(u^7+u^5+u-1)(u^{20}-4u^{17}+\cdots-2u^2+1)$ $(u^{86}+5u^{85}+\cdots+690u+179)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^7-2y^6+\cdots+y-1)(y^{20}+9y^{19}+\cdots+15y+1)$ $(y^{86}+58y^{85}+\cdots-1366917y+134689)$
c_2	$(y^7+2y^6+\cdots+y-1)(y^{20}+16y^{19}+\cdots+27y+1)$ $(y^{86}+73y^{85}+\cdots-7899685y+703921)$
c_3	$(y^7-2y^6-3y^5+2y^4+10y^3+8y^2+y-1)$ $(y^{20}-11y^{19}+\cdots+16y+1)(y^{86}-14y^{85}+\cdots-153964y+6241)$
c_4	$(y^7-10y^6+37y^5-30y^4+58y^3-40y^2+17y-1)$ $(y^{20}-14y^{19}+\cdots-4y+1)(y^{86}-5y^{85}+\cdots+200y+1)$
c_5	$(y^7-2y^6+\cdots+y-1)(y^{20}+9y^{19}+\cdots+15y+1)$ $(y^{86}+58y^{85}+\cdots-1366917y+134689)$
c_6	$(y-1)^7(y^{20}-16y^{19}+\cdots+62y+9)$ $(y^{86}-58y^{85}+\cdots-4211599y+40000)$
c_7	$(y^7+6y^6+17y^5+14y^4-14y^3-28y^2-15y-4)$ $(y^{20}+5y^{19}+\cdots+5y+1)(y^{86}+14y^{85}+\cdots+1122168y+28561)$
c_8	$(y^7+2y^6+\cdots+y-1)(y^{20}+16y^{19}+\cdots+27y+1)$ $(y^{86}+73y^{85}+\cdots-7899685y+703921)$
c_9	$(y^7+6y^6+17y^5+14y^4-14y^3-28y^2-15y-4)$ $(y^{20}-6y^{19}+\cdots-26y+1)$ $(y^{86}+15y^{85}+\cdots+56388593440y+16983563025)$
c_{10}	$(y-1)^7(y^{20}-16y^{19}+\cdots+62y+9)$ $(y^{86}-58y^{85}+\cdots-4211599y+40000)$
c_{11}	$(y^7+2y^6+\cdots+y-1)(y^{20}+12y^{18}+\cdots-4y+1)$ $(y^{86}-19y^{85}+\cdots-1161312y+32041)$