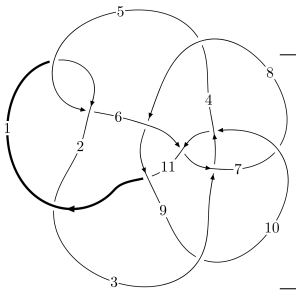
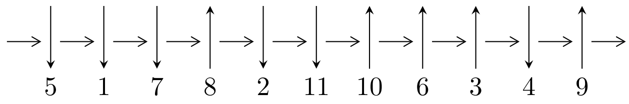
$11a_{170}$ ($K11a_{170}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.47044 \times 10^{43}u^{38} + 4.27047 \times 10^{44}u^{37} + \cdots + 9.58937 \times 10^{43}b - 1.14769 \times 10^{44},$$
$$5.73844 \times 10^{43}u^{38} - 1.63474 \times 10^{45}u^{37} + \cdots + 1.91787 \times 10^{44}a + 3.56267 \times 10^{43},\ u^{39} - 29u^{38} + \cdots + 14u -$$
$$I_2^u = \langle 2430u^{18}a^3 - 5190u^{18}a^2 + \cdots + 12488a^2 - 9913,\ 24u^{18}a^3 + 64u^{18}a^2 + \cdots + 58a + 349,$$
$$u^{19} + 9u^{18} + \cdots - u - 2\rangle$$
$$I_3^u = \langle 1560902u^{18} + 15217104u^{17} + \cdots + 4517673b + 1159923,$$
$$-386641u^{18} + 43014u^{17} + \cdots + 13553019a - 28935738,\ u^{19} + 12u^{18} + \cdots + 51u + 9\rangle$$

$$I_1^v = \langle a,\ b+1,\ v^2 - v + 1\rangle$$
$$I_2^v = \langle a,\ b+v-1,\ v^2 - v + 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 138 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle -1.47\times 10^{43}u^{38} + 4.27\times 10^{44}u^{37} + \cdots + 9.59\times 10^{43}b - 1.15\times 10^{44},\ 5.74\times 10^{43}u^{38} - 1.63\times 10^{45}u^{37} + \cdots + 1.92\times 10^{44}a + 3.56\times 10^{43},\ u^{39} - 29u^{38} + \cdots + 14u - 4\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.299208u^{38} + 8.52370u^{37} + \cdots + 2.19933u - 0.185762\\ 0.153341u^{38} - 4.45334u^{37} + \cdots - 4.00316u + 1.19683\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.139409u^{38} + 3.92433u^{37} + \cdots - 0.853890u + 0.397710\\ 0.126095u^{38} - 3.74672u^{37} + \cdots - 4.15512u + 1.05762\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.238011u^{38} + 7.00101u^{37} + \cdots + 10.6223u + 0.765363\\ -0.0987012u^{38} + 2.65437u^{37} + \cdots - 3.09751u + 0.952043\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.145868u^{38} + 4.07037u^{37} + \cdots - 1.80383u + 1.01107\\ 0.153341u^{38} - 4.45334u^{37} + \cdots - 4.00316u + 1.19683\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0442803u^{38} + 1.19691u^{37} + \cdots + 8.27899u - 3.04017\\ 0.295182u^{38} - 8.17668u^{37} + \cdots + 1.08639u + 0.571926\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.227449u^{38} + 6.41835u^{37} + \cdots + 0.0934401u + 3.06425\\ 0.109263u^{38} - 3.23703u^{37} + \cdots - 5.43137u + 1.34685\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.0331425u^{38} + 1.03976u^{37} + \cdots + 0.307399u + 0.302283\\ -0.247066u^{38} + 6.86896u^{37} + \cdots + 0.529326u - 0.320849\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.150801u^{38} + 4.40571u^{37} + \cdots + 1.28760u - 0.423103\\ -0.240955u^{38} + 6.61929u^{37} + \cdots - 0.756100u + 0.338269\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-0.150801u^{38} + 4.40571u^{37} + \cdots + 1.28760u - 0.423103\\ -0.240955u^{38} + 6.61929u^{37} + \cdots - 0.756100u + 0.338269\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.44324u^{38} + 40.0008u^{37} + \cdots - 2.64538u - 0.932055$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{39} + 9u^{38} + \cdots - 124u - 16$
c_2	$u^{39} + 17u^{38} + \cdots + 1200u + 256$
c_3, c_{10}	$u^{39} - 4u^{37} + \cdots + u - 1$
c_4, c_9	$u^{39} - u^{38} + \cdots + 47u + 17$
c_6	$u^{39} + 37u^{38} + \cdots + 5505024u + 262144$
c_7	$u^{39} + 29u^{38} + \cdots + 14u + 4$
c_8, c_{11}	$u^{39} - u^{38} + \cdots - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{39} - 17y^{38} + \cdots + 1200y - 256$
c_2	$y^{39} + 11y^{38} + \cdots - 231680y - 65536$
c_3, c_{10}	$y^{39} - 8y^{38} + \cdots + 9y - 1$
c_4, c_9	$y^{39} - 19y^{38} + \cdots + 3399y - 289$
c_6	$y^{39} - 5y^{38} + \cdots + 515396075520y - 68719476736$
c_7	$y^{39} - 11y^{38} + \cdots - 276y - 16$
c_8, c_{11}	$y^{39} + y^{38} + \cdots + 37y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.331870 + 0.943428I$ $a = -0.133268 - 0.994133I$ $b = -0.893665 + 0.455652I$	$-3.26169 - 3.52438I$	0
$u = 0.331870 - 0.943428I$ $a = -0.133268 + 0.994133I$ $b = -0.893665 - 0.455652I$	$-3.26169 + 3.52438I$	0
$u = 0.841757 + 0.821032I$ $a = -0.625635 - 0.086146I$ $b = 0.455904 + 0.586181I$	$-1.14633 - 4.05626I$	0
$u = 0.841757 - 0.821032I$ $a = -0.625635 + 0.086146I$ $b = 0.455904 - 0.586181I$	$-1.14633 + 4.05626I$	0
$u = 0.817409 + 0.895529I$ $a = 0.147866 - 0.842126I$ $b = -0.875015 + 0.555944I$	$-5.58025 + 3.26982I$	0
$u = 0.817409 - 0.895529I$ $a = 0.147866 + 0.842126I$ $b = -0.875015 - 0.555944I$	$-5.58025 - 3.26982I$	0
$u = 0.419302 + 0.634476I$ $a = -0.038397 + 1.226960I$ $b = 0.794577 - 0.490104I$	$-1.48621 + 0.90379I$	$-4.25055 - 1.87469I$
$u = 0.419302 - 0.634476I$ $a = -0.038397 - 1.226960I$ $b = 0.794577 + 0.490104I$	$-1.48621 - 0.90379I$	$-4.25055 + 1.87469I$
$u = -0.562878 + 1.206500I$ $a = 0.021414 - 0.311325I$ $b = -0.363558 - 0.201074I$	$1.74925 - 1.27793I$	0
$u = -0.562878 - 1.206500I$ $a = 0.021414 + 0.311325I$ $b = -0.363558 + 0.201074I$	$1.74925 + 1.27793I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.301200 + 0.541325I$ $a = -0.372119 + 0.962153I$ $b = 1.00504 - 1.05051I$	$4.42472 + 1.39638I$	0
$u = 1.301200 - 0.541325I$ $a = -0.372119 - 0.962153I$ $b = 1.00504 + 1.05051I$	$4.42472 - 1.39638I$	0
$u = 1.09375 + 0.89879I$ $a = -0.048210 + 1.101960I$ $b = 1.04316 - 1.16194I$	$-0.36330 + 10.93520I$	0
$u = 1.09375 - 0.89879I$ $a = -0.048210 - 1.101960I$ $b = 1.04316 + 1.16194I$	$-0.36330 - 10.93520I$	0
$u = 1.27453 + 0.71084I$ $a = 0.227363 - 1.011290I$ $b = -1.00865 + 1.12730I$	$6.38619 + 7.86261I$	0
$u = 1.27453 - 0.71084I$ $a = 0.227363 + 1.011290I$ $b = -1.00865 - 1.12730I$	$6.38619 - 7.86261I$	0
$u = 1.49152$ $a = 0.906411$ $b = -1.35193$	-6.30934	0
$u = -0.034630 + 0.476179I$ $a = 0.57531 + 1.32639I$ $b = 0.651520 - 0.228017I$	$-1.40805 + 0.45537I$	$-6.68789 - 0.37229I$
$u = -0.034630 - 0.476179I$ $a = 0.57531 - 1.32639I$ $b = 0.651520 + 0.228017I$	$-1.40805 - 0.45537I$	$-6.68789 + 0.37229I$
$u = -0.305932 + 0.311045I$ $a = 1.08603 + 1.91133I$ $b = 0.926761 + 0.246934I$	$-0.07010 - 4.24589I$	$-2.71126 + 7.01324I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.305932 - 0.311045I$ $a = 1.08603 - 1.91133I$ $b = 0.926761 - 0.246934I$	$-0.07010 + 4.24589I$	$-2.71126 - 7.01324I$
$u = 0.166848 + 0.352846I$ $a = 0.73742 + 2.79209I$ $b = 0.862139 - 0.726050I$	$-0.162274 + 0.211332I$	$-1.308088 + 0.536675I$
$u = 0.166848 - 0.352846I$ $a = 0.73742 - 2.79209I$ $b = 0.862139 + 0.726050I$	$-0.162274 - 0.211332I$	$-1.308088 - 0.536675I$
$u = 1.24696 + 1.01994I$ $a = 0.026843 - 0.978351I$ $b = -1.03133 + 1.19259I$	$6.6772 + 13.2005I$	0
$u = 1.24696 - 1.01994I$ $a = 0.026843 + 0.978351I$ $b = -1.03133 - 1.19259I$	$6.6772 - 13.2005I$	0
$u = 1.22434 + 1.08925I$ $a = 0.011484 + 0.970890I$ $b = 1.04348 - 1.20121I$	$4.8624 + 19.2051I$	0
$u = 1.22434 - 1.08925I$ $a = 0.011484 - 0.970890I$ $b = 1.04348 + 1.20121I$	$4.8624 - 19.2051I$	0
$u = -0.318547 + 0.066288I$ $a = -2.76662 - 1.78349I$ $b = -0.999521 - 0.384730I$	$0.0975477 - 0.0620158I$	$-2.09239 + 0.09201I$
$u = -0.318547 - 0.066288I$ $a = -2.76662 + 1.78349I$ $b = -0.999521 + 0.384730I$	$0.0975477 + 0.0620158I$	$-2.09239 - 0.09201I$
$u = -0.103070 + 0.291494I$ $a = -2.92237 - 2.35332I$ $b = -0.987188 + 0.609296I$	$-0.09530 + 3.97123I$	$-1.67802 - 6.97168I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.103070-0.291494I$ $a=-2.92237+2.35332I$ $b=-0.987188-0.609296I$	$-0.09530-3.97123I$	$-1.67802+6.97168I$
$u=1.76013+0.77135I$ $a=-0.314047+0.368852I$ $b=0.837278-0.406987I$	$2.84675+3.80672I$	0
$u=1.76013-0.77135I$ $a=-0.314047-0.368852I$ $b=0.837278+0.406987I$	$2.84675-3.80672I$	0
$u=1.62789+1.03730I$ $a=0.210948-0.444220I$ $b=-0.804192+0.504323I$	$1.25508+10.27040I$	0
$u=1.62789-1.03730I$ $a=0.210948+0.444220I$ $b=-0.804192-0.504323I$	$1.25508-10.27040I$	0
$u=1.55330+1.50941I$ $a=-0.261427-0.177739I$ $b=0.137795+0.670683I$	$4.32938-9.77720I$	0
$u=1.55330-1.50941I$ $a=-0.261427+0.177739I$ $b=0.137795-0.670683I$	$4.32938+9.77720I$	0
$u=1.42000+1.74003I$ $a=0.234216+0.122995I$ $b=-0.118571-0.582195I$	$5.48378-3.90827I$	0
$u=1.42000-1.74003I$ $a=0.234216-0.122995I$ $b=-0.118571+0.582195I$	$5.48378+3.90827I$	0

II. $I_2^u = \langle 2430u^{18}a^3 - 5190u^{18}a^2 + \cdots + 12488a^2 - 9913,\ 24u^{18}a^3 + 64u^{18}a^2 + \cdots + 58a + 349,\ u^{19} + 9u^{18} + \cdots - u - 2\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a \\ -0.332968a^3u^{18} + 0.711154a^2u^{18} + \cdots - 1.71115a^2 + 1.35832 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.332968a^3u^{18} + 0.711154a^2u^{18} + \cdots + a + 1.35832 \\ -1.00110a^3u^{18} - 0.133461a^2u^{18} + \cdots + 1.13346a^2 + 1.92505 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -a^2u \\ 0.711154a^3u^{18} + 0.332968a^2u^{18} + \cdots - 4a - 0.999863 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.332968a^3u^{18} + 0.711154a^2u^{18} + \cdots + a + 1.35832 \\ -0.332968a^3u^{18} + 0.711154a^2u^{18} + \cdots - 1.71115a^2 + 1.35832 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.144423a^3u^{18} - 0.333516a^2u^{18} + \cdots - 0.666484a^2 + 0.500069 \\ 0.711154a^3u^{18} + 0.332968a^2u^{18} + \cdots - 4a + 0.000137024 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.155385a^3u^{18} + 0.668128a^2u^{18} + \cdots - 0.668128a^2 - 0.000548095 \\ -0.555769a^3u^{18} + 0.335160a^2u^{18} + \cdots + 4a + 0.999315 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.411346a^3u^{18} + 0.668676a^2u^{18} + \cdots - 0.668676a^2 + 0.499246 \\ -0.133461a^3u^{18} + 1.00110a^2u^{18} + \cdots - 2a - 0.000411072 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.676350a^3u^{18} + 0.654426a^2u^{18} + \cdots - a + 1.50459 \\ -0.338449a^3u^{18} + 1.04385a^2u^{18} + \cdots - 6a + 0.983557 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.676350a^3u^{18} + 0.654426a^2u^{18} + \cdots - a + 1.50459 \\ -0.338449a^3u^{18} + 1.04385a^2u^{18} + \cdots - 6a + 0.983557 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{10380}{3649}u^{18}a^3 - \frac{4860}{3649}u^{18}a^2 + \cdots + 16a + \frac{62031}{3649}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{19} - 2u^{18} + \cdots - 4u + 1)^4$
c_2	$(u^{19} + 8u^{18} + \cdots + 4u + 1)^4$
c_3, c_{10}	$u^{76} + 4u^{75} + \cdots - 13u + 1$
c_4, c_9	$u^{76} + 2u^{75} + \cdots - 461147u + 92641$
c_6	$(u^2 - u + 1)^{38}$
c_7	$(u^{19} - 9u^{18} + \cdots - u + 2)^4$
c_8, c_{11}	$u^{76} - 3u^{75} + \cdots + 7318u + 1741$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{19} - 8y^{18} + \cdots + 4y - 1)^4$
c_2	$(y^{19} + 8y^{18} + \cdots - 16y - 1)^4$
c_3, c_{10}	$y^{76} + 26y^{75} + \cdots + 75y + 1$
c_4, c_9	$y^{76} - 34y^{75} + \cdots - 289799457437y + 8582354881$
c_6	$(y^2 + y + 1)^{38}$
c_7	$(y^{19} - 3y^{18} + \cdots + 37y - 4)^4$
c_8, c_{11}	$y^{76} - 31y^{75} + \cdots - 27023766y + 3031081$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.488744 + 1.038280I$ $a = -0.046618 + 0.988356I$ $b = -0.79374 - 1.47743I$	$0.05398 - 9.62803I$	$-3.53397 + 12.41778I$
$u = -0.488744 + 1.038280I$ $a = -0.293242 + 0.933326I$ $b = -0.111329 - 0.106061I$	$0.05398 - 5.56826I$	$-3.53397 + 5.48958I$
$u = -0.488744 + 1.038280I$ $a = 0.87027 - 1.17413I$ $b = 1.003410 + 0.531456I$	$0.05398 - 9.62803I$	$-3.53397 + 12.41778I$
$u = -0.488744 + 1.038280I$ $a = 0.0423036 - 0.1271370I$ $b = 0.825736 + 0.760626I$	$0.05398 - 5.56826I$	$-3.53397 + 5.48958I$
$u = -0.488744 - 1.038280I$ $a = -0.046618 - 0.988356I$ $b = -0.79374 + 1.47743I$	$0.05398 + 9.62803I$	$-3.53397 - 12.41778I$
$u = -0.488744 - 1.038280I$ $a = -0.293242 - 0.933326I$ $b = -0.111329 + 0.106061I$	$0.05398 + 5.56826I$	$-3.53397 - 5.48958I$
$u = -0.488744 - 1.038280I$ $a = 0.87027 + 1.17413I$ $b = 1.003410 - 0.531456I$	$0.05398 + 9.62803I$	$-3.53397 - 12.41778I$
$u = -0.488744 - 1.038280I$ $a = 0.0423036 + 0.1271370I$ $b = 0.825736 - 0.760626I$	$0.05398 + 5.56826I$	$-3.53397 - 5.48958I$
$u = -0.752606 + 0.874521I$ $a = 0.009232 - 0.929025I$ $b = 0.89425 + 1.37563I$	$1.75286 - 5.17897I$	$0.41778 + 7.25838I$
$u = -0.752606 + 0.874521I$ $a = 0.130623 - 0.587298I$ $b = -0.207899 + 0.298912I$	$1.75286 - 1.11920I$	$0.417778 + 0.330175I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.752606 + 0.874521I$ $a = -0.39813 + 1.36519I$ $b = -0.805505 - 0.707263I$	$1.75286 - 5.17897I$	$0.41778 + 7.25838I$
$u = -0.752606 + 0.874521I$ $a = -0.313905 + 0.032415I$ $b = -0.415297 - 0.556237I$	$1.75286 - 1.11920I$	$0.417778 + 0.330175I$
$u = -0.752606 - 0.874521I$ $a = 0.009232 + 0.929025I$ $b = 0.89425 - 1.37563I$	$1.75286 + 5.17897I$	$0.41778 - 7.25838I$
$u = -0.752606 - 0.874521I$ $a = 0.130623 + 0.587298I$ $b = -0.207899 - 0.298912I$	$1.75286 + 1.11920I$	$0.417778 - 0.330175I$
$u = -0.752606 - 0.874521I$ $a = -0.39813 - 1.36519I$ $b = -0.805505 + 0.707263I$	$1.75286 + 5.17897I$	$0.41778 - 7.25838I$
$u = -0.752606 - 0.874521I$ $a = -0.313905 - 0.032415I$ $b = -0.415297 + 0.556237I$	$1.75286 + 1.11920I$	$0.417778 - 0.330175I$
$u = -1.211130 + 0.137559I$ $a = -0.836689 + 0.841595I$ $b = 0.089876 - 0.698008I$	$4.59520 - 0.63634I$	$7.58619 - 0.25531I$
$u = -1.211130 + 0.137559I$ $a = 0.695655 + 1.094640I$ $b = -0.211353 - 0.748765I$	$4.59520 - 4.69611I$	$7.58619 + 6.67289I$
$u = -1.211130 + 0.137559I$ $a = -0.102962 - 0.629929I$ $b = 0.99311 + 1.23007I$	$4.59520 - 4.69611I$	$7.58619 + 6.67289I$
$u = -1.211130 + 0.137559I$ $a = 0.137888 - 0.560665I$ $b = -0.89757 + 1.13438I$	$4.59520 - 0.63634I$	$7.58619 - 0.25531I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.211130 - 0.137559I$ $a = -0.836689 - 0.841595I$ $b = 0.089876 + 0.698008I$	$4.59520 + 0.63634I$	$7.58619 + 0.25531I$
$u = -1.211130 - 0.137559I$ $a = 0.695655 - 1.094640I$ $b = -0.211353 + 0.748765I$	$4.59520 + 4.69611I$	$7.58619 - 6.67289I$
$u = -1.211130 - 0.137559I$ $a = -0.102962 + 0.629929I$ $b = 0.99311 - 1.23007I$	$4.59520 + 4.69611I$	$7.58619 - 6.67289I$
$u = -1.211130 - 0.137559I$ $a = 0.137888 + 0.560665I$ $b = -0.89757 - 1.13438I$	$4.59520 + 0.63634I$	$7.58619 + 0.25531I$
$u = 0.687103 + 0.235969I$ $a = 0.041834 - 0.923046I$ $b = 1.52253 + 1.30009I$	$4.06740 + 10.25010I$	$5.86786 - 12.03410I$
$u = 0.687103 + 0.235969I$ $a = 0.61351 + 1.33915I$ $b = 1.13417 - 1.00234I$	$4.06740 + 6.19033I$	$5.86786 - 5.10589I$
$u = 0.687103 + 0.235969I$ $a = -1.02838 + 1.81197I$ $b = -0.105545 - 1.064900I$	$4.06740 + 6.19033I$	$5.86786 - 5.10589I$
$u = 0.687103 + 0.235969I$ $a = -2.56334 - 1.01181I$ $b = -0.246555 + 0.624356I$	$4.06740 + 10.25010I$	$5.86786 - 12.03410I$
$u = 0.687103 - 0.235969I$ $a = 0.041834 + 0.923046I$ $b = 1.52253 - 1.30009I$	$4.06740 - 10.25010I$	$5.86786 + 12.03410I$
$u = 0.687103 - 0.235969I$ $a = 0.61351 - 1.33915I$ $b = 1.13417 + 1.00234I$	$4.06740 - 6.19033I$	$5.86786 + 5.10589I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.687103 - 0.235969I$ $a = -1.02838 - 1.81197I$ $b = -0.105545 + 1.064900I$	$4.06740 - 6.19033I$	$5.86786 + 5.10589I$
$u = 0.687103 - 0.235969I$ $a = -2.56334 + 1.01181I$ $b = -0.246555 - 0.624356I$	$4.06740 - 10.25010I$	$5.86786 + 12.03410I$
$u = 0.689008 + 0.139635I$ $a = -0.095129 + 1.010870I$ $b = -1.45640 - 1.29970I$	$5.90964 + 4.35931I$	$9.40004 - 6.47018I$
$u = 0.689008 + 0.139635I$ $a = -0.409287 - 1.280010I$ $b = -1.19567 + 1.13465I$	$5.90964 + 0.29954I$	$9.40004 + 0.45802I$
$u = 0.689008 + 0.139635I$ $a = 1.34631 - 1.91963I$ $b = 0.103269 + 0.939085I$	$5.90964 + 0.29954I$	$9.40004 + 0.45802I$
$u = 0.689008 + 0.139635I$ $a = 2.39759 + 1.40044I$ $b = 0.206697 - 0.683213I$	$5.90964 + 4.35931I$	$9.40004 - 6.47018I$
$u = 0.689008 - 0.139635I$ $a = -0.095129 - 1.010870I$ $b = -1.45640 + 1.29970I$	$5.90964 - 4.35931I$	$9.40004 + 6.47018I$
$u = 0.689008 - 0.139635I$ $a = -0.409287 + 1.280010I$ $b = -1.19567 - 1.13465I$	$5.90964 - 0.29954I$	$9.40004 - 0.45802I$
$u = 0.689008 - 0.139635I$ $a = 1.34631 + 1.91963I$ $b = 0.103269 - 0.939085I$	$5.90964 - 0.29954I$	$9.40004 - 0.45802I$
$u = 0.689008 - 0.139635I$ $a = 2.39759 - 1.40044I$ $b = 0.206697 + 0.683213I$	$5.90964 - 4.35931I$	$9.40004 + 6.47018I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.378245 + 0.567353I$ $a = \ \ 0.131552 + 1.078100I$ $b = -1.01749 - 1.65463I$	$-2.19784 - 2.79119I$	$-7.49818 + 10.51788I$
$u = -0.378245 + 0.567353I$ $a = -0.324334 + 0.098555I$ $b = \ \ 1.389240 + 0.131080I$	$-2.19784 + 1.26857I$	$-7.49818 + 3.58967I$
$u = -0.378245 + 0.567353I$ $a = \ \ 0.97020 + 1.80181I$ $b = -0.066762 + 0.221290I$	$-2.19784 + 1.26857I$	$-7.49818 + 3.58967I$
$u = -0.378245 + 0.567353I$ $a = \ \ 1.19128 - 2.58761I$ $b = \ \ 0.661419 + 0.333147I$	$-2.19784 - 2.79119I$	$-7.49818 + 10.51788I$
$u = -0.378245 - 0.567353I$ $a = \ \ 0.131552 - 1.078100I$ $b = -1.01749 + 1.65463I$	$-2.19784 + 2.79119I$	$-7.49818 - 10.51788I$
$u = -0.378245 - 0.567353I$ $a = -0.324334 - 0.098555I$ $b = \ \ 1.389240 - 0.131080I$	$-2.19784 - 1.26857I$	$-7.49818 - 3.58967I$
$u = -0.378245 - 0.567353I$ $a = \ \ 0.97020 - 1.80181I$ $b = -0.066762 - 0.221290I$	$-2.19784 - 1.26857I$	$-7.49818 - 3.58967I$
$u = -0.378245 - 0.567353I$ $a = \ \ 1.19128 + 2.58761I$ $b = \ \ 0.661419 - 0.333147I$	$-2.19784 + 2.79119I$	$-7.49818 - 10.51788I$
$u = -0.865146 + 1.042810I$ $a = \ \ 0.045926 - 0.937417I$ $b = \ \ 0.80203 + 1.30087I$	$1.73711 - 5.29191I$	$-1.82857 + 8.05106I$
$u = -0.865146 + 1.042810I$ $a = -0.360952 + 1.068560I$ $b = -0.937819 - 0.858895I$	$1.73711 - 5.29191I$	$-1.82857 + 8.05106I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.865146 + 1.042810I$ $a = 0.296569 - 0.571023I$ $b = 0.024029 + 0.464704I$	$1.73711 - 1.23215I$	$-1.82857 + 1.12286I$
$u = -0.865146 + 1.042810I$ $a = -0.252629 + 0.232631I$ $b = -0.338895 - 0.803284I$	$1.73711 - 1.23215I$	$-1.82857 + 1.12286I$
$u = -0.865146 - 1.042810I$ $a = 0.045926 + 0.937417I$ $b = 0.80203 - 1.30087I$	$1.73711 + 5.29191I$	$-1.82857 - 8.05106I$
$u = -0.865146 - 1.042810I$ $a = -0.360952 - 1.068560I$ $b = -0.937819 + 0.858895I$	$1.73711 + 5.29191I$	$-1.82857 - 8.05106I$
$u = -0.865146 - 1.042810I$ $a = 0.296569 + 0.571023I$ $b = 0.024029 - 0.464704I$	$1.73711 + 1.23215I$	$-1.82857 - 1.12286I$
$u = -0.865146 - 1.042810I$ $a = -0.252629 - 0.232631I$ $b = -0.338895 + 0.803284I$	$1.73711 + 1.23215I$	$-1.82857 - 1.12286I$
$u = 0.494703$ $a = -0.050248 + 1.334190I$ $b = 1.25357 - 1.55428I$	$-0.73172 - 2.02988I$	$13.11408 + 3.46410I$
$u = 0.494703$ $a = -0.050248 - 1.334190I$ $b = 1.25357 + 1.55428I$	$-0.73172 + 2.02988I$	$13.11408 - 3.46410I$
$u = 0.494703$ $a = -2.53399 + 3.14184I$ $b = 0.024858 - 0.660026I$	$-0.73172 - 2.02988I$	$13.11408 + 3.46410I$
$u = 0.494703$ $a = -2.53399 - 3.14184I$ $b = 0.024858 + 0.660026I$	$-0.73172 + 2.02988I$	$13.11408 - 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.23842 + 1.01885I$ $a = 0.057902 + 1.004440I$ $b = -0.547319 - 1.129000I$	$4.33121 - 3.93186I$	$7.62421 + 4.84403I$
$u = -1.23842 + 1.01885I$ $a = 0.183718 - 0.760502I$ $b = 1.09508 + 1.18492I$	$4.33121 - 3.93186I$	$7.62421 + 4.84403I$
$u = -1.23842 + 1.01885I$ $a = -0.490134 + 0.482986I$ $b = -0.207412 - 0.651096I$	$4.33121 + 0.12791I$	$7.62421 - 2.08417I$
$u = -1.23842 + 1.01885I$ $a = 0.158068 - 0.395706I$ $b = -0.114899 + 1.097510I$	$4.33121 + 0.12791I$	$7.62421 - 2.08417I$
$u = -1.23842 - 1.01885I$ $a = 0.057902 - 1.004440I$ $b = -0.547319 + 1.129000I$	$4.33121 + 3.93186I$	$7.62421 - 4.84403I$
$u = -1.23842 - 1.01885I$ $a = 0.183718 + 0.760502I$ $b = 1.09508 - 1.18492I$	$4.33121 + 3.93186I$	$7.62421 - 4.84403I$
$u = -1.23842 - 1.01885I$ $a = -0.490134 - 0.482986I$ $b = -0.207412 + 0.651096I$	$4.33121 - 0.12791I$	$7.62421 + 2.08417I$
$u = -1.23842 - 1.01885I$ $a = 0.158068 + 0.395706I$ $b = -0.114899 - 1.097510I$	$4.33121 - 0.12791I$	$7.62421 + 2.08417I$
$u = -1.18917 + 1.13858I$ $a = -0.024921 - 0.964193I$ $b = 0.580828 + 1.201930I$	$3.96785 - 8.80564I$	$5.90760 + 12.35499I$
$u = -1.18917 + 1.13858I$ $a = -0.250062 + 0.771309I$ $b = -1.12744 - 1.11822I$	$3.96785 - 8.80564I$	$5.90760 + 12.35499I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.18917 + 1.13858I$ $a = 0.463313 - 0.506844I$ $b = 0.226931 + 0.615001I$	$3.96785 - 4.74587I$	$5.90760 + 5.42679I$
$u = -1.18917 + 1.13858I$ $a = -0.158778 + 0.365144I$ $b = -0.026123 - 1.130240I$	$3.96785 - 4.74587I$	$5.90760 + 5.42679I$
$u = -1.18917 - 1.13858I$ $a = -0.024921 + 0.964193I$ $b = 0.580828 - 1.201930I$	$3.96785 + 8.80564I$	$5.90760 - 12.35499I$
$u = -1.18917 - 1.13858I$ $a = -0.250062 - 0.771309I$ $b = -1.12744 + 1.11822I$	$3.96785 + 8.80564I$	$5.90760 - 12.35499I$
$u = -1.18917 - 1.13858I$ $a = 0.463313 + 0.506844I$ $b = 0.226931 - 0.615001I$	$3.96785 + 4.74587I$	$5.90760 - 5.42679I$
$u = -1.18917 - 1.13858I$ $a = -0.158778 - 0.365144I$ $b = -0.026123 + 1.130240I$	$3.96785 + 4.74587I$	$5.90760 - 5.42679I$

III.

$\boldsymbol{I_3^u = \langle 1.56\times10^{6}u^{18} + 1.52\times10^{7}u^{17} + \cdots + 4.52\times10^{6}b + 1.16\times10^{6},\ -3.87\times10^{5}u^{18} + 4.30\times10^{4}u^{17} + \cdots + 1.36\times10^{7}a - 2.89\times10^{7},\ u^{19} + 12u^{18} + \cdots + 51u + 9\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0285280u^{18} - 0.00317376u^{17} + \cdots - 3.85295u + 2.13500 \\ -0.345510u^{18} - 3.36835u^{17} + \cdots + 0.680073u - 0.256752 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.460790u^{18} + 4.84379u^{17} + \cdots + 14.1914u + 4.98784 \\ -0.291696u^{18} - 3.42901u^{17} + \cdots - 12.7785u - 3.31832 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0849012u^{18} + 0.801365u^{17} + \cdots - 14.2478u - 1.23217 \\ -0.217450u^{18} - 2.32098u^{17} + \cdots - 4.56214u - 0.764111 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.316982u^{18} - 3.37152u^{17} + \cdots - 3.17288u + 1.87825 \\ -0.345510u^{18} - 3.36835u^{17} + \cdots + 0.680073u - 0.256752 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.739359u^{18} + 7.93694u^{17} + \cdots + 24.6242u + 3.21974 \\ -1.22379u^{18} - 13.0814u^{17} + \cdots - 45.8134u - 8.61129 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0615806u^{18} - 0.830822u^{17} + \cdots - 15.0462u - 0.803344 \\ 0.0709684u^{18} + 0.688798u^{17} + \cdots + 5.76371u + 1.19294 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.159691u^{18} + 1.66506u^{17} + \cdots + 2.28727u + 1.05357 \\ -0.508449u^{18} - 5.42759u^{17} + \cdots - 14.2274u - 3.22952 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.113233u^{18} - 1.38897u^{17} + \cdots - 4.56154u + 2.35178 \\ -0.539522u^{18} - 5.73993u^{17} + \cdots - 4.17334u - 1.57028 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.113233u^{18} - 1.38897u^{17} + \cdots - 4.56154u + 2.35178 \\ -0.539522u^{18} - 5.73993u^{17} + \cdots - 4.17334u - 1.57028 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{34181122}{4517673}u^{18} - \frac{118384024}{1505891}u^{17} + \cdots - \frac{772349428}{4517673}u - \frac{55184665}{1505891}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{19}+4u^{18}+\cdots-2u^2+1$
c_2	$u^{19}+10u^{18}+\cdots+4u+1$
c_3, c_{10}	$u^{19}+3u^{17}+\cdots-u+1$
c_4, c_9	$u^{19}-u^{18}+\cdots-3u-1$
c_5	$u^{19}-4u^{18}+\cdots+2u^2-1$
c_6	$u^{19}+6u^{18}+\cdots+10u+1$
c_7	$u^{19}+12u^{18}+\cdots+51u+9$
c_8, c_{11}	$u^{19}-5u^{18}+\cdots+9u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{19} - 10y^{18} + \cdots + 4y - 1$
c_2	$y^{19} + 2y^{18} + \cdots - 88y - 1$
c_3, c_{10}	$y^{19} + 6y^{18} + \cdots - 9y - 1$
c_4, c_9	$y^{19} - 9y^{18} + \cdots + y - 1$
c_6	$y^{19} - 6y^{18} + \cdots + 18y - 1$
c_7	$y^{19} - 8y^{18} + \cdots - 1467y - 81$
c_8, c_{11}	$y^{19} - 9y^{18} + \cdots + 47y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.763973 + 0.707293I$ $a = -0.016917 - 0.602834I$ $b = 0.413456 - 0.472514I$	$4.82041 - 3.45939I$	$2.24813 + 1.36505I$
$u = 0.763973 - 0.707293I$ $a = -0.016917 + 0.602834I$ $b = 0.413456 + 0.472514I$	$4.82041 + 3.45939I$	$2.24813 - 1.36505I$
$u = 0.787742 + 0.364961I$ $a = -0.300275 + 0.783661I$ $b = -0.522544 + 0.507734I$	$3.28624 - 9.25767I$	$0.20658 + 5.93399I$
$u = 0.787742 - 0.364961I$ $a = -0.300275 - 0.783661I$ $b = -0.522544 - 0.507734I$	$3.28624 + 9.25767I$	$0.20658 - 5.93399I$
$u = -0.780232 + 0.960591I$ $a = -0.259815 + 1.112610I$ $b = -0.866049 - 1.117670I$	$1.44789 - 8.17017I$	$1.07066 + 8.69229I$
$u = -0.780232 - 0.960591I$ $a = -0.259815 - 1.112610I$ $b = -0.866049 + 1.117670I$	$1.44789 + 8.17017I$	$1.07066 - 8.69229I$
$u = -1.299810 + 0.166754I$ $a = -0.071862 + 0.781904I$ $b = -0.036979 - 1.028310I$	$4.55790 - 2.62916I$	$7.70901 + 3.24676I$
$u = -1.299810 - 0.166754I$ $a = -0.071862 - 0.781904I$ $b = -0.036979 + 1.028310I$	$4.55790 + 2.62916I$	$7.70901 - 3.24676I$
$u = -0.92391 + 1.10552I$ $a = 0.220440 - 0.953370I$ $b = 0.850301 + 1.124530I$	$2.35431 - 4.44658I$	$3.29197 + 0.64229I$
$u = -0.92391 - 1.10552I$ $a = 0.220440 + 0.953370I$ $b = 0.850301 - 1.124530I$	$2.35431 + 4.44658I$	$3.29197 - 0.64229I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.48175$ $a = -0.897373$ $b = 1.32968$	-6.35573	-86.5700
$u = -1.35468 + 0.82893I$ $a = 0.103212 + 0.748589I$ $b = -0.760347 - 0.928541I$	$3.44755 - 2.31743I$	$3.03564 + 2.58655I$
$u = -1.35468 - 0.82893I$ $a = 0.103212 - 0.748589I$ $b = -0.760347 + 0.928541I$	$3.44755 + 2.31743I$	$3.03564 - 2.58655I$
$u = -1.23165 + 1.02181I$ $a = 0.056424 - 0.827648I$ $b = 0.776207 + 1.077030I$	$3.52042 - 7.51917I$	$2.67994 + 6.56347I$
$u = -1.23165 - 1.02181I$ $a = 0.056424 + 0.827648I$ $b = 0.776207 - 1.077030I$	$3.52042 + 7.51917I$	$2.67994 - 6.56347I$
$u = -1.13680 + 1.22450I$ $a = -0.214225 + 0.319199I$ $b = -0.147330 - 0.625185I$	$2.48354 - 1.43560I$	$12.35059 + 4.73480I$
$u = -1.13680 - 1.22450I$ $a = -0.214225 - 0.319199I$ $b = -0.147330 + 0.625185I$	$2.48354 + 1.43560I$	$12.35059 - 4.73480I$
$u = -0.083759 + 0.261720I$ $a = 3.26504 + 0.37475I$ $b = -0.371555 + 0.823137I$	$-1.35625 - 2.07457I$	$-3.80759 + 4.22380I$
$u = -0.083759 - 0.261720I$ $a = 3.26504 - 0.37475I$ $b = -0.371555 - 0.823137I$	$-1.35625 + 2.07457I$	$-3.80759 - 4.22380I$

IV. $I_1^v = \langle a,\ b+1,\ v^2 - v + 1\rangle$

(i) Arc colorings

$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$

$a_{10} = \begin{pmatrix}v\\0\end{pmatrix}$

$a_4 = \begin{pmatrix}0\\-1\end{pmatrix}$

$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$

$a_5 = \begin{pmatrix}-1\\-1\end{pmatrix}$

$a_{11} = \begin{pmatrix}v\\v\end{pmatrix}$

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

$a_6 = \begin{pmatrix}-v+2\\-v+1\end{pmatrix}$

$a_9 = \begin{pmatrix}2v\\v\end{pmatrix}$

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

$a_2 = \begin{pmatrix}v-3\\v-2\end{pmatrix}$

$a_2 = \begin{pmatrix}v-3\\v-2\end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4v - 5$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4	$(u-1)^2$
c_2, c_5	$(u+1)^2$
c_6, c_8, c_{11}	u^2-u+1
c_7	u^2
c_9, c_{10}	u^2+u+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5	$(y-1)^2$
c_6, c_8, c_9 c_{10}, c_{11}	y^2+y+1
c_7	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.500000 + 0.866025I$ $a = 0$ $b = -1.00000$	$-1.64493 - 2.02988I$	$-3.00000 + 3.46410I$
$v = 0.500000 - 0.866025I$ $a = 0$ $b = -1.00000$	$-1.64493 + 2.02988I$	$-3.00000 - 3.46410I$

V. $I_2^v = \langle a,\ b + v - 1,\ v^2 - v + 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ -v+1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -v+1 \\ -v+1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} v \\ -v+1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -v+1 \\ -v+1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 1 \\ -v+1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ -v \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -v+1 \\ -2v+1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -v+1 \\ -2v+1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4v - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_9, c_{10}	$(u-1)^2$
c_2, c_5	$(u+1)^2$
c_3, c_4	u^2+u+1
c_6, c_8, c_{11}	u^2-u+1
c_7	u^2

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_9, c_{10}	$(y-1)^2$
c_3, c_4, c_6 c_8, c_{11}	y^2+y+1
c_7	y^2

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_2^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	$0.500000 + 0.866025I$		
$a =$	0	$-1.64493 + 2.02988I$	$-3.00000 - 3.46410I$
$b =$	$0.500000 - 0.866025I$		
$v =$	$0.500000 - 0.866025I$		
$a =$	0	$-1.64493 - 2.02988I$	$-3.00000 + 3.46410I$
$b =$	$0.500000 + 0.866025I$		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{19}-2u^{18}+\cdots-4u+1)^4(u^{19}+4u^{18}+\cdots-2u^2+1)$ $\cdot(u^{39}+9u^{38}+\cdots-124u-16)$
c_2	$((u+1)^4)(u^{19}+8u^{18}+\cdots+4u+1)^4(u^{19}+10u^{18}+\cdots+4u+1)$ $\cdot(u^{39}+17u^{38}+\cdots+1200u+256)$
c_3, c_{10}	$((u-1)^2)(u^2+u+1)(u^{19}+3u^{17}+\cdots-u+1)(u^{39}-4u^{37}+\cdots+u-1)$ $\cdot(u^{76}+4u^{75}+\cdots-13u+1)$
c_4, c_9	$((u-1)^2)(u^2+u+1)(u^{19}-u^{18}+\cdots-3u-1)$ $\cdot(u^{39}-u^{38}+\cdots+47u+17)(u^{76}+2u^{75}+\cdots-461147u+92641)$
c_5	$((u+1)^4)(u^{19}-4u^{18}+\cdots+2u^2-1)(u^{19}-2u^{18}+\cdots-4u+1)^4$ $\cdot(u^{39}+9u^{38}+\cdots-124u-16)$
c_6	$((u^2-u+1)^{40})(u^{19}+6u^{18}+\cdots+10u+1)$ $\cdot(u^{39}+37u^{38}+\cdots+5505024u+262144)$
c_7	$u^4(u^{19}-9u^{18}+\cdots-u+2)^4(u^{19}+12u^{18}+\cdots+51u+9)$ $\cdot(u^{39}+29u^{38}+\cdots+14u+4)$
c_8, c_{11}	$((u^2-u+1)^2)(u^{19}-5u^{18}+\cdots+9u-1)(u^{39}-u^{38}+\cdots-u-1)$ $\cdot(u^{76}-3u^{75}+\cdots+7318u+1741)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y-1)^4)(y^{19}-10y^{18}+\cdots+4y-1)(y^{19}-8y^{18}+\cdots+4y-1)^4$ $\cdot(y^{39}-17y^{38}+\cdots+1200y-256)$
c_2	$((y-1)^4)(y^{19}+2y^{18}+\cdots-88y-1)(y^{19}+8y^{18}+\cdots-16y-1)^4$ $\cdot(y^{39}+11y^{38}+\cdots-231680y-65536)$
c_3, c_{10}	$((y-1)^2)(y^2+y+1)(y^{19}+6y^{18}+\cdots-9y-1)$ $\cdot(y^{39}-8y^{38}+\cdots+9y-1)(y^{76}+26y^{75}+\cdots+75y+1)$
c_4, c_9	$((y-1)^2)(y^2+y+1)(y^{19}-9y^{18}+\cdots+y-1)$ $\cdot(y^{39}-19y^{38}+\cdots+3399y-289)$ $\cdot(y^{76}-34y^{75}+\cdots-289799457437y+8582354881)$
c_6	$((y^2+y+1)^{40})(y^{19}-6y^{18}+\cdots+18y-1)$ $\cdot(y^{39}-5y^{38}+\cdots+515396075520y-68719476736)$
c_7	$y^4(y^{19}-8y^{18}+\cdots-1467y-81)(y^{19}-3y^{18}+\cdots+37y-4)^4$ $\cdot(y^{39}-11y^{38}+\cdots-276y-16)$
c_8, c_{11}	$((y^2+y+1)^2)(y^{19}-9y^{18}+\cdots+47y-1)(y^{39}+y^{38}+\cdots+37y-1)$ $\cdot(y^{76}-31y^{75}+\cdots-27023766y+3031081)$