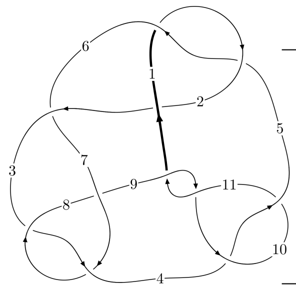
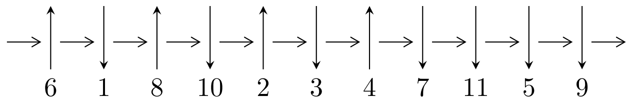
$11a_{78}$ $(K11a_{78})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I_1^u &= \langle u^{24} - u^{23} + \cdots + 4b + 1,\ -u^{24} + u^{23} + \cdots + 4a - 5,\ u^{25} + 6u^{23} + \cdots + u - 1\rangle \\
I_2^u &= \langle -4476694012u^{39} - 10696306396u^{38} + \cdots + 7868062579b + 9351862960, \\
&\quad -1184460310u^{39} - 263051448u^{38} + \cdots + 605235583a - 1972197779,\ u^{40} + u^{39} + \cdots + 2u + 1\rangle \\
I_3^u &= \langle b + a + 1,\ a^2 - au + 2a - u,\ u^2 + 1\rangle
\end{aligned}
$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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.

$$I_1^u = \langle u^{24} - u^{23} + \cdots + 4b + 1,\ -u^{24} + u^{23} + \cdots + 4a - 5,\ u^{25} + 6u^{23} + \cdots + u - 1 \rangle$$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \cdots - \frac{1}{2}u + \frac{5}{4} \\ -\frac{1}{4}u^{24} + \frac{1}{4}u^{23} + \cdots + \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \cdots - \frac{1}{2}u + \frac{5}{4} \\ -\frac{1}{4}u^{24} + \frac{1}{4}u^{23} + \cdots + \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{4}u^{24} + \frac{1}{4}u^{23} + \cdots - u - \frac{1}{4} \\ -\frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \cdots + u + \frac{1}{4} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{1}{2}u^{24} - \frac{1}{2}u^{23} + \cdots - u + \frac{3}{2} \\ -\frac{1}{4}u^{24} + \frac{1}{4}u^{23} + \cdots + \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{5}{4}u^{24} + \frac{5}{4}u^{23} + \cdots - u - \frac{9}{4} \\ -\frac{1}{2}u^{24} - \frac{1}{2}u^{23} + \cdots + u + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{5}{4}u^{24} + \frac{5}{4}u^{23} + \cdots - u - \frac{9}{4} \\ -\frac{1}{2}u^{24} - \frac{1}{2}u^{23} + \cdots + u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3u^{24} + u^{23} - 18u^{22} + 11u^{21} - 60u^{20} + 44u^{19} - 127u^{18} + 110u^{17} - 194u^{16} + 179u^{15} - 221u^{14} + 213u^{13} - 204u^{12} + 178u^{11} - 159u^{10} + 120u^{9} - 111u^{8} + 65u^{7} - 70u^{6} + 53u^{5} - 34u^{4} + 32u^{3} - 17u^{2} + 10u - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7	$u^{25} + 6u^{23} + \cdots + u + 1$
c_2, c_8	$u^{25} + 12u^{24} + \cdots - 5u - 1$
c_4, c_{10}	$u^{25} - 3u^{24} + \cdots - 5u + 2$
c_6	$u^{25} + 3u^{24} + \cdots + 16u + 32$
c_9, c_{11}	$u^{25} + 9u^{24} + \cdots - 7u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7	$y^{25} + 12y^{24} + \cdots - 5y - 1$
c_2, c_8	$y^{25} + 8y^{24} + \cdots + 3y - 1$
c_4, c_{10}	$y^{25} - 9y^{24} + \cdots - 7y - 4$
c_6	$y^{25} - 11y^{24} + \cdots - 13568y - 1024$
c_9, c_{11}	$y^{25} + 15y^{24} + \cdots + 273y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.668066+0.826958I$ $a=-0.391410+0.121275I$ $b=-0.010569-0.701256I$	$4.42357-2.28876I$	$0.90025+3.22916I$
$u=-0.668066-0.826958I$ $a=-0.391410-0.121275I$ $b=-0.010569+0.701256I$	$4.42357+2.28876I$	$0.90025-3.22916I$
$u=0.387315+0.828510I$ $a=-0.057213-1.406030I$ $b=0.39665+1.35928I$	$-2.29786+4.38512I$	$-6.23003-9.05656I$
$u=0.387315-0.828510I$ $a=-0.057213+1.406030I$ $b=0.39665-1.35928I$	$-2.29786-4.38512I$	$-6.23003+9.05656I$
$u=0.663122+0.885711I$ $a=-0.620402-0.123885I$ $b=0.014657+0.488612I$	$4.05826+8.02736I$	$-0.26249-8.69949I$
$u=0.663122-0.885711I$ $a=-0.620402+0.123885I$ $b=0.014657-0.488612I$	$4.05826-8.02736I$	$-0.26249+8.69949I$
$u=0.781060+0.295309I$ $a=0.725790+0.096907I$ $b=0.857621+0.846789I$	$2.49934-5.05647I$	$0.76088+3.39553I$
$u=0.781060-0.295309I$ $a=0.725790-0.096907I$ $b=0.857621-0.846789I$	$2.49934+5.05647I$	$0.76088-3.39553I$
$u=-0.732724+0.365786I$ $a=0.646963-0.060825I$ $b=0.631263-0.907356I$	$3.32057-0.44324I$	$2.54503+2.33373I$
$u=-0.732724-0.365786I$ $a=0.646963+0.060825I$ $b=0.631263+0.907356I$	$3.32057+0.44324I$	$2.54503-2.33373I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.440401 + 1.120690I$ $a = -2.18870 + 1.03108I$ $b = 2.28016 + 0.07839I$	$-4.91803 - 1.59228I$	$-7.91949 + 2.30620I$
$u = -0.440401 - 1.120690I$ $a = -2.18870 - 1.03108I$ $b = 2.28016 - 0.07839I$	$-4.91803 + 1.59228I$	$-7.91949 - 2.30620I$
$u = 0.496157 + 1.112700I$ $a = -1.97870 - 0.70710I$ $b = 1.75155 - 0.37924I$	$-2.95653 + 6.50680I$	$-4.30037 - 6.80019I$
$u = 0.496157 - 1.112700I$ $a = -1.97870 + 0.70710I$ $b = 1.75155 + 0.37924I$	$-2.95653 - 6.50680I$	$-4.30037 + 6.80019I$
$u = -0.447856 + 0.612567I$ $a = 0.505867 + 0.568532I$ $b = 0.048924 - 0.925546I$	$0.53657 - 1.46473I$	$1.57744 + 4.49882I$
$u = -0.447856 - 0.612567I$ $a = 0.505867 - 0.568532I$ $b = 0.048924 + 0.925546I$	$0.53657 + 1.46473I$	$1.57744 - 4.49882I$
$u = -0.502100 + 1.180640I$ $a = -2.34071 + 0.47753I$ $b = 2.09699 + 1.04430I$	$-8.02282 - 8.65791I$	$-10.60850 + 6.91846I$
$u = -0.502100 - 1.180640I$ $a = -2.34071 - 0.47753I$ $b = 2.09699 - 1.04430I$	$-8.02282 + 8.65791I$	$-10.60850 - 6.91846I$
$u = 0.562594 + 1.178700I$ $a = -2.15539 - 0.17720I$ $b = 1.47455 - 1.34225I$	$-1.63771 + 9.61928I$	$-3.84139 - 5.85883I$
$u = 0.562594 - 1.178700I$ $a = -2.15539 + 0.17720I$ $b = 1.47455 + 1.34225I$	$-1.63771 - 9.61928I$	$-3.84139 + 5.85883I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.147311 + 0.674791I$ $a = 1.71030 - 0.90481I$ $b = -0.995418 + 0.931192I$	$-1.78656 - 1.53483I$	$-3.61707 + 0.13208I$
$u = 0.147311 - 0.674791I$ $a = 1.71030 + 0.90481I$ $b = -0.995418 - 0.931192I$	$-1.78656 + 1.53483I$	$-3.61707 - 0.13208I$
$u = -0.562275 + 1.202520I$ $a = -2.27068 + 0.11315I$ $b = 1.58876 + 1.59048I$	$-2.9757 - 15.3316I$	$-5.87847 + 10.26197I$
$u = -0.562275 - 1.202520I$ $a = -2.27068 - 0.11315I$ $b = 1.58876 - 1.59048I$	$-2.9757 + 15.3316I$	$-5.87847 - 10.26197I$
$u = 0.631724$ $a = 0.828591$ $b = 0.729746$	-1.87036	-4.25160

II.
$\boldsymbol{I_2^u = \langle -4.48\times10^9u^{39} - 1.07\times10^{10}u^{38} + \cdots + 7.87\times10^9b + 9.35\times10^9,\ -1.18\times10^9u^{39} - 2.63\times10^8u^{38} + \cdots + 6.05\times10^8a - 1.97\times10^9,\ u^{40} + u^{39} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.95702u^{39} + 0.434627u^{38} + \cdots - 0.306306u + 3.25856 \\ 0.568970u^{39} + 1.35946u^{38} + \cdots + 0.868382u - 1.18859 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2.52599u^{39} + 1.79409u^{38} + \cdots + 0.562076u + 3.06998 \\ -1.08110u^{39} - 0.476540u^{38} + \cdots - 0.632572u - 3.87864 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1.92049u^{39} - 1.64843u^{38} + \cdots - 4.76213u - 5.77155 \\ -2.08550u^{39} - 1.17361u^{38} + \cdots - 1.60565u - 2.79806 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2.26791u^{39} - 0.119746u^{38} + \cdots - 1.61688u + 3.05922 \\ -0.653801u^{39} + 0.802602u^{38} + \cdots + 0.806017u - 3.07474 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2.49055u^{39} - 0.832197u^{38} + \cdots - 2.76553u - 7.09778 \\ -1.67912u^{39} - 1.52806u^{38} + \cdots - 2.35663u - 1.41907 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2.49055u^{39} - 0.832197u^{38} + \cdots - 2.76553u - 7.09778 \\ -1.67912u^{39} - 1.52806u^{38} + \cdots - 2.35663u - 1.41907 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{51184596416}{7868062579}u^{39} - \frac{71297250008}{7868062579}u^{38} + \cdots - \frac{117349868140}{7868062579}u - \frac{113505824050}{7868062579}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7	$u^{40} - u^{39} + \cdots - 2u + 1$
c_2, c_8	$u^{40} + 23u^{39} + \cdots - 16u^2 + 1$
c_4, c_{10}	$(u^{20} + u^{19} + \cdots + 3u^2 - 1)^2$
c_6	$(u^{20} - u^{19} + \cdots + 4u - 1)^2$
c_9, c_{11}	$(u^{20} + 7u^{19} + \cdots + 6u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7	$y^{40} + 23y^{39} + \cdots - 16y^2 + 1$
c_2, c_8	$y^{40} - 13y^{39} + \cdots - 32y + 1$
c_4, c_{10}	$(y^{20} - 7y^{19} + \cdots - 6y + 1)^2$
c_6	$(y^{20} - 11y^{19} + \cdots - 6y + 1)^2$
c_9, c_{11}	$(y^{20} + 13y^{19} + \cdots - 6y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.680660 + 0.735978I$ $a = 1.061240 - 0.028188I$ $b = -0.0630213 - 0.1220620I$	$4.68486 - 2.84648I$	$1.60998 + 2.97861I$
$u = -0.680660 - 0.735978I$ $a = 1.061240 + 0.028188I$ $b = -0.0630213 + 0.1220620I$	$4.68486 + 2.84648I$	$1.60998 - 2.97861I$
$u = 0.703070 + 0.667774I$ $a = 0.935371 + 0.031857I$ $b = -0.0630213 - 0.1220620I$	$4.68486 - 2.84648I$	$1.60998 + 2.97861I$
$u = 0.703070 - 0.667774I$ $a = 0.935371 - 0.031857I$ $b = -0.0630213 + 0.1220620I$	$4.68486 + 2.84648I$	$1.60998 - 2.97861I$
$u = 0.179409 + 1.047170I$ $a = -1.007340 - 0.708627I$ $b = 0.274077$	-3.97005	$-10.76209 + 0.I$
$u = 0.179409 - 1.047170I$ $a = -1.007340 + 0.708627I$ $b = 0.274077$	-3.97005	$-10.76209 + 0.I$
$u = -0.406752 + 0.984604I$ $a = 1.305660 - 0.307787I$ $b = -0.994955 - 0.489591I$	$-0.52569 - 2.16136I$	$-0.73748 + 3.31855I$
$u = -0.406752 - 0.984604I$ $a = 1.305660 + 0.307787I$ $b = -0.994955 + 0.489591I$	$-0.52569 + 2.16136I$	$-0.73748 - 3.31855I$
$u = -0.883398 + 0.214209I$ $a = -0.296276 - 0.096762I$ $b = -1.25336 + 1.31067I$	$-0.00745 + 10.05770I$	$-2.70834 - 7.26612I$
$u = -0.883398 - 0.214209I$ $a = -0.296276 + 0.096762I$ $b = -1.25336 - 1.31067I$	$-0.00745 - 10.05770I$	$-2.70834 + 7.26612I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.847173 + 0.247485I$ $a = -0.164766 + 0.157989I$ $b = -1.09019 - 1.18394I$	$1.14075 - 4.43308I$	$-0.68370 + 2.52728I$
$u = 0.847173 - 0.247485I$ $a = -0.164766 - 0.157989I$ $b = -1.09019 + 1.18394I$	$1.14075 + 4.43308I$	$-0.68370 - 2.52728I$
$u = 0.240047 + 1.118770I$ $a = 1.126200 + 0.481500I$ $b = -1.340740 + 0.080597I$	$-2.02098 - 2.13456I$	$-4.50898 + 2.16962I$
$u = 0.240047 - 1.118770I$ $a = 1.126200 - 0.481500I$ $b = -1.340740 - 0.080597I$	$-2.02098 + 2.13456I$	$-4.50898 - 2.16962I$
$u = 0.416062 + 1.082120I$ $a = -1.36848 - 1.28995I$ $b = 1.070070 - 0.629261I$	$-3.61438 + 0.81573I$	$-5.67172 - 1.07888I$
$u = 0.416062 - 1.082120I$ $a = -1.36848 + 1.28995I$ $b = 1.070070 + 0.629261I$	$-3.61438 - 0.81573I$	$-5.67172 + 1.07888I$
$u = -0.017851 + 1.176950I$ $a = 0.345233 - 0.405044I$ $b = -0.710796 + 0.321114I$	$-1.62333 - 2.35832I$	$-2.35225 + 4.49783I$
$u = -0.017851 - 1.176950I$ $a = 0.345233 + 0.405044I$ $b = -0.710796 - 0.321114I$	$-1.62333 + 2.35832I$	$-2.35225 - 4.49783I$
$u = -0.460657 + 1.121820I$ $a = -1.40263 + 1.43442I$ $b = 1.42212 + 0.74562I$	$-4.77271 - 6.07240I$	$-7.45285 + 5.87540I$
$u = -0.460657 - 1.121820I$ $a = -1.40263 - 1.43442I$ $b = 1.42212 - 0.74562I$	$-4.77271 + 6.07240I$	$-7.45285 - 5.87540I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.771680 + 0.120837I$ $a = -0.436638 - 0.516967I$ $b = -1.45055 + 0.79305I$	$-4.94645 + 3.96853I$	$-7.89349 - 3.79787I$
$u = -0.771680 - 0.120837I$ $a = -0.436638 + 0.516967I$ $b = -1.45055 - 0.79305I$	$-4.94645 - 3.96853I$	$-7.89349 + 3.79787I$
$u = 0.444139 + 1.139190I$ $a = 1.44372 + 0.43742I$ $b = -1.45055 + 0.79305I$	$-4.94645 + 3.96853I$	$-7.89349 - 3.79787I$
$u = 0.444139 - 1.139190I$ $a = 1.44372 - 0.43742I$ $b = -1.45055 - 0.79305I$	$-4.94645 - 3.96853I$	$-7.89349 + 3.79787I$
$u = -0.551606 + 1.104560I$ $a = 1.52922 - 0.28411I$ $b = -1.09019 - 1.18394I$	$1.14075 - 4.43308I$	$-0.68370 + 2.52728I$
$u = -0.551606 - 1.104560I$ $a = 1.52922 + 0.28411I$ $b = -1.09019 + 1.18394I$	$1.14075 + 4.43308I$	$-0.68370 - 2.52728I$
$u = -0.386163 + 1.203070I$ $a = -1.11143 + 1.51116I$ $b = 1.54877$	-8.84775	$-12.44026 + 0.I$
$u = -0.386163 - 1.203070I$ $a = -1.11143 - 1.51116I$ $b = 1.54877$	-8.84775	$-12.44026 + 0.I$
$u = 0.276270 + 1.238300I$ $a = -0.75891 - 1.40625I$ $b = 1.070070 + 0.629261I$	$-3.61438 - 0.81573I$	$-5.67172 + 1.07888I$
$u = 0.276270 - 1.238300I$ $a = -0.75891 + 1.40625I$ $b = 1.070070 - 0.629261I$	$-3.61438 + 0.81573I$	$-5.67172 - 1.07888I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.555192 + 1.143400I$ $a = 1.58253 + 0.32035I$ $b = -1.25336 + 1.31067I$	$-0.00745 + 10.05770I$	$-3.00000 - 7.26612I$
$u = 0.555192 - 1.143400I$ $a = 1.58253 - 0.32035I$ $b = -1.25336 - 1.31067I$	$-0.00745 - 10.05770I$	$-3.00000 + 7.26612I$
$u = -0.312447 + 1.274980I$ $a = -0.79278 + 1.57779I$ $b = 1.42212 - 0.74562I$	$-4.77271 + 6.07240I$	$-7.45285 - 5.87540I$
$u = -0.312447 - 1.274980I$ $a = -0.79278 - 1.57779I$ $b = 1.42212 + 0.74562I$	$-4.77271 - 6.07240I$	$-7.45285 + 5.87540I$
$u = 0.605286 + 0.255049I$ $a = 0.207408 + 0.820889I$ $b = -0.994955 - 0.489591I$	$-0.52569 - 2.16136I$	$-0.73748 + 3.31855I$
$u = 0.605286 - 0.255049I$ $a = 0.207408 - 0.820889I$ $b = -0.994955 + 0.489591I$	$-0.52569 + 2.16136I$	$-0.73748 - 3.31855I$
$u = 0.219360 + 0.513597I$ $a = -2.33551 - 0.75634I$ $b = -0.710796 - 0.321114I$	$-1.62333 + 2.35832I$	$-2.35225 - 4.49783I$
$u = 0.219360 - 0.513597I$ $a = -2.33551 + 0.75634I$ $b = -0.710796 + 0.321114I$	$-1.62333 - 2.35832I$	$-2.35225 + 4.49783I$
$u = -0.514794 + 0.049169I$ $a = -0.86181 + 1.57235I$ $b = -1.340740 - 0.080597I$	$-2.02098 + 2.13456I$	$-4.50898 - 2.16962I$
$u = -0.514794 - 0.049169I$ $a = -0.86181 - 1.57235I$ $b = -1.340740 + 0.080597I$	$-2.02098 - 2.13456I$	$-4.50898 + 2.16962I$

III. $I_3^u = \langle b + a + 1,\ a^2 - au + 2a - u,\ u^2 + 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a \\ -a-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a+1 \\ -a-2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} au \\ -au-u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2a+1 \\ -a-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} au+2a+2 \\ -a+u-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} au+2a+2 \\ -a+u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4au - 4u - 12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7	$(u^2+1)^2$
c_2, c_8	$(u+1)^4$
c_4, c_{10}	$u^4 - u^2 + 1$
c_6	u^4
c_9	$(u^2-u+1)^2$
c_{11}	$(u^2+u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7	$(y+1)^4$
c_2, c_8	$(y-1)^4$
c_4, c_{10}	$(y^2-y+1)^2$
c_6	y^4
c_9, c_{11}	$(y^2+y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.133975 + 0.500000I$ $b = -0.866025 - 0.500000I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$
$u = 1.000000I$ $a = -1.86603 + 0.50000I$ $b = 0.866025 - 0.500000I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$
$u = -1.000000I$ $a = -0.133975 - 0.500000I$ $b = -0.866025 + 0.500000I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$
$u = -1.000000I$ $a = -1.86603 - 0.50000I$ $b = 0.866025 + 0.500000I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_7	$((u^2+1)^2)(u^{25}+6u^{23}+\cdots+u+1)(u^{40}-u^{39}+\cdots-2u+1)$
c_2, c_8	$((u+1)^4)(u^{25}+12u^{24}+\cdots-5u-1)(u^{40}+23u^{39}+\cdots-16u^2+1)$
c_4, c_{10}	$(u^4-u^2+1)(u^{20}+u^{19}+\cdots+3u^2-1)^2(u^{25}-3u^{24}+\cdots-5u+2)$
c_6	$u^4(u^{20}-u^{19}+\cdots+4u-1)^2(u^{25}+3u^{24}+\cdots+16u+32)$
c_9	$((u^2-u+1)^2)(u^{20}+7u^{19}+\cdots+6u+1)^2(u^{25}+9u^{24}+\cdots-7u+4)$
c_{11}	$((u^2+u+1)^2)(u^{20}+7u^{19}+\cdots+6u+1)^2(u^{25}+9u^{24}+\cdots-7u+4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_7	$((y+1)^4)(y^{25}+12y^{24}+\cdots-5y-1)(y^{40}+23y^{39}+\cdots-16y^2+1)$
c_2, c_8	$((y-1)^4)(y^{25}+8y^{24}+\cdots+3y-1)(y^{40}-13y^{39}+\cdots-32y+1)$
c_4, c_{10}	$((y^2-y+1)^2)(y^{20}-7y^{19}+\cdots-6y+1)^2(y^{25}-9y^{24}+\cdots-7y-4)$
c_6	$y^4(y^{20}-11y^{19}+\cdots-6y+1)^2(y^{25}-11y^{24}+\cdots-13568y-1024)$
c_9, c_{11}	$((y^2+y+1)^2)(y^{20}+13y^{19}+\cdots-6y+1)^2$ $\cdot\,(y^{25}+15y^{24}+\cdots+273y-16)$