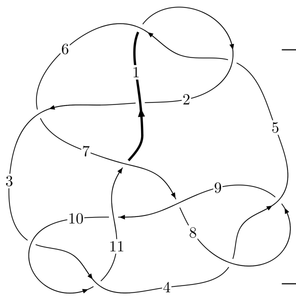
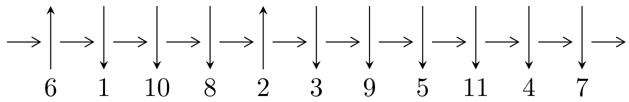
$11a_{100}$ ($K11a_{100}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle u^{30} - u^{29} + \cdots + 8b + u,\ -u^4 + u^2 + a - 1,\ u^{31} - u^{30} + \cdots + 2u - 1\rangle \\
I_2^u &= \langle 8.05572 \times 10^{18} u^{45} - 1.78051 \times 10^{19} u^{44} + \cdots + 3.67198 \times 10^{19} b - 7.81561 \times 10^{18}, \\
&\quad 9.93809 \times 10^{19} u^{45} - 7.04855 \times 10^{19} u^{44} + \cdots + 3.67198 \times 10^{19} a - 2.19276 \times 10^{20},\ u^{46} - u^{45} + \cdots - 4u + 1\rangle \\
I_3^u &= \langle b^4 + 4b^3 + 4b^2 + 1,\ a + 1,\ u + 1\rangle \\
I_4^u &= \langle b^3 + 3b^2 + 3b + 1,\ a + 1,\ u - 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 84 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. $\boldsymbol{I_1^u = \langle u^{30} - u^{29} + \cdots + 8b + u,\ -u^4 + u^2 + a - 1,\ u^{31} - u^{30} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^4 - u^2 + 1 \\ -\frac{1}{8}u^{30} + \frac{1}{8}u^{29} + \cdots - \frac{3}{4}u^2 - \frac{1}{8}u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{8}u^{30} + \frac{1}{8}u^{29} + \cdots - \frac{1}{8}u + 1 \\ u^{30} - \frac{9}{8}u^{29} + \cdots + \frac{3}{2}u - \frac{1}{8} \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^{30} + \frac{1}{8}u^{29} + \cdots + \frac{1}{2}u + \frac{3}{8} \\ \frac{13}{8}u^{30} - \frac{27}{8}u^{29} + \cdots + \frac{79}{8}u - 3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{8}u^{30} + \frac{1}{8}u^{29} + \cdots - \frac{1}{8}u + 1 \\ -\frac{1}{4}u^{30} + \frac{1}{4}u^{29} + \cdots - \frac{3}{2}u^2 - \frac{1}{4}u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -\frac{1}{8}u^{30} + \frac{1}{8}u^{29} + \cdots - \frac{3}{4}u^2 - \frac{1}{8}u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ \frac{1}{8}u^{29} - \frac{1}{8}u^{28} + \cdots + \frac{3}{4}u + \frac{1}{8} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ \frac{1}{8}u^{29} - \frac{1}{8}u^{28} + \cdots + \frac{3}{4}u + \frac{1}{8} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{3}{2}u^{30} - \frac{17}{4}u^{29} + \cdots + \frac{49}{2}u - \frac{69}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{31} - 3u^{30} + \cdots - 6u + 2$
c_2	$u^{31} + 15u^{30} + \cdots - 4u - 4$
c_3, c_4, c_8 c_{10}	$u^{31} + u^{30} + \cdots + 2u + 1$
c_6	$u^{31} + 3u^{30} + \cdots + 34u + 2$
c_7, c_9	$u^{31} + 13u^{30} + \cdots + 8u + 1$
c_{11}	$u^{31} - 15u^{30} + \cdots - 1566u + 158$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{31} + 15y^{30} + \cdots - 4y - 4$
c_2	$y^{31} + 3y^{30} + \cdots + 112y - 16$
c_3, c_4, c_8 c_{10}	$y^{31} - 13y^{30} + \cdots + 8y - 1$
c_6	$y^{31} - 9y^{30} + \cdots + 92y - 4$
c_7, c_9	$y^{31} + 19y^{30} + \cdots - 4y - 1$
c_{11}	$y^{31} + 3y^{30} + \cdots - 219108y - 24964$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.671875 + 0.755704I$ $a = 0.102801 + 1.258530I$ $b = 1.26875 + 0.87692I$	$4.33630 + 2.18000I$	$-1.38223 - 2.85674I$
$u = -0.671875 - 0.755704I$ $a = 0.102801 - 1.258530I$ $b = 1.26875 - 0.87692I$	$4.33630 - 2.18000I$	$-1.38223 + 2.85674I$
$u = -0.529243 + 0.781629I$ $a = 0.75581 + 1.37479I$ $b = 1.228420 + 0.141119I$	$3.92659 - 0.20488I$	$-1.21175 - 1.93479I$
$u = -0.529243 - 0.781629I$ $a = 0.75581 - 1.37479I$ $b = 1.228420 - 0.141119I$	$3.92659 + 0.20488I$	$-1.21175 + 1.93479I$
$u = 0.473734 + 0.815861I$ $a = 1.03834 - 1.45511I$ $b = 1.186120 + 0.184502I$	$1.98591 + 5.18766I$	$-4.29263 - 2.87164I$
$u = 0.473734 - 0.815861I$ $a = 1.03834 + 1.45511I$ $b = 1.186120 - 0.184502I$	$1.98591 - 5.18766I$	$-4.29263 + 2.87164I$
$u = 0.739148 + 0.756876I$ $a = -0.224684 - 1.178240I$ $b = 1.18263 - 1.25006I$	$2.80358 - 7.15169I$	$-4.41360 + 8.13736I$
$u = 0.739148 - 0.756876I$ $a = -0.224684 + 1.178240I$ $b = 1.18263 + 1.25006I$	$2.80358 + 7.15169I$	$-4.41360 - 8.13736I$
$u = -0.998773 + 0.420018I$ $a = 0.149196 - 0.538864I$ $b = 1.154630 + 0.334617I$	$-5.71846 - 1.00535I$	$-12.20049 - 2.17594I$
$u = -0.998773 - 0.420018I$ $a = 0.149196 + 0.538864I$ $b = 1.154630 - 0.334617I$	$-5.71846 + 1.00535I$	$-12.20049 + 2.17594I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.001180 + 0.470735I$ $a = -0.059625 + 0.529287I$ $b = 0.707502 - 0.184028I$	$-2.76836 - 3.54859I$	$-8.60512 + 5.21629I$
$u = 1.001180 - 0.470735I$ $a = -0.059625 - 0.529287I$ $b = 0.707502 + 0.184028I$	$-2.76836 + 3.54859I$	$-8.60512 - 5.21629I$
$u = -1.060830 + 0.466616I$ $a = -0.063939 - 0.807099I$ $b = 0.799755 - 0.463575I$	$-6.59629 + 7.25038I$	$-13.7743 - 8.1656I$
$u = -1.060830 - 0.466616I$ $a = -0.063939 + 0.807099I$ $b = 0.799755 + 0.463575I$	$-6.59629 - 7.25038I$	$-13.7743 + 8.1656I$
$u = 1.045460 + 0.641230I$ $a = -1.014590 + 0.487534I$ $b = -1.013330 - 0.611771I$	$0.83772 - 3.66094I$	$-6.42863 + 2.29820I$
$u = 1.045460 - 0.641230I$ $a = -1.014590 - 0.487534I$ $b = -1.013330 + 0.611771I$	$0.83772 + 3.66094I$	$-6.42863 - 2.29820I$
$u = 0.551309 + 0.517564I$ $a = 0.639561 - 0.529508I$ $b = 0.464527 - 0.522513I$	$-0.67493 - 1.41882I$	$-8.11819 + 4.23209I$
$u = 0.551309 - 0.517564I$ $a = 0.639561 + 0.529508I$ $b = 0.464527 + 0.522513I$	$-0.67493 + 1.41882I$	$-8.11819 - 4.23209I$
$u = -1.093950 + 0.638128I$ $a = -1.115430 - 0.808402I$ $b = -1.54639 + 0.11518I$	$1.61779 + 8.62066I$	$-5.39345 - 7.96064I$
$u = -1.093950 - 0.638128I$ $a = -1.115430 + 0.808402I$ $b = -1.54639 - 0.11518I$	$1.61779 - 8.62066I$	$-5.39345 + 7.96064I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.150290 + 0.579146I$ $a = -0.78731 + 1.29973I$ $b = -1.32274 + 1.36596I$	$-4.83518 - 8.17855I$	$-13.0634 + 5.6311I$
$u = 1.150290 - 0.579146I$ $a = -0.78731 - 1.29973I$ $b = -1.32274 - 1.36596I$	$-4.83518 + 8.17855I$	$-13.0634 - 5.6311I$
$u = -1.159090 + 0.618451I$ $a = -1.09291 - 1.32186I$ $b = -2.11523 - 1.06499I$	$-0.06269 + 11.03950I$	$-6.94221 - 7.13356I$
$u = -1.159090 - 0.618451I$ $a = -1.09291 + 1.32186I$ $b = -2.11523 + 1.06499I$	$-0.06269 - 11.03950I$	$-6.94221 + 7.13356I$
$u = -0.673147 + 0.057260I$ $a = 0.746573 + 0.007732I$ $b = -1.032490 + 0.376155I$	$-4.34804 + 3.91818I$	$-8.50345 - 5.07903I$
$u = -0.673147 - 0.057260I$ $a = 0.746573 - 0.007732I$ $b = -1.032490 - 0.376155I$	$-4.34804 - 3.91818I$	$-8.50345 + 5.07903I$
$u = 1.179340 + 0.616871I$ $a = -1.10660 + 1.48500I$ $b = -2.36523 + 1.45569I$	$-2.4315 - 16.1755I$	$-10.0749 + 10.7687I$
$u = 1.179340 - 0.616871I$ $a = -1.10660 - 1.48500I$ $b = -2.36523 - 1.45569I$	$-2.4315 + 16.1755I$	$-10.0749 - 10.7687I$
$u = 0.581693$ $a = 0.776125$ $b = -0.645714$	-1.33697	-6.39560
$u = 0.255598 + 0.492030I$ $a = 1.144740 - 0.340444I$ $b = 0.225939 - 0.088212I$	$-0.56339 - 1.34523I$	$-5.39791 + 4.30982I$

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.255598 - 0.492030I$		
$a =$	$1.144740 + 0.340444I$	$-0.56339 + 1.34523I$	$-5.39791 - 4.30982I$
$b =$	$0.225939 + 0.088212I$		

II.

$\boldsymbol{I_2^u = \langle 8.06 \times 10^{18} u^{45} - 1.78 \times 10^{19} u^{44} + \cdots + 3.67 \times 10^{19} b - 7.82 \times 10^{18},\ 9.94 \times 10^{19} u^{45} - 7.05 \times 10^{19} u^{44} + \cdots + 3.67 \times 10^{19} a - 2.19 \times 10^{20},\ u^{46} - u^{45} + \cdots - 4u + 1 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2.70647u^{45} + 1.91955u^{44} + \cdots - 10.9263u + 5.97160 \\ -0.219384u^{45} + 0.484891u^{44} + \cdots - 1.60887u + 0.212845 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.33142u^{45} - 2.00063u^{44} + \cdots + 10.3559u - 4.02342 \\ 1.22417u^{45} - 1.02774u^{44} + \cdots + 3.03021u - 0.595457 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 4.37249u^{45} - 1.83378u^{44} + \cdots + 15.1410u - 3.15401 \\ 2.88125u^{45} - 1.87484u^{44} + \cdots + 10.2725u - 3.36688 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -3.03496u^{45} + 2.13094u^{44} + \cdots - 9.20367u + 4.91918 \\ -0.547882u^{45} + 0.696284u^{44} + \cdots + 0.113735u - 0.839578 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2.33885u^{45} + 1.49981u^{44} + \cdots - 8.74130u + 5.70663 \\ 0.536038u^{45} - 0.110109u^{44} + \cdots - 1.01730u - 0.160962 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.160962u^{45} + 0.375077u^{44} + \cdots + 3.35122u - 1.66115 \\ -0.413110u^{45} + 1.85280u^{44} + \cdots - 0.665590u + 1.80281 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.160962u^{45} + 0.375077u^{44} + \cdots + 3.35122u - 1.66115 \\ -0.413110u^{45} + 1.85280u^{44} + \cdots - 0.665590u + 1.80281 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{13372946836041823816}{3671978646844486791 3}u^{45} + \frac{53663175405029739464}{36719786468444867913}u^{44} + \cdots + \frac{37497210804203514276}{36719786468444867913}u - \frac{31653612428564590053 4}{36719786468444867913}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{23} + u^{22} + \cdots + 2u + 1)^2$
c_2	$(u^{23} + 11u^{22} + \cdots - 2u^2 - 1)^2$
c_3, c_4, c_8 c_{10}	$u^{46} + u^{45} + \cdots + 4u + 1$
c_6	$(u^{23} - u^{22} + \cdots - 8u + 5)^2$
c_7, c_9	$u^{46} + 25u^{45} + \cdots + 4u + 1$
c_{11}	$(u^{23} + 5u^{22} + \cdots + 32u + 7)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{23} + 11y^{22} + \cdots - 2y^2 - 1)^2$
c_2	$(y^{23} + 3y^{22} + \cdots - 4y - 1)^2$
c_3, c_4, c_8 c_{10}	$y^{46} - 25y^{45} + \cdots - 4y + 1$
c_6	$(y^{23} - 5y^{22} + \cdots + 264y - 25)^2$
c_7, c_9	$y^{46} - 9y^{45} + \cdots - 104y + 1$
c_{11}	$(y^{23} + 7y^{22} + \cdots - 404y - 49)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.326451 + 0.907420I$ $a = -0.77255 + 1.54332I$ $b = -1.111200 - 0.111182I$	$0.14155 + 10.59580I$	$-6.96908 - 7.47788I$
$u = 0.326451 - 0.907420I$ $a = -0.77255 - 1.54332I$ $b = -1.111200 + 0.111182I$	$0.14155 - 10.59580I$	$-6.96908 + 7.47788I$
$u = 0.539847 + 0.797694I$ $a = 0.530178 + 0.740332I$ $b = -0.897400 + 0.896177I$	$2.35134 - 1.73636I$	$-4.20687 + 2.46590I$
$u = 0.539847 - 0.797694I$ $a = 0.530178 - 0.740332I$ $b = -0.897400 - 0.896177I$	$2.35134 + 1.73636I$	$-4.20687 - 2.46590I$
$u = -0.466971 + 0.825572I$ $a = 0.159069 - 0.983222I$ $b = -1.088190 - 0.614230I$	$3.49101 - 3.16234I$	$-2.33540 + 3.46689I$
$u = -0.466971 - 0.825572I$ $a = 0.159069 + 0.983222I$ $b = -1.088190 + 0.614230I$	$3.49101 + 3.16234I$	$-2.33540 - 3.46689I$
$u = -0.356156 + 0.878751I$ $a = -0.54445 - 1.35389I$ $b = -1.126660 - 0.091255I$	$2.34965 - 5.52406I$	$-3.72778 + 3.52157I$
$u = -0.356156 - 0.878751I$ $a = -0.54445 + 1.35389I$ $b = -1.126660 + 0.091255I$	$2.34965 + 5.52406I$	$-3.72778 - 3.52157I$
$u = -1.036260 + 0.200630I$ $a = -0.031632 + 0.423510I$ $b = -0.996138 + 0.538101I$	$-4.31524 + 3.60580I$	$-10.88555 - 4.48858I$
$u = -1.036260 - 0.200630I$ $a = -0.031632 - 0.423510I$ $b = -0.996138 - 0.538101I$	$-4.31524 - 3.60580I$	$-10.88555 + 4.48858I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.976746 + 0.435286I$ $a = -0.94989 - 2.08219I$ $b = -1.89184 - 1.72781I$	$-3.06946 + 2.29224I$	$-8.17333 - 3.81893I$
$u = -0.976746 - 0.435286I$ $a = -0.94989 + 2.08219I$ $b = -1.89184 + 1.72781I$	$-3.06946 - 2.29224I$	$-8.17333 + 3.81893I$
$u = 0.886233 + 0.678199I$ $a = 1.217710 - 0.695264I$ $b = 1.155150 + 0.542637I$	$2.35134 + 1.73636I$	$-4.20687 - 2.46590I$
$u = 0.886233 - 0.678199I$ $a = 1.217710 + 0.695264I$ $b = 1.155150 - 0.542637I$	$2.35134 - 1.73636I$	$-4.20687 + 2.46590I$
$u = 1.009630 + 0.482481I$ $a = -0.74786 + 2.38510I$ $b = -2.07366 + 2.28227I$	$-5.29128 - 7.02777I$	$-11.56401 + 7.34039I$
$u = 1.009630 - 0.482481I$ $a = -0.74786 - 2.38510I$ $b = -2.07366 - 2.28227I$	$-5.29128 + 7.02777I$	$-11.56401 - 7.34039I$
$u = -0.807547 + 0.331658I$ $a = -1.81318 - 1.49133I$ $b = -1.88066 - 0.51355I$	$-2.27583 + 0.94673I$	$-5.56367 - 4.33310I$
$u = -0.807547 - 0.331658I$ $a = -1.81318 + 1.49133I$ $b = -1.88066 + 0.51355I$	$-2.27583 - 0.94673I$	$-5.56367 + 4.33310I$
$u = 0.296950 + 0.801445I$ $a = -0.872198 + 0.800219I$ $b = -0.792177 + 0.162915I$	$-2.33291 + 3.02476I$	$-10.12213 - 2.21609I$
$u = 0.296950 - 0.801445I$ $a = -0.872198 - 0.800219I$ $b = -0.792177 - 0.162915I$	$-2.33291 - 3.02476I$	$-10.12213 + 2.21609I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.079890 + 0.398169I$ $a = -0.33037 + 1.80790I$ $b = -0.88071 + 2.08789I$	$-7.03235 + 0.30335I$	$-15.4115 + 0.4048I$
$u = 1.079890 - 0.398169I$ $a = -0.33037 - 1.80790I$ $b = -0.88071 - 2.08789I$	$-7.03235 - 0.30335I$	$-15.4115 - 0.4048I$
$u = -0.952704 + 0.656540I$ $a = 1.13459 + 0.99283I$ $b = 1.52639 + 0.00115I$	$3.49101 + 3.16234I$	$-2.33540 - 3.46689I$
$u = -0.952704 - 0.656540I$ $a = 1.13459 - 0.99283I$ $b = 1.52639 - 0.00115I$	$3.49101 - 3.16234I$	$-2.33540 + 3.46689I$
$u = 1.050590 + 0.549581I$ $a = 0.568130 - 1.260550I$ $b = 1.01651 - 1.37602I$	$-2.33291 - 3.02476I$	$-10.12213 + 2.21609I$
$u = 1.050590 - 0.549581I$ $a = 0.568130 + 1.260550I$ $b = 1.01651 + 1.37602I$	$-2.33291 + 3.02476I$	$-10.12213 - 2.21609I$
$u = 1.213100 + 0.082369I$ $a = -0.285118 + 0.176496I$ $b = -0.551742 - 0.474744I$	$-2.27583 + 0.94673I$	$-5.56367 - 4.33310I$
$u = 1.213100 - 0.082369I$ $a = -0.285118 - 0.176496I$ $b = -0.551742 + 0.474744I$	$-2.27583 - 0.94673I$	$-5.56367 + 4.33310I$
$u = -1.219100 + 0.005734I$ $a = -0.379506 + 0.077327I$ $b = -1.217710 - 0.486619I$	$-3.90982 - 3.26242I$	$-8.80376 + 2.26815I$
$u = -1.219100 - 0.005734I$ $a = -0.379506 - 0.077327I$ $b = -1.217710 + 0.486619I$	$-3.90982 + 3.26242I$	$-8.80376 - 2.26815I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.054910+0.629750I$ $a=\ 0.89707+1.44259I$ $b=\ 1.92867+1.14714I$	$2.34965+5.52406I$	$-3.72778-3.52157I$
$u=-1.054910-0.629750I$ $a=\ 0.89707-1.44259I$ $b=\ 1.92867-1.14714I$	$2.34965-5.52406I$	$-3.72778+3.52157I$
$u=-1.223310+0.272825I$ $a=\ 0.227490-0.807258I$ $b=\ 0.791557-0.749493I$	$-7.03235+0.30335I$	$-15.4115+0.I$
$u=-1.223310-0.272825I$ $a=\ 0.227490+0.807258I$ $b=\ 0.791557+0.749493I$	$-7.03235-0.30335I$	$-15.4115+0.I$
$u=\ 1.089410+0.631074I$ $a=\ 0.82929-1.61402I$ $b=\ 2.12255-1.58531I$	$0.14155-10.59580I$	$-7.00000+7.47788I$
$u=\ 1.089410-0.631074I$ $a=\ 0.82929+1.61402I$ $b=\ 2.12255+1.58531I$	$0.14155+10.59580I$	$-7.00000-7.47788I$
$u=\ 1.260980+0.195080I$ $a=\ 0.136063+0.360918I$ $b=\ 0.638559-0.316478I$	$-3.06946+2.29224I$	$-7.00000-3.81893I$
$u=\ 1.260980-0.195080I$ $a=\ 0.136063-0.360918I$ $b=\ 0.638559+0.316478I$	$-3.06946-2.29224I$	$-7.00000+3.81893I$
$u=-1.294740+0.221264I$ $a=\ 0.355915-0.330975I$ $b=\ 1.227850+0.392277I$	$-5.29128-7.02777I$	$-11.56401+7.34039I$
$u=-1.294740-0.221264I$ $a=\ 0.355915+0.330975I$ $b=\ 1.227850-0.392277I$	$-5.29128+7.02777I$	$-11.56401-7.34039I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.594081 + 0.341794I$ $a = -2.68688 + 1.47263I$ $b = -1.88722 - 0.13661I$	$-3.90982 + 3.26242I$	$-8.80376 - 2.26815I$
$u = 0.594081 - 0.341794I$ $a = -2.68688 - 1.47263I$ $b = -1.88722 + 0.13661I$	$-3.90982 - 3.26242I$	$-8.80376 + 2.26815I$
$u = 0.663527$ $a = 0.600867$ $b = -0.631190$	-1.33670	-6.47390
$u = 0.486649$ $a = 1.02746$ $b = -0.652402$	-1.33670	-6.47390
$u = -0.033796 + 0.382833I$ $a = -1.45604 + 2.22878I$ $b = -0.870135 - 0.373642I$	$-4.31524 - 3.60580I$	$-10.88555 + 4.48858I$
$u = -0.033796 - 0.382833I$ $a = -1.45604 - 2.22878I$ $b = -0.870135 + 0.373642I$	$-4.31524 + 3.60580I$	$-10.88555 - 4.48858I$

III. $I^u_3 = \langle b^4 + 4b^3 + 4b^2 + 1,\ a + 1,\ u + 1\rangle$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1 \\ b \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -b \\ b^2 + b + 1 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -b^3 - 2b^2 - b - 1 \\ -b^3 + 3b - 1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1 \\ b - 1 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4b^2 + 8b - 16$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=-1.00000$ $b=\ \ 0.098684+0.455090I$	$-5.75727-3.66386I$	$-16.0000+4.0000I$
$u=-1.00000$ $a=-1.00000$ $b=\ \ 0.098684-0.455090I$	$-5.75727+3.66386I$	$-16.0000-4.0000I$
$u=-1.00000$ $a=-1.00000$ $b=-2.09868+0.45509I$	$-5.75727+3.66386I$	$-16.0000-4.0000I$
$u=-1.00000$ $a=-1.00000$ $b=-2.09868-0.45509I$	$-5.75727-3.66386I$	$-16.0000+4.0000I$

IV. $I^u_4 = \langle b^3 + 3b^2 + 3b + 1,\ a + 1,\ u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4b^2 + 8b - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_6, c_{11}	u^3
c_3, c_8	$(u+1)^3$
c_4, c_7, c_9 c_{10}	$(u-1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_{11}	y^3
c_3, c_4, c_7 c_8, c_9, c_{10}	$(y-1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = -1.00000$	-3.28987	-12.0000
$u = 1.00000$ $a = -1.00000$ $b = -1.00000$	-3.28987	-12.0000
$u = 1.00000$ $a = -1.00000$ $b = -1.00000$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^3(u^4+2u^2+2)(u^{23}+u^{22}+\cdots+2u+1)^2(u^{31}-3u^{30}+\cdots-6u+2)$
c_2	$u^3(u^2+2u+2)^2(u^{23}+11u^{22}+\cdots-2u^2-1)^2$ $\cdot(u^{31}+15u^{30}+\cdots-4u-4)$
c_3, c_8	$((u-1)^4)(u+1)^3(u^{31}+u^{30}+\cdots+2u+1)(u^{46}+u^{45}+\cdots+4u+1)$
c_4, c_{10}	$((u-1)^3)(u+1)^4(u^{31}+u^{30}+\cdots+2u+1)(u^{46}+u^{45}+\cdots+4u+1)$
c_6	$u^3(u^4-2u^2+2)(u^{23}-u^{22}+\cdots-8u+5)^2(u^{31}+3u^{30}+\cdots+34u+2)$
c_7, c_9	$((u-1)^7)(u^{31}+13u^{30}+\cdots+8u+1)(u^{46}+25u^{45}+\cdots+4u+1)$
c_{11}	$u^3(u^4-2u^2+2)(u^{23}+5u^{22}+\cdots+32u+7)^2$ $\cdot(u^{31}-15u^{30}+\cdots-1566u+158)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^3(y^2+2y+2)^2(y^{23}+11y^{22}+\cdots-2y^2-1)^2$ $\cdot(y^{31}+15y^{30}+\cdots-4y-4)$
c_2	$y^3(y^2+4)^2(y^{23}+3y^{22}+\cdots-4y-1)^2(y^{31}+3y^{30}+\cdots+112y-16)$
c_3, c_4, c_8 c_{10}	$((y-1)^7)(y^{31}-13y^{30}+\cdots+8y-1)(y^{46}-25y^{45}+\cdots-4y+1)$
c_6	$y^3(y^2-2y+2)^2(y^{23}-5y^{22}+\cdots+264y-25)^2$ $\cdot(y^{31}-9y^{30}+\cdots+92y-4)$
c_7, c_9	$((y-1)^7)(y^{31}+19y^{30}+\cdots-4y-1)(y^{46}-9y^{45}+\cdots-104y+1)$
c_{11}	$y^3(y^2-2y+2)^2(y^{23}+7y^{22}+\cdots-404y-49)^2$ $\cdot(y^{31}+3y^{30}+\cdots-219108y-24964)$