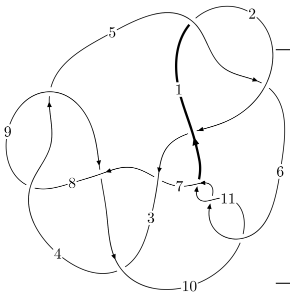
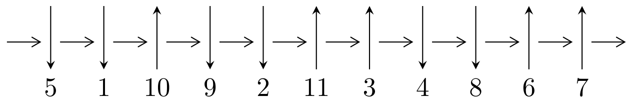
$11a_{109}$ ($K11a_{109}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{45} - 11u^{43} + \cdots + 4b - 2u,\ u^{45} - 10u^{43} + \cdots + 4a - 4,\ u^{47} + 2u^{46} + \cdots + 4u + 2\rangle$$

$$\begin{aligned} I_2^u = \langle & 110u^5a^2 - 28u^5a + \cdots - 169a + 180, \\ & -2u^4a^2 - u^5a + 2u^3a^2 + 4u^4a + u^5 + 2a^2u^2 + 2u^3a + u^4 + a^3 - 2a^2u - 5u^2a - u^3 + 4au + 2u^2 + a - 1, \\ & u^6 - u^5 - u^4 + 2u^3 - u + 1\rangle \end{aligned}$$

$$I_3^u = \langle u^3 + u^2 + b - u + 1,\ u^3 - 2u^2 + 2a + 6,\ u^4 - 2u^2 + 2\rangle$$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 70 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. $I_1^u = \langle u^{45}-11u^{43}+\cdots+4b-2u,\ u^{45}-10u^{43}+\cdots+4a-4,\ u^{47}+2u^{46}+\cdots+4u+2\rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-\frac{1}{4}u^{45}+\frac{5}{2}u^{43}+\cdots-\frac{1}{2}u^3+1\\-\frac{1}{4}u^{45}+\frac{11}{4}u^{43}+\cdots+\frac{1}{2}u^2+\frac{1}{2}u\end{pmatrix}$$

$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-\frac{1}{2}u^{46}+\frac{11}{2}u^{44}+\cdots-\frac{1}{2}u+\frac{1}{2}\\-u^{46}-u^{45}+\cdots-\frac{7}{2}u-1\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-\frac{1}{2}u^{46}-\frac{3}{4}u^{45}+\cdots-\frac{1}{2}u+\frac{1}{2}\\-\frac{3}{4}u^{45}+\frac{33}{4}u^{43}+\cdots-\frac{1}{2}u-1\end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix}-u^3\\-u^3+u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}u^6-u^4+1\\u^6-2u^4+u^2\end{pmatrix}$$

$$a_7 = \begin{pmatrix}-u^{11}+2u^9-2u^7+u^3\\-u^{11}+3u^9-4u^7+3u^5-u^3+u\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-\frac{1}{4}u^{34}+2u^{32}+\cdots+\frac{1}{2}u+\frac{1}{2}\\-\frac{1}{4}u^{36}+2u^{34}+\cdots+\frac{1}{2}u^2+u\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-\frac{1}{4}u^{34}+2u^{32}+\cdots+\frac{1}{2}u+\frac{1}{2}\\-\frac{1}{4}u^{36}+2u^{34}+\cdots+\frac{1}{2}u^2+u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2u^{46}+22u^{44}+\cdots-4u^2+2u$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{47} + 2u^{46} + \cdots - 5u + 5$
c_2	$u^{47} + 18u^{46} + \cdots + 445u + 25$
c_3	$u^{47} + 6u^{46} + \cdots + 736u + 128$
c_4, c_8	$u^{47} + 2u^{46} + \cdots + 4u + 2$
c_6, c_{10}, c_{11}	$u^{47} - 2u^{46} + \cdots + 23u + 5$
c_7	$u^{47} - 2u^{46} + \cdots - 3652u + 3866$
c_9	$u^{47} + 22u^{46} + \cdots + 8u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{47} - 18y^{46} + \cdots + 445y - 25$
c_2	$y^{47} + 30y^{46} + \cdots - 49175y - 625$
c_3	$y^{47} + 10y^{46} + \cdots - 154624y - 16384$
c_4, c_8	$y^{47} - 22y^{46} + \cdots + 8y - 4$
c_6, c_{10}, c_{11}	$y^{47} - 50y^{46} + \cdots - 211y - 25$
c_7	$y^{47} - 14y^{46} + \cdots + 245188856y - 14945956$
c_9	$y^{47} + 6y^{46} + \cdots - 96y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.637057 + 0.718687I$ $a = -0.721070 + 1.203990I$ $b = 0.0489452 - 0.0612350I$	$7.88170 - 7.13370I$	$4.69775 + 5.86187I$
$u = 0.637057 - 0.718687I$ $a = -0.721070 - 1.203990I$ $b = 0.0489452 + 0.0612350I$	$7.88170 + 7.13370I$	$4.69775 - 5.86187I$
$u = -0.571455 + 0.734273I$ $a = 0.246152 + 0.401075I$ $b = 0.880555 + 0.625675I$	$9.33252 + 1.08584I$	$6.61100 - 0.78668I$
$u = -0.571455 - 0.734273I$ $a = 0.246152 - 0.401075I$ $b = 0.880555 - 0.625675I$	$9.33252 - 1.08584I$	$6.61100 + 0.78668I$
$u = 1.006040 + 0.471862I$ $a = 0.029772 - 0.657677I$ $b = 0.257242 - 0.932477I$	$-0.11745 - 4.26570I$	$1.86221 + 7.53589I$
$u = 1.006040 - 0.471862I$ $a = 0.029772 + 0.657677I$ $b = 0.257242 + 0.932477I$	$-0.11745 + 4.26570I$	$1.86221 - 7.53589I$
$u = -0.406762 + 0.786472I$ $a = 0.118369 - 0.344190I$ $b = 0.192922 - 0.870022I$	$8.45114 - 3.90837I$	$6.00297 + 1.23296I$
$u = -0.406762 - 0.786472I$ $a = 0.118369 + 0.344190I$ $b = 0.192922 + 0.870022I$	$8.45114 + 3.90837I$	$6.00297 - 1.23296I$
$u = 0.359333 + 0.808292I$ $a = -0.860558 - 0.927434I$ $b = 2.13804 - 0.70182I$	$6.36842 + 9.89029I$	$3.34606 - 5.56719I$
$u = 0.359333 - 0.808292I$ $a = -0.860558 + 0.927434I$ $b = 2.13804 + 0.70182I$	$6.36842 - 9.89029I$	$3.34606 + 5.56719I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.099960 + 0.219524I$		
$a = 2.12278 + 0.02040I$	$-4.03460 + 3.27231I$	$-6.93849 - 3.87386I$
$b = 1.40098 + 1.56081I$		
$u = 1.099960 - 0.219524I$		
$a = 2.12278 - 0.02040I$	$-4.03460 - 3.27231I$	$-6.93849 + 3.87386I$
$b = 1.40098 - 1.56081I$		
$u = 1.117490 + 0.132112I$		
$a = 0.871978 + 0.879966I$	$3.39185 + 1.64022I$	$0.179783 - 0.219910I$
$b = 0.365572 + 0.512413I$		
$u = 1.117490 - 0.132112I$		
$a = 0.871978 - 0.879966I$	$3.39185 - 1.64022I$	$0.179783 + 0.219910I$
$b = 0.365572 - 0.512413I$		
$u = -0.998163 + 0.550991I$		
$a = -0.315047 + 0.102429I$	$0.241182 + 1.057240I$	$0.289576 + 0.557042I$
$b = -0.898334 - 0.169658I$		
$u = -0.998163 - 0.550991I$		
$a = -0.315047 - 0.102429I$	$0.241182 - 1.057240I$	$0.289576 - 0.557042I$
$b = -0.898334 + 0.169658I$		
$u = -0.568933 + 0.644352I$		
$a = -0.15650 - 1.49843I$	$1.50796 + 3.62695I$	$2.13655 - 6.26888I$
$b = -0.187633 - 0.331112I$		
$u = -0.568933 - 0.644352I$		
$a = -0.15650 + 1.49843I$	$1.50796 - 3.62695I$	$2.13655 + 6.26888I$
$b = -0.187633 + 0.331112I$		
$u = 0.951297 + 0.631945I$		
$a = 0.093242 - 0.484467I$	$6.94963 + 1.98085I$	$3.48623 - 0.28252I$
$b = -0.390493 + 0.618210I$		
$u = 0.951297 - 0.631945I$		
$a = 0.093242 + 0.484467I$	$6.94963 - 1.98085I$	$3.48623 + 0.28252I$
$b = -0.390493 - 0.618210I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.108720 + 0.363808I$ $a = -2.65417 + 0.58730I$ $b = -2.29701 - 1.20468I$	$-5.47077 - 3.68113I$	$-9.62046 + 4.56447I$
$u = 1.108720 - 0.363808I$ $a = -2.65417 - 0.58730I$ $b = -2.29701 + 1.20468I$	$-5.47077 + 3.68113I$	$-9.62046 - 4.56447I$
$u = -0.365235 + 0.745543I$ $a = -0.561966 + 1.294290I$ $b = 1.96786 + 0.35399I$	$0.49152 - 5.74739I$	$0.29552 + 5.57964I$
$u = -0.365235 - 0.745543I$ $a = -0.561966 - 1.294290I$ $b = 1.96786 - 0.35399I$	$0.49152 + 5.74739I$	$0.29552 - 5.57964I$
$u = -1.165410 + 0.187983I$ $a = 2.28007 + 0.42466I$ $b = 2.08406 - 1.07708I$	$1.38638 - 7.13549I$	$-2.46560 + 4.47635I$
$u = -1.165410 - 0.187983I$ $a = 2.28007 - 0.42466I$ $b = 2.08406 + 1.07708I$	$1.38638 + 7.13549I$	$-2.46560 - 4.47635I$
$u = -1.005960 + 0.623496I$ $a = 1.24908 + 0.75581I$ $b = 1.063390 - 0.194010I$	$8.04432 + 4.08182I$	$4.48123 - 4.68553I$
$u = -1.005960 - 0.623496I$ $a = 1.24908 - 0.75581I$ $b = 1.063390 + 0.194010I$	$8.04432 - 4.08182I$	$4.48123 + 4.68553I$
$u = -1.111110 + 0.494738I$ $a = -1.83321 - 1.25072I$ $b = -2.10148 + 0.95562I$	$-4.58829 + 3.84650I$	$-8.76666 - 3.56046I$
$u = -1.111110 - 0.494738I$ $a = -1.83321 + 1.25072I$ $b = -2.10148 - 0.95562I$	$-4.58829 - 3.84650I$	$-8.76666 + 3.56046I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.176480 + 0.396630I$ $a = -2.40697 - 0.03813I$ $b = -2.05844 + 1.68830I$	$-1.23516 + 6.21145I$	$-1.74487 - 7.02826I$
$u = -1.176480 - 0.396630I$ $a = -2.40697 + 0.03813I$ $b = -2.05844 - 1.68830I$	$-1.23516 - 6.21145I$	$-1.74487 + 7.02826I$
$u = 0.066156 + 0.753461I$ $a = 0.967191 + 0.143999I$ $b = -1.41080 - 0.53958I$	$2.42833 - 2.22486I$	$2.96572 + 3.27842I$
$u = 0.066156 - 0.753461I$ $a = 0.967191 - 0.143999I$ $b = -1.41080 + 0.53958I$	$2.42833 + 2.22486I$	$2.96572 - 3.27842I$
$u = -1.111590 + 0.573138I$ $a = 2.03891 + 1.83979I$ $b = 3.12984 - 0.32101I$	$-1.69804 + 10.75150I$	$-2.97142 - 9.27459I$
$u = -1.111590 - 0.573138I$ $a = 2.03891 - 1.83979I$ $b = 3.12984 + 0.32101I$	$-1.69804 - 10.75150I$	$-2.97142 + 9.27459I$
$u = 1.168440 + 0.464509I$ $a = -1.31459 + 1.24173I$ $b = -2.05354 - 0.47643I$	$-0.77532 - 2.18171I$	0
$u = 1.168440 - 0.464509I$ $a = -1.31459 - 1.24173I$ $b = -2.05354 + 0.47643I$	$-0.77532 + 2.18171I$	0
$u = -1.108280 + 0.598698I$ $a = -0.816787 + 0.770371I$ $b = -0.110572 + 0.781750I$	$6.36874 + 9.11603I$	$3.03425 - 5.54417I$
$u = -1.108280 - 0.598698I$ $a = -0.816787 - 0.770371I$ $b = -0.110572 - 0.781750I$	$6.36874 - 9.11603I$	$3.03425 + 5.54417I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.132790 + 0.591464I$ $a = 2.36607 - 1.55769I$ $b = 3.12191 + 1.03804I$	$4.0697 - 15.1191I$	$0. + 9.40367I$
$u = 1.132790 - 0.591464I$ $a = 2.36607 + 1.55769I$ $b = 3.12191 - 1.03804I$	$4.0697 + 15.1191I$	$0. - 9.40367I$
$u = -0.664931$ $a = 1.02381$ $b = -0.379109$	-1.34703	-7.25790
$u = 0.448712 + 0.454594I$ $a = 1.225200 - 0.260236I$ $b = 0.412150 + 0.326959I$	$1.43130 + 0.33753I$	$6.95713 - 1.01845I$
$u = 0.448712 - 0.454594I$ $a = 1.225200 + 0.260236I$ $b = 0.412150 - 0.326959I$	$1.43130 - 0.33753I$	$6.95713 + 1.01845I$
$u = -0.174154 + 0.607070I$ $a = 1.020160 - 0.035294I$ $b = -1.365630 + 0.008684I$	$-2.04844 + 0.43724I$	$-5.38341 - 0.85631I$
$u = -0.174154 - 0.607070I$ $a = 1.020160 + 0.035294I$ $b = -1.365630 - 0.008684I$	$-2.04844 - 0.43724I$	$-5.38341 + 0.85631I$

II. $\boldsymbol{I_2^u = \langle 110u^5a^2 - 28u^5a + \cdots - 169a + 180,\ -u^5a + u^5 + \cdots + a - 1,\ u^6 - u^5 - u^4 + 2u^3 - u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -0.607735a^2u^5 + 0.154696au^5 + \cdots + 0.933702a - 0.994475 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.232044a^2u^5 - 0.359116au^5 + \cdots + 1.01105a + 0.165746 \\ -0.243094a^2u^5 + 0.861878au^5 + \cdots - 1.22652a + 1.60221 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.607735a^2u^5 + 0.154696au^5 + \cdots + 1.93370a - 0.994475 \\ -1.02762a^2u^5 + 0.552486au^5 + \cdots - 0.0939227a - 0.408840 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^4 - 2u^3 + u^2 + u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -0.607735a^2u^5 + 0.154696au^5 + \cdots + 0.933702a - 0.994475 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -0.607735a^2u^5 + 0.154696au^5 + \cdots + 0.933702a - 0.994475 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_{10}, c_{11}	$u^{18} - 6u^{16} + \cdots + u + 1$
c_2	$u^{18} + 12u^{17} + \cdots + u + 1$
c_3	$(u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1)^3$
c_4, c_8	$(u^6 - u^5 - u^4 + 2u^3 - u + 1)^3$
c_7	$(u^6 + u^5 - u^4 - 2u^3 + u + 1)^3$
c_9	$(u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_{10}, c_{11}	$y^{18} - 12y^{17} + \cdots - y + 1$
c_2	$y^{18} - 12y^{17} + \cdots + 7y + 1$
c_3, c_9	$(y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1)^3$
c_4, c_7, c_8	$(y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.002190 + 0.295542I$ $a = 0.348652 - 0.303516I$ $b = -0.0836886 + 0.0822976I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -1.002190 + 0.295542I$ $a = 1.54157 - 0.67011I$ $b = 0.02798 - 1.89773I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -1.002190 + 0.295542I$ $a = -3.26061 - 1.15289I$ $b = -2.46071 + 0.67711I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -1.002190 - 0.295542I$ $a = 0.348652 + 0.303516I$ $b = -0.0836886 - 0.0822976I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = -1.002190 - 0.295542I$ $a = 1.54157 + 0.67011I$ $b = 0.02798 + 1.89773I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = -1.002190 - 0.295542I$ $a = -3.26061 + 1.15289I$ $b = -2.46071 - 0.67711I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = 0.428243 + 0.664531I$ $a = 0.466201 + 0.792945I$ $b = -0.025081 + 0.674941I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.428243 + 0.664531I$ $a = 1.083770 - 0.074988I$ $b = -1.56679 + 0.56745I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.428243 + 0.664531I$ $a = 0.285996 - 1.259370I$ $b = 1.42596 - 0.05764I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.428243 - 0.664531I$ $a = 0.466201 - 0.792945I$ $b = -0.025081 - 0.674941I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 - 0.664531I$ $a = 1.083770 + 0.074988I$ $b = -1.56679 - 0.56745I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 0.428243 - 0.664531I$ $a = 0.285996 + 1.259370I$ $b = 1.42596 + 0.05764I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 1.073950 + 0.558752I$ $a = -0.789928 - 0.420050I$ $b = -0.640192 - 0.601752I$	$-5.69302I$	$0. + 5.51057I$
$u = 1.073950 + 0.558752I$ $a = 1.29540 - 1.82419I$ $b = 2.40293 - 0.55520I$	$-5.69302I$	$0. + 5.51057I$
$u = 1.073950 + 0.558752I$ $a = -1.97105 + 1.48173I$ $b = -2.08041 - 1.24333I$	$-5.69302I$	$0. + 5.51057I$
$u = 1.073950 - 0.558752I$ $a = -0.789928 + 0.420050I$ $b = -0.640192 + 0.601752I$	$5.69302I$	$0. - 5.51057I$
$u = 1.073950 - 0.558752I$ $a = 1.29540 + 1.82419I$ $b = 2.40293 + 0.55520I$	$5.69302I$	$0. - 5.51057I$
$u = 1.073950 - 0.558752I$ $a = -1.97105 - 1.48173I$ $b = -2.08041 + 1.24333I$	$5.69302I$	$0. - 5.51057I$

III. $I_3^u = \langle u^3 + u^2 + b - u + 1,\ u^3 - 2u^2 + 2a + 6,\ u^4 - 2u^2 + 2\rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{2}u^3 + u^2 - 2 \\ -u^3 + u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u^3 + u^2 - 2 \\ -u^3 + u - 1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} u^3 \\ u^3 - u \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.098680 + 0.455090I$ $a = -2.32180 + 0.22311I$ $b = -1.54491 - 2.09868I$	$-2.46740 - 3.66386I$	$-4.00000 + 4.00000I$
$u = 1.098680 - 0.455090I$ $a = -2.32180 - 0.22311I$ $b = -1.54491 + 2.09868I$	$-2.46740 + 3.66386I$	$-4.00000 - 4.00000I$
$u = -1.098680 + 0.455090I$ $a = -1.67820 - 1.77689I$ $b = -2.45509 - 0.09868I$	$-2.46740 + 3.66386I$	$-4.00000 - 4.00000I$
$u = -1.098680 - 0.455090I$ $a = -1.67820 + 1.77689I$ $b = -2.45509 + 0.09868I$	$-2.46740 - 3.66386I$	$-4.00000 + 4.00000I$

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

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

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

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

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

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -1.00000$	0	0

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u+1)^4(u^{18}-6u^{16}+\cdots+u+1)(u^{47}+2u^{46}+\cdots-5u+5)$
c_2	$((u+1)^5)(u^{18}+12u^{17}+\cdots+u+1)(u^{47}+18u^{46}+\cdots+445u+25)$
c_3	$u(u^4+2u^2+2)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^3$ $\cdot(u^{47}+6u^{46}+\cdots+736u+128)$
c_4, c_8	$u(u^4-2u^2+2)(u^6-u^5+\cdots-u+1)^3(u^{47}+2u^{46}+\cdots+4u+2)$
c_5	$((u-1)^4)(u+1)(u^{18}-6u^{16}+\cdots+u+1)(u^{47}+2u^{46}+\cdots-5u+5)$
c_6	$((u-1)^4)(u+1)(u^{18}-6u^{16}+\cdots+u+1)(u^{47}-2u^{46}+\cdots+23u+5)$
c_7	$u(u^4+2u^2+2)(u^6+u^5-u^4-2u^3+u+1)^3$ $\cdot(u^{47}-2u^{46}+\cdots-3652u+3866)$
c_9	$u(u^2+2u+2)^2(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^3$ $\cdot(u^{47}+22u^{46}+\cdots+8u+4)$
c_{10}, c_{11}	$(u-1)(u+1)^4(u^{18}-6u^{16}+\cdots+u+1)(u^{47}-2u^{46}+\cdots+23u+5)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y-1)^5)(y^{18}-12y^{17}+\cdots-y+1)(y^{47}-18y^{46}+\cdots+445y-25)$
c_2	$((y-1)^5)(y^{18}-12y^{17}+\cdots+7y+1)$ $\cdot(y^{47}+30y^{46}+\cdots-49175y-625)$
c_3	$y(y^2+2y+2)^2(y^6+y^5+5y^4+6y^2+3y+1)^3$ $\cdot(y^{47}+10y^{46}+\cdots-154624y-16384)$
c_4, c_8	$y(y^2-2y+2)^2(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^3$ $\cdot(y^{47}-22y^{46}+\cdots+8y-4)$
c_6, c_{10}, c_{11}	$((y-1)^5)(y^{18}-12y^{17}+\cdots-y+1)(y^{47}-50y^{46}+\cdots-211y-25)$
c_7	$y(y^2+2y+2)^2(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^3$ $\cdot(y^{47}-14y^{46}+\cdots+245188856y-14945956)$
c_9	$y(y^2+4)^2(y^6+y^5+5y^4+6y^2+3y+1)^3$ $\cdot(y^{47}+6y^{46}+\cdots-96y-16)$