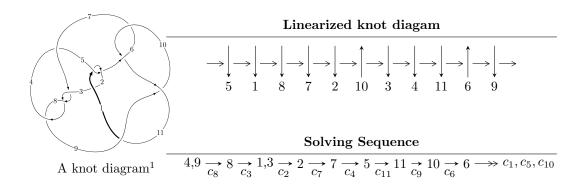
$11a_{105} (K11a_{105})$



Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 1.12515 \times 10^{31} u^{59} + 2.85842 \times 10^{31} u^{58} + \dots + 3.51410 \times 10^{31} b + 1.89741 \times 10^{31}, \\ -3.51793 \times 10^{30} u^{59} - 1.13761 \times 10^{31} u^{58} + \dots + 3.51410 \times 10^{31} a - 1.05909 \times 10^{32}, \ u^{60} + u^{59} + \dots - 4u - I_2^u = \langle 2b + 2a + u, \ 2a^2 + 2au + 2a + u + 3, \ u^2 - 2 \rangle$$

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

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 66 representations.

¹The 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.

 $\begin{matrix} \text{I.} \\ I_1^u = \langle 1.13 \times 10^{31} u^{59} + 2.86 \times 10^{31} u^{58} + \dots + 3.51 \times 10^{31} b + 1.90 \times 10^{31}, \ -3.52 \times 10^{30} u^{59} - 1.14 \times 10^{31} u^{58} + \dots + 3.51 \times 10^{31} a - 1.06 \times 10^{32}, \ u^{60} + u^{59} + \dots - 4u - 4 \rangle \end{matrix}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} 0.100109u^{59} + 0.323727u^{58} + \dots + 6.24684u + 3.01381 \\ -0.320182u^{59} - 0.813414u^{58} + \dots + 3.67561u - 0.539941 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.334020u^{59} + 0.230566u^{58} + \dots + 9.56791u + 3.49275 \\ -0.161128u^{59} - 0.574931u^{58} + \dots + 3.42064u - 0.184944 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.220073u^{59} - 0.489687u^{58} + \dots + 9.92245u + 2.47387 \\ -0.320182u^{59} - 0.813414u^{58} + \dots + 3.67561u - 0.539941 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.05972u^{59} - 0.120964u^{58} + \dots - 11.8926u - 2.73515 \\ 0.550795u^{59} + 1.41033u^{58} + \dots - 3.83041u + 0.910068 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.301975u^{59} - 0.154593u^{58} + \dots - 8.20559u - 4.09227 \\ 0.609330u^{59} + 0.192047u^{58} + \dots + 2.33523u - 2.20792 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.301975u^{59} - 0.154593u^{58} + \dots - 8.20559u - 4.09227 \\ 0.609330u^{59} + 0.192047u^{58} + \dots + 2.33523u - 2.20792 \end{pmatrix}$$

- (ii) Obstruction class = -1
- (iii) Cusp Shapes = $1.29031u^{59} + 4.98190u^{58} + \cdots + 10.5616u + 3.04276$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1,c_5	$u^{60} + 3u^{59} + \dots - 21u - 7$
c_2	$u^{60} + 29u^{59} + \dots + 259u + 49$
c_3, c_7, c_8	$u^{60} + u^{59} + \dots - 4u - 4$
c_4	$u^{60} - 3u^{59} + \dots + 1892u + 748$
c_6,c_{10}	$u^{60} - 2u^{59} + \dots + 10u + 1$
c_9, c_{11}	$u^{60} + 20u^{59} + \dots - 58u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1,c_5	$y^{60} - 29y^{59} + \dots - 259y + 49$
c_2	$y^{60} + 11y^{59} + \dots - 38171y + 2401$
c_3, c_7, c_8	$y^{60} - 55y^{59} + \dots + 144y + 16$
<i>c</i> ₄	$y^{60} + 5y^{59} + \dots - 713328y + 559504$
c_6, c_{10}	$y^{60} + 20y^{59} + \dots - 58y + 1$
c_{9}, c_{11}	$y^{60} + 44y^{59} + \dots - 3138y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = -0.856412 + 0.448917I		
a = 0.069748 - 0.309881I	2.51877 - 0.25684I	-5.58857 - 0.91280I
b = 0.045178 + 1.220370I		
u = -0.856412 - 0.448917I		
a = 0.069748 + 0.309881I	2.51877 + 0.25684I	-5.58857 + 0.91280I
b = 0.045178 - 1.220370I		
u = -0.977737 + 0.387234I		
a = -0.646202 + 0.329883I	2.99290 - 0.67802I	-7.00000 + 0.I
b = -0.199913 - 1.371860I		
u = -0.977737 - 0.387234I		
a = -0.646202 - 0.329883I	2.99290 + 0.67802I	-7.00000 + 0.I
b = -0.199913 + 1.371860I		
u = 0.791019 + 0.508592I		
a = -0.325990 - 0.504077I	1.89650 + 6.03755I	-6.88192 - 4.20349I
b = -0.39274 + 1.43077I		
u = 0.791019 - 0.508592I		
a = -0.325990 + 0.504077I	1.89650 - 6.03755I	-6.88192 + 4.20349I
b = -0.39274 - 1.43077I		
u = 1.068800 + 0.379471I		
a = 0.494885 + 0.197200I	3.09128 - 5.18590I	0
b = -0.116006 - 1.361990I		
u = 1.068800 - 0.379471I	0.00400 . # 40#00#	
a = 0.494885 - 0.197200I	3.09128 + 5.18590I	0
b = -0.116006 + 1.361990I		
u = 0.301071 + 0.803639I	9.40071 10.600001	F 499FC - 0 F1F4F7
a = 1.174960 - 0.782603I	3.49971 - 10.62980I	-5.43356 + 8.51745I
b = -0.48181 - 1.50728I		
u = 0.301071 - 0.803639I	9.40071 + 10.600007	F 400F6 0 F154F1
a = 1.174960 + 0.782603I	3.49971 + 10.62980I	-5.43356 - 8.51745I
b = -0.48181 + 1.50728I		

$\begin{array}{c} u = -0.256488 + 0.801752I \\ a = -1.204450 - 0.589990I \\ b = 0.206818 - 1.186610I \\ u = -0.256488 - 0.801752I \\ a = -1.204450 + 0.589990I \\ b = 0.206818 + 1.186610I \\ u = -0.189775 + 0.793215I \\ a = 0.692391 + 1.041360I \\ b = -0.34795 + 1.45648I \\ u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 + 1.45648I \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ b = -0.868501 - 0.830940I \\ \end{array}$ $\begin{array}{c} 4.44819 + 4.71708I \\ -3.57538 - 3.65619I \\ -3.57538 + 3.65619I \\ -2.32735 - 3.96471I \\ -2.32735 + 3$	Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$\begin{array}{c} b = 0.206818 - 1.186610I \\ u = -0.256488 - 0.801752I \\ a = -1.204450 + 0.589990I \\ b = 0.206818 + 1.186610I \\ \hline \\ u = -0.189775 + 0.793215I \\ a = 0.692391 + 1.041360I \\ b = -0.34795 + 1.45648I \\ \hline \\ u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 - 1.45648I \\ \hline \\ u = 0.129554 + 0.796054I \\ a = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ \hline \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ \hline \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 + 0.88605I \\ \hline \\ u = 1.243970 - 0.018853I \\ a = 1.26750 + 0.88605I \\ -4.34425 - 2.84333I \\ \hline \\ 0 \\ \end{array}$	u = -0.256488 + 0.801752I		
$\begin{array}{c} u = -0.256488 - 0.801752I \\ a = -1.204450 + 0.589990I \\ b = 0.206818 + 1.186610I \\ \hline \\ u = -0.189775 + 0.793215I \\ a = 0.692391 + 1.041360I \\ b = -0.34795 + 1.45648I \\ \hline \\ u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 - 1.45648I \\ \hline \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ \hline \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ \hline \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ \hline \\ u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ a = 1.26750 + 0.88605I \\ \hline \\ -4.34425 - 2.84333I \\ \hline \\ 0 \\ \end{array}$	a = -1.204450 - 0.589990I	4.44819 + 4.71708I	-3.57538 - 3.65619I
$\begin{array}{c} a = -1.204450 + 0.589990I \\ b = 0.206818 + 1.186610I \\ u = -0.189775 + 0.793215I \\ a = 0.692391 + 1.041360I \\ b = -0.34795 + 1.45648I \\ u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 - 1.45648I \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 + 0.88605I \\ a = 1.26750 + 0.88605I \\ a = 1.26750 + 0.88605I \\ -4.34425 - 2.84333I \\ 0 \end{array}$	b = 0.206818 - 1.186610I		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	u = -0.256488 - 0.801752I		
$\begin{array}{c} u = -0.189775 + 0.793215I \\ a = 0.692391 + 1.041360I \\ b = -0.34795 + 1.45648I \\ u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 - 1.45648I \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 + 0.88605I \\ a = -4.34425 - 2.84333I \\ 0 \end{array}$	a = -1.204450 + 0.589990I	4.44819 - 4.71708I	-3.57538 + 3.65619I
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	b = 0.206818 + 1.186610I		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	u = -0.189775 + 0.793215I		
$\begin{array}{c} u = -0.189775 - 0.793215I \\ a = 0.692391 - 1.041360I \\ b = -0.34795 - 1.45648I \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I \\ b = 0.418519 - 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ a = 1.26750 + 0.88605I \\ -4.34425 - 2.84333I \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ $	a = 0.692391 + 1.041360I	5.43709 + 4.96254I	-2.32735 - 3.96471I
$\begin{array}{llllllllllllllllllllllllllllllllllll$	b = -0.34795 + 1.45648I		
$\begin{array}{c} b = -0.34795 - 1.45648I \\ u = 0.129554 + 0.796054I \\ a = -0.844160 + 0.874550I \\ b = 0.043508 + 1.278600I \\ u = 0.129554 - 0.796054I \\ a = -0.844160 - 0.874550I \\ b = 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I \\ b = 0.418519 - 0.150611I \\ u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ a = 1.26750 + 0.88605I \\ a = 1.$	u = -0.189775 - 0.793215I		
$\begin{array}{c} u = & 0.129554 + 0.796054I \\ a = & -0.844160 + 0.874550I \\ b = & 0.043508 + 1.278600I \\ \hline u = & 0.129554 - 0.796054I \\ a = & -0.844160 - 0.874550I \\ b = & 0.043508 - 1.278600I \\ \hline u = & -1.206730 + 0.176348I \\ a = & -1.133230 - 0.267587I \\ b = & 0.418519 + 0.150611I \\ \hline u = & -1.206730 + 0.176348I \\ a = & -1.133230 + 0.267587I \\ b = & 0.418519 - 0.150611I \\ \hline u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I \\ a = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I \\ \hline \end{array} \begin{array}{c} 5.97615 + 0.93056I \\ -1.28101 + 1.70769I \\ -1.28101 + 1.70$	a = 0.692391 - 1.041360I	5.43709 - 4.96254I	-2.32735 + 3.96471I
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	b = -0.34795 - 1.45648I		
$\begin{array}{c} b = & 0.043508 + 1.278600I \\ u = & 0.129554 - 0.796054I \\ a = & -0.844160 - 0.874550I \\ b = & 0.043508 - 1.278600I \\ u = & -1.206730 + 0.176348I \\ a = & -1.133230 - 0.267587I \\ b = & 0.418519 + 0.150611I \\ u = & -1.206730 - 0.176348I \\ a = & -1.133230 + 0.267587I \\ b = & 0.418519 - 0.150611I \\ u = & -1.23230 + 0.267587I \\ b = & 0.418519 - 0.150611I \\ u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I \\ b = & -0.868501 + 0.830940I \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I \\ \end{array}$	u = 0.129554 + 0.796054I		
$\begin{array}{c} u = & 0.129554 - 0.796054I \\ a = & -0.844160 - 0.874550I \\ b = & 0.043508 - 1.278600I \\ u = & -1.206730 + 0.176348I \\ a = & -1.133230 - 0.267587I \\ b = & 0.418519 + 0.150611I \\ u = & -1.206730 - 0.176348I \\ a = & -1.133230 + 0.267587I \\ b = & 0.418519 - 0.150611I \\ u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I \\ \end{array}$	a = -0.844160 + 0.874550I	5.97615 + 0.93056I	-1.28101 - 1.70769I
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	b = 0.043508 + 1.278600I		
$\begin{array}{c} b = & 0.043508 - 1.278600I \\ u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = & 0.418519 + 0.150611I \\ \hline \\ u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I \\ b = & 0.418519 - 0.150611I \\ \hline \\ u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I \\ \hline \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \\ u = & 1.26750 + 0.88605I \\ \hline \end{array}$	u = 0.129554 - 0.796054I		
$\begin{array}{c} u = -1.206730 + 0.176348I \\ a = -1.133230 - 0.267587I \\ b = 0.418519 + 0.150611I \\ \hline \\ u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I \\ b = 0.418519 - 0.150611I \\ \hline \\ u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ \hline \\ u = 1.243970 - 0.018853I \\ a = 1.26750 + 0.88605I \\ \hline \\ u = 1.243970 - 0.018853I \\ \hline \\ u = 1.243970 - 0.018853I \\ \hline \\ u = 1.26750 + 0.88605I \\ \hline \\ -4.34425 - 2.84333I \\ \hline \\ 0 \\ \hline \end{array}$	a = -0.844160 - 0.874550I	5.97615 - 0.93056I	-1.28101 + 1.70769I
$\begin{array}{llllllllllllllllllllllllllllllllllll$	b = 0.043508 - 1.278600I		
$\begin{array}{c} b = & 0.418519 + 0.150611I \\ u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I & -1.73220 - 0.82680I & 0 \\ b = & 0.418519 - 0.150611I \\ u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I & -4.34425 + 2.84333I & 0 \\ b = -0.868501 + 0.830940I \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I & -4.34425 - 2.84333I & 0 \end{array}$	u = -1.206730 + 0.176348I		
$\begin{array}{c} u = -1.206730 - 0.176348I \\ a = -1.133230 + 0.267587I \\ b = 0.418519 - 0.150611I \\ \hline u = 1.243970 + 0.018853I \\ a = 1.26750 - 0.88605I \\ b = -0.868501 + 0.830940I \\ \hline u = 1.243970 - 0.018853I \\ a = 1.26750 + 0.88605I \\ \hline -4.34425 - 2.84333I \\ \hline 0 \\ \hline \end{array}$	a = -1.133230 - 0.267587I	-1.73220 + 0.82680I	0
$\begin{array}{llllllllllllllllllllllllllllllllllll$			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	u = -1.206730 - 0.176348I		
$\begin{array}{lllll} u = & 1.243970 + 0.018853I \\ a = & 1.26750 - 0.88605I & -4.34425 + 2.84333I & 0 \\ b = & -0.868501 + 0.830940I & & \\ u = & 1.243970 - 0.018853I \\ a = & 1.26750 + 0.88605I & -4.34425 - 2.84333I & 0 \end{array}$	a = -1.133230 + 0.267587I	-1.73220 - 0.82680I	0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	b = 0.418519 - 0.150611I		
b = -0.868501 + 0.830940I $u = 1.243970 - 0.018853I$ $a = 1.26750 + 0.88605I - 4.34425 - 2.84333I$ 0	u = 1.243970 + 0.018853I		
u = 1.243970 - 0.018853I $a = 1.26750 + 0.88605I - 4.34425 - 2.84333I$ 0	a = 1.26750 - 0.88605I	-4.34425 + 2.84333I	0
$a = 1.26750 + 0.88605I \qquad -4.34425 - 2.84333I \qquad 0$	b = -0.868501 + 0.830940I		
	u = 1.243970 - 0.018853I		
b = -0.868501 - 0.830940I	a = 1.26750 + 0.88605I	-4.34425 - 2.84333I	0
	b = -0.868501 - 0.830940I		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = 0.268078 + 0.645087I		
a = 0.627642 - 0.518062I	-2.44529 - 4.90792I	-9.88732 + 7.39777I
b = -1.102390 - 0.396751I		
u = 0.268078 - 0.645087I		
a = 0.627642 + 0.518062I	-2.44529 + 4.90792I	-9.88732 - 7.39777I
b = -1.102390 + 0.396751I		
u = 1.289880 + 0.180120I		
a = -1.66882 + 0.29795I	-4.50001 - 0.00587I	0
b = -0.038165 + 1.051040I		
u = 1.289880 - 0.180120I		
a = -1.66882 - 0.29795I	-4.50001 + 0.00587I	0
b = -0.038165 - 1.051040I		
u = -0.112152 + 0.661191I		
a = -0.714620 - 0.045202I	1.43580 + 2.21650I	-1.82720 - 4.33305I
b = 0.426053 + 0.174796I		
u = -0.112152 - 0.661191I		
a = -0.714620 + 0.045202I	1.43580 - 2.21650I	-1.82720 + 4.33305I
b = 0.426053 - 0.174796I		
u = -1.334650 + 0.196412I		
a = 1.04014 + 1.40007I	-5.48660 + 1.01058I	0
b = -0.877556 - 1.103860I		
u = -1.334650 - 0.196412I		
a = 1.04014 - 1.40007I	-5.48660 - 1.01058I	0
b = -0.877556 + 1.103860I		
u = -1.333660 + 0.221254I		
a = 1.82839 + 0.49243I	-5.17207 + 5.38877I	0
b = -0.448347 + 1.321910I		
u = -1.333660 - 0.221254I		
a = 1.82839 - 0.49243I	-5.17207 - 5.38877I	0
b = -0.448347 - 1.321910I		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = 1.331350 + 0.263582I		
a = -1.077490 + 0.564419I	-3.10541 - 5.57944I	0
b = 0.496619 - 0.385771I		
u = 1.331350 - 0.263582I		
a = -1.077490 - 0.564419I	-3.10541 + 5.57944I	0
b = 0.496619 + 0.385771I		
u = 1.352790 + 0.191832I		
a = 1.57075 - 0.21221I	-5.42970 - 3.53470I	0
b = -1.044160 - 0.411993I		
u = 1.352790 - 0.191832I		
a = 1.57075 + 0.21221I	-5.42970 + 3.53470I	0
b = -1.044160 + 0.411993I		
u = -1.334670 + 0.330501I		
a = -1.55791 + 0.32540I	1.38298 + 3.12184I	0
b = 0.175954 - 1.190020I		
u = -1.334670 - 0.330501I		
a = -1.55791 - 0.32540I	1.38298 - 3.12184I	0
b = 0.175954 + 1.190020I		
u = 0.461911 + 0.406202I		
a = 0.28123 - 1.64366I	-3.41083 + 1.56394I	-13.77106 - 0.02572I
b = -0.821473 + 0.229272I		
u = 0.461911 - 0.406202I		
a = 0.28123 + 1.64366I	-3.41083 - 1.56394I	-13.77106 + 0.02572I
b = -0.821473 - 0.229272I		
u = 1.38882		
a = -0.894922	-6.53287	0
b = 0.0181684		
u = 1.373810 + 0.327896I		
a = 1.74591 + 0.30759I	0.49565 - 9.00597I	0
b = -0.46361 - 1.49242I		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = 1.373810 - 0.327896I		
a = 1.74591 - 0.30759I	0.49565 + 9.00597I	0
b = -0.46361 + 1.49242I		
u = -1.40111 + 0.26118I		
a = 1.94947 + 0.43052I	-7.75888 + 8.23897I	0
b = -1.259340 + 0.325492I		
u = -1.40111 - 0.26118I		
a = 1.94947 - 0.43052I	-7.75888 - 8.23897I	0
b = -1.259340 - 0.325492I		
u = 0.071840 + 0.552974I		
a = 0.01528 - 3.02987I	-0.69378 - 2.54574I	-3.93469 + 4.38996I
b = -0.330288 - 1.143560I		
u = 0.071840 - 0.552974I		
a = 0.01528 + 3.02987I	-0.69378 + 2.54574I	-3.93469 - 4.38996I
b = -0.330288 + 1.143560I		
u = -1.43987 + 0.14560I		
a = 1.24613 + 0.98490I	-9.46417 + 0.48874I	0
b = -0.917886 + 0.053868I		
u = -1.43987 - 0.14560I		
a = 1.24613 - 0.98490I	-9.46417 - 0.48874I	0
b = -0.917886 - 0.053868I		
u = 1.41119 + 0.32817I		
a = -1.73533 - 0.42501I	-0.85298 - 8.80531I	0
b = 0.304129 + 1.125510I		
u = 1.41119 - 0.32817I		
a = -1.73533 + 0.42501I	-0.85298 + 8.80531I	0
b = 0.304129 - 1.125510I		
u = -1.43461 + 0.32355I		
a = 2.01968 - 0.51742I	-2.0394 + 14.7170I	0
b = -0.55973 + 1.52348I		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = -1.43461 - 0.32355I		
a = 2.01968 + 0.51742I	-2.0394 - 14.7170I	0
b = -0.55973 - 1.52348I		
u = -0.263721 + 0.414290I		
a = -0.089083 + 0.498277I	-0.480323 + 1.226230I	-5.70379 - 5.33805I
b = -0.547343 + 0.345848I		
u = -0.263721 - 0.414290I		
a = -0.089083 - 0.498277I	-0.480323 - 1.226230I	-5.70379 + 5.33805I
b = -0.547343 - 0.345848I		
u = 1.51224 + 0.04246I		
a = -0.021792 + 1.121390I	-5.24444 - 0.82507I	0
b = -0.159960 - 1.012480I		
u = 1.51224 - 0.04246I		
a = -0.021792 - 1.121390I	-5.24444 + 0.82507I	0
b = -0.159960 + 1.012480I		
u = 0.085208 + 0.469629I		
a = 0.229268 - 0.034778I	-0.97414 + 1.49816I	-3.90867 + 1.16289I
b = -0.760151 + 0.894401I		
u = 0.085208 - 0.469629I		
a = 0.229268 + 0.034778I	-0.97414 - 1.49816I	-3.90867 - 1.16289I
b = -0.760151 - 0.894401I		
u = -1.52569 + 0.08141I		
a = 0.37288 + 1.45493I	-5.76976 - 4.33338I	0
b = -0.438151 - 1.250040I		
u = -1.52569 - 0.08141I		
a = 0.37288 - 1.45493I	-5.76976 + 4.33338I	0
b = -0.438151 + 1.250040I		
u = -0.439722		
a = -1.31943	-0.965483	-10.6880
b = 0.0992099		

II.
$$I_2^u = \langle 2b + 2a + u, \ 2a^2 + 2au + 2a + u + 3, \ u^2 - 2 \rangle$$

(i) Arc colorings

$$a_{4} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{9} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{8} = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$$

$$a_{1} = \begin{pmatrix} a \\ -a - \frac{1}{2}u \end{pmatrix}$$

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

$$a_{2} = \begin{pmatrix} a + u \\ -a - \frac{3}{2}u \end{pmatrix}$$

$$a_{7} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{5} = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u \\ -a - \frac{1}{2}u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{2}au + \frac{3}{2} \\ -a - \frac{1}{2}u - 1 \end{pmatrix}$$

$$a_{6} = \begin{pmatrix} a \\ -a - \frac{1}{2}u \end{pmatrix}$$

- (ii) Obstruction class = 1
- (iii) Cusp Shapes = -4a 2u 16

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u+1)^4$
c_3, c_4, c_7 c_8	$(u^2-2)^2$
<i>C</i> 5	$(u-1)^4$
c_6, c_9	$(u^2 - u + 1)^2$
c_{10}, c_{11}	$(u^2 + u + 1)^2$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
u = 1.41421		
a = -1.20711 + 0.86603I	-6.57974 + 2.02988I	-14.0000 - 3.4641I
b = 0.500000 - 0.866025I		
u = 1.41421		
a = -1.20711 - 0.86603I	-6.57974 - 2.02988I	-14.0000 + 3.4641I
b = 0.500000 + 0.866025I		
u = -1.41421		
a = 0.207107 + 0.866025I	-6.57974 + 2.02988I	-14.0000 - 3.4641I
b = 0.500000 - 0.866025I		
u = -1.41421		
a = 0.207107 - 0.866025I	-6.57974 - 2.02988I	-14.0000 + 3.4641I
b = 0.500000 + 0.866025I		

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

(i) Arc colorings

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

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

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

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

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

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

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

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

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

$$a_{10} = \begin{pmatrix} v+1 \\ v \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ -v - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ -v - 1 \end{pmatrix}$$

- (ii) Obstruction class = 1
- (iii) Cusp Shapes = 4v 10

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^2$
c_2, c_5	$(u+1)^2$
c_3, c_4, c_7 c_8	u^2
c_6, c_{11}	$u^2 + u + 1$
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_5	$(y-1)^2$
c_3, c_4, c_7 c_8	y^2
c_6, c_9, c_{10} c_{11}	$y^2 + y + 1$

(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	-1.64493 - 2.02988I	-12.00000 + 3.46410I
$\frac{b = 0.500000 + 0.866025I}{v = -0.500000 - 0.866025I}$		
v = -0.500000 - 0.8000251 $a = 0$	$\begin{bmatrix} -1.64493 + 2.02988I \end{bmatrix}$	$\begin{bmatrix} -12.00000 - 3.46410I \end{bmatrix}$
b = 0.500000 - 0.866025I	1.04433 2.023001	12.00000 5.404101

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^2)(u+1)^4(u^{60}+3u^{59}+\cdots-21u-7)$
c_2	$((u+1)^6)(u^{60} + 29u^{59} + \dots + 259u + 49)$
c_3, c_7, c_8	$u^{2}(u^{2}-2)^{2}(u^{60}+u^{59}+\cdots-4u-4)$
c_4	$u^{2}(u^{2}-2)^{2}(u^{60}-3u^{59}+\cdots+1892u+748)$
c_5	$((u-1)^4)(u+1)^2(u^{60}+3u^{59}+\cdots-21u-7)$
c_6	$((u^2 - u + 1)^2)(u^2 + u + 1)(u^{60} - 2u^{59} + \dots + 10u + 1)$
c_9	$((u^2 - u + 1)^3)(u^{60} + 20u^{59} + \dots - 58u + 1)$
c_{10}	$(u^{2} - u + 1)(u^{2} + u + 1)^{2}(u^{60} - 2u^{59} + \dots + 10u + 1)$
c_{11}	$((u^2 + u + 1)^3)(u^{60} + 20u^{59} + \dots - 58u + 1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1,c_5	$((y-1)^6)(y^{60} - 29y^{59} + \dots - 259y + 49)$
c_2	$((y-1)^6)(y^{60}+11y^{59}+\cdots-38171y+2401)$
c_3, c_7, c_8	$y^{2}(y-2)^{4}(y^{60}-55y^{59}+\cdots+144y+16)$
c_4	$y^{2}(y-2)^{4}(y^{60}+5y^{59}+\cdots-713328y+559504)$
c_6,c_{10}	$((y^2 + y + 1)^3)(y^{60} + 20y^{59} + \dots - 58y + 1)$
c_9, c_{11}	$((y^2+y+1)^3)(y^{60}+44y^{59}+\cdots-3138y+1)$