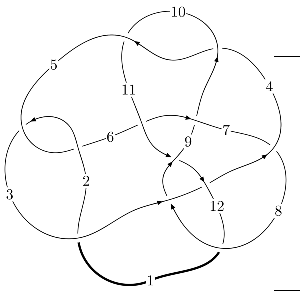
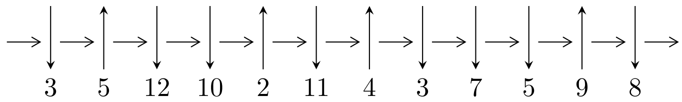
$12n_{0464}$ $(K12n_{0464})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$5,10 \xrightarrow[c_{10}]{} 11 \xrightarrow[c_4]{} 4,7 \xrightarrow[c_6]{} 6 \xrightarrow[c_9]{} 9 \xrightarrow[c_{11}]{} 12 \xrightarrow[c_3]{} 3 \xrightarrow[c_2]{} 2 \xrightarrow[c_1]{} 1 \xrightarrow[c_8]{} 8 \twoheadrightarrow c_5, c_7, c_{12}$$

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

$$\begin{aligned}
I_1^u = \langle & -9u^{10} + 50u^9 - 110u^8 + 84u^7 + 135u^6 - 318u^5 + 249u^4 + 140u^3 + 64u^2 + 356b - 268u + 100, \\
& 209u^{10} - 1438u^9 + \cdots + 712a + 1396, \\
& u^{11} - 8u^{10} + 28u^9 - 48u^8 + 21u^7 + 72u^6 - 147u^5 + 118u^4 - 46u^3 + 12u^2 + 4u - 8\rangle \\
I_2^u = \langle & -u^{13} - 2u^{12} + 7u^{11} + 14u^{10} - 18u^9 - 37u^8 + 18u^7 + 40u^6 - 3u^4 - 11u^3 - 27u^2 + 2b + 6u + 16, \\
& -16u^{13} + 125u^{11} + \cdots + 38a - 152,\ u^{14} - 9u^{12} + 33u^{10} - 60u^8 + 48u^6 + 6u^4 - 37u^2 + 19\rangle \\
I_3^u = \langle & -u^2a + au + u^2 + b - u,\ u^5a - 3u^4a + 2u^5 + 4u^3a - 9u^4 + 13u^3 + 4a^2 + au - 4u^2 - 8a - 6u - 7, \\
& u^6 - 5u^5 + 10u^4 - 8u^3 + u^2 - 2u + 4\rangle
\end{aligned}$$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 39 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. $\boldsymbol{I_1^u = \langle -9u^{10} + 50u^9 + \cdots + 356b + 100,\ 209u^{10} - 1438u^9 + \cdots + 712a + 1396,\ u^{11} - 8u^{10} + \cdots + 4u - 8\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.293539u^{10} + 2.01966u^9 + \cdots - 1.18539u - 1.96067 \\ 0.0252809u^{10} - 0.140449u^9 + \cdots + 0.752809u - 0.280899 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0351124u^{10} - 0.306180u^9 + \cdots + 0.601124u + 0.387640 \\ 0.266854u^{10} - 1.92697u^9 + \cdots + 2.16854u + 2.14607 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.144663u^{10} + 0.831461u^9 + \cdots - 0.696629u + 0.162921 \\ -0.325843u^{10} + 1.92135u^9 + \cdots + 0.741573u - 1.15730 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.293539u^{10} - 2.01966u^9 + \cdots + 0.185393u + 2.96067 \\ 0.328652u^{10} - 2.32584u^9 + \cdots + 0.786517u + 2.34831 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.181180u^{10} + 1.08989u^9 + \cdots + 1.43820u - 1.32022 \\ -0.325843u^{10} + 1.92135u^9 + \cdots + 0.741573u - 1.15730 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.181180u^{10} + 1.08989u^9 + \cdots + 1.43820u - 1.32022 \\ -0.926966u^{10} + 5.98315u^9 + \cdots + 0.730337u - 4.03371 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.0561798u^{10} - 0.410112u^9 + \cdots + 1.93820u + 0.179775 \\ -0.426966u^{10} + 1.98315u^9 + \cdots + 0.730337u - 1.03371 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.105337u^{10} - 0.918539u^9 + \cdots - 0.196629u + 1.16292 \\ 0.424157u^{10} - 3.07865u^9 + \cdots + 1.74157u + 2.84270 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{925}{178}u^{10} + \frac{3143}{89}u^9 - \frac{9104}{89}u^8 + \frac{10784}{89}u^7 + \frac{9247}{178}u^6 - \frac{29395}{89}u^5 + \frac{64099}{178}u^4 - \frac{11812}{89}u^3 + \frac{2211}{89}u^2 - \frac{620}{89}u - \frac{3326}{89}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{11} - 23u^{10} + \cdots + 21u - 1$
c_2, c_5, c_{11}	$u^{11} + u^{10} + \cdots - u - 1$
c_3, c_9	$u^{11} - u^{10} + 2u^8 + 2u^7 - 2u^5 + 4u^4 + 3u^3 + u^2 - u - 1$
c_4, c_{10}	$u^{11} - 8u^{10} + \cdots + 4u - 8$
c_6	$u^{11} + u^{10} + \cdots - 145u - 67$
c_7	$u^{11} + u^{10} + \cdots + 56u + 8$
c_8	$u^{11} - 4u^{10} + \cdots - 17u - 8$
c_{12}	$u^{11} + 5u^{10} + \cdots - 76u - 52$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{11} + 13y^{10} + \cdots + 49y - 1$
c_2, c_5, c_{11}	$y^{11} - 23y^{10} + \cdots + 21y - 1$
c_3, c_9	$y^{11} - y^{10} + \cdots + 3y - 1$
c_4, c_{10}	$y^{11} - 8y^{10} + \cdots + 208y - 64$
c_6	$y^{11} + 31y^{10} + \cdots - 35389y - 4489$
c_7	$y^{11} - 7y^{10} + \cdots + 1792y - 64$
c_8	$y^{11} + 12y^{10} + \cdots + 961y - 64$
c_{12}	$y^{11} + 11y^{10} + \cdots + 13056y - 2704$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.272490 + 0.288412I$ $a = -1.145090 + 0.161696I$ $b = -0.637420 - 0.913219I$	$-2.97208 - 5.10948I$	$-3.26197 + 5.94709I$
$u = 1.272490 - 0.288412I$ $a = -1.145090 - 0.161696I$ $b = -0.637420 + 0.913219I$	$-2.97208 + 5.10948I$	$-3.26197 - 5.94709I$
$u = 1.31836$ $a = -1.74186$ $b = -1.15079$	-6.32228	-14.5780
$u = -0.006189 + 0.618185I$ $a = 0.454297 - 0.805039I$ $b = -0.298680 + 0.644156I$	$0.98614 + 1.71648I$	$1.51156 - 4.88656I$
$u = -0.006189 - 0.618185I$ $a = 0.454297 + 0.805039I$ $b = -0.298680 - 0.644156I$	$0.98614 - 1.71648I$	$1.51156 + 4.88656I$
$u = -1.43000$ $a = 1.17850$ $b = 0.620255$	-3.22805	-2.67390
$u = -0.399863$ $a = -0.0959405$ $b = -0.613457$	-1.24652	-9.60770
$u = 1.42673 + 1.37332I$ $a = 0.555878 - 0.153340I$ $b = 0.957539 - 0.934630I$	$9.21923 + 1.76238I$	$-4.63285 - 2.25341I$
$u = 1.42673 - 1.37332I$ $a = 0.555878 + 0.153340I$ $b = 0.957539 + 0.934630I$	$9.21923 - 1.76238I$	$-4.63285 + 2.25341I$
$u = 1.56272 + 1.31035I$ $a = 1.214570 - 0.441747I$ $b = 1.05056 + 0.96763I$	$8.8572 - 12.5090I$	$-5.18674 + 5.91274I$

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.56272-1.31035I$		
$a=$	$1.214570+0.441747I$	$8.8572+12.5090I$	$-5.18674-5.91274I$
$b=$	$1.05056-0.96763I$		

II. $I_2^u = \langle -u^{13} - 2u^{12} + \cdots + 2b + 16,\ -16u^{13} + 125u^{11} + \cdots + 38a - 152,\ u^{14} - 9u^{12} + \cdots - 37u^2 + 19\rangle$

(i) Arc colorings

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

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

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

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

$$a_7 = \begin{pmatrix} 0.421053u^{13} - 3.28947u^{11} + \cdots - 7.07895u + 4 \\ \frac{1}{2}u^{13} + u^{12} + \cdots - 3u - 8 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{8}{19}u^{13} + \frac{1}{2}u^{12} + \cdots - \frac{79}{38}u - 4 \\ u^{13} + \frac{3}{2}u^{12} + \cdots - 3u - \frac{35}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{33}{38}u^{13} + \frac{3}{2}u^{12} + \cdots - \frac{119}{38}u - 10 \\ \frac{3}{2}u^{13} + 2u^{12} + \cdots - 10u - \frac{33}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.421053u^{13} + 3.28947u^{11} + \cdots + 6.07895u + 5 \\ -\frac{1}{2}u^{12} + \frac{1}{2}u^{11} + \cdots + 4u + 8 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.631579u^{13} - 0.500000u^{12} + \cdots - 6.86842u + 6.50000 \\ \frac{3}{2}u^{13} - 2u^{12} + \cdots - 10u + \frac{33}{2} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.631579u^{13} - 0.500000u^{12} + \cdots - 6.86842u + 6.50000 \\ \frac{5}{2}u^{13} - \frac{5}{2}u^{12} + \cdots - 22u + 26 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{30}{19}u^{13} + \frac{1}{2}u^{12} + \cdots - \frac{312}{19}u - 7 \\ \frac{5}{2}u^{13} - \frac{3}{2}u^{12} + \cdots - \frac{35}{2}u + 8 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{35}{38}u^{13} + \frac{3}{2}u^{12} + \cdots - \frac{163}{19}u - 15 \\ u^{13} + \frac{5}{2}u^{12} + \cdots - \frac{9}{2}u - 27 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^{12} + 18u^{10} - 37u^8 + 17u^6 + 30u^4 - 24u^2 - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - 7u^{13} + \cdots + 3u + 1$
c_2	$u^{14} - 3u^{13} + \cdots - 3u + 1$
c_3, c_9	$u^{14} + 7u^{13} + \cdots + 4u + 1$
c_4, c_{10}	$u^{14} - 9u^{12} + 33u^{10} - 60u^8 + 48u^6 + 6u^4 - 37u^2 + 19$
c_5, c_{11}	$u^{14} + 3u^{13} + \cdots + 3u + 1$
c_6	$u^{14} + 8u^{13} + \cdots + 449u + 137$
c_7	$u^{14} + 5u^{12} + \cdots - 8u + 8$
c_8	$(u^7 - 2u^5 + u^4 + u^3 + u - 1)^2$
c_{12}	$u^{14} - 4u^{12} + 6u^{10} + 5u^8 - 8u^6 - 15u^4 + 49u^2 + 19$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{14} - y^{13} + \cdots + 5y + 1$
c_2, c_5, c_{11}	$y^{14} + 7y^{13} + \cdots - 3y + 1$
c_3, c_9	$y^{14} - 3y^{13} + \cdots - 10y + 1$
c_4, c_{10}	$(y^7 - 9y^6 + 33y^5 - 60y^4 + 48y^3 + 6y^2 - 37y + 19)^2$
c_6	$y^{14} - 20y^{13} + \cdots - 90357y + 18769$
c_7	$y^{14} + 10y^{13} + \cdots + 448y + 64$
c_8	$(y^7 - 4y^6 + 6y^5 - 3y^4 - 3y^3 + 4y^2 + y - 1)^2$
c_{12}	$(y^7 - 4y^6 + 6y^5 + 5y^4 - 8y^3 - 15y^2 + 49y + 19)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.869734I$ $a = -0.225055 + 0.152531I$ $b = -0.718860 + 0.558616I$	-1.32199	-5.17190
$u = -0.869734I$ $a = -0.225055 - 0.152531I$ $b = -0.718860 - 0.558616I$	-1.32199	-5.17190
$u = -1.100240 + 0.309359I$ $a = 0.430002 + 1.302590I$ $b = 0.504604 - 0.512077I$	$-4.63494 + 5.44459I$	$-7.69561 - 8.32422I$
$u = -1.100240 - 0.309359I$ $a = 0.430002 - 1.302590I$ $b = 0.504604 + 0.512077I$	$-4.63494 - 5.44459I$	$-7.69561 + 8.32422I$
$u = 1.100240 + 0.309359I$ $a = -1.59402 - 0.26059I$ $b = -1.05779 - 1.16536I$	$-4.63494 - 5.44459I$	$-7.69561 + 8.32422I$
$u = 1.100240 - 0.309359I$ $a = -1.59402 + 0.26059I$ $b = -1.05779 + 1.16536I$	$-4.63494 + 5.44459I$	$-7.69561 - 8.32422I$
$u = -1.266100 + 0.207453I$ $a = 0.621317 + 0.689999I$ $b = 0.695772 - 0.312580I$	$-5.47716 - 2.46971I$	$-8.53877 + 0.63512I$
$u = -1.266100 - 0.207453I$ $a = 0.621317 - 0.689999I$ $b = 0.695772 + 0.312580I$	$-5.47716 + 2.46971I$	$-8.53877 - 0.63512I$
$u = 1.266100 + 0.207453I$ $a = -1.294320 + 0.392263I$ $b = -1.11920 + 0.89289I$	$-5.47716 + 2.46971I$	$-8.53877 - 0.63512I$
$u = 1.266100 - 0.207453I$ $a = -1.294320 - 0.392263I$ $b = -1.11920 - 0.89289I$	$-5.47716 - 2.46971I$	$-8.53877 + 0.63512I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.50572+0.25250I$ $a=-1.53985-0.28019I$ $b=-0.518967+0.078684I$	$-6.49871+4.55112I$	$0.32033+2.72283I$
$u=-1.50572-0.25250I$ $a=-1.53985+0.28019I$ $b=-0.518967-0.078684I$	$-6.49871-4.55112I$	$0.32033-2.72283I$
$u=\ \ 1.50572+0.25250I$ $a=-1.398080-0.188533I$ $b=-1.28556-1.10250I$	$-6.49871-4.55112I$	$0.32033-2.72283I$
$u=\ \ 1.50572-0.25250I$ $a=-1.398080+0.188533I$ $b=-1.28556+1.10250I$	$-6.49871+4.55112I$	$0.32033+2.72283I$

III. $I^u_3 =$
$\langle -u^2a+au+u^2+b-u,\ u^5a+2u^5+\cdots-8a-7,\ u^6-5u^5+10u^4-8u^3+u^2-2u+4\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a \\ u^2a - au - u^2 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -au - u^2 + a + u \\ -u^3a - u^4 + u^2a + u^3 - au - u^2 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{2}u^5a - \frac{3}{4}u^5 + \cdots - a + 2 \\ u^5a - \frac{3}{2}u^5 + \cdots - 2a + 3 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{1}{4}u^5 - \frac{3}{4}u^4 + u^3 + a - \frac{3}{4}u - 1 \\ \frac{1}{2}u^5 - \frac{3}{2}u^4 + 2u^3 + au - \frac{3}{2}u - 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{1}{2}u^5a - \frac{1}{4}u^5 + \cdots + a + \frac{1}{2} \\ -u^5a + 3u^4a - u^5 - 3u^3a + 4u^4 - 6u^3 + u^2 + 2a + u + 3 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{2}u^5a - \frac{1}{4}u^5 + \cdots + a + \frac{1}{2} \\ -2u^5a + 8u^4a - u^5 - 10u^3a + 3u^4 + u^2a - 5u^3 + u^2 + 6a + 2u + 3 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^5a + \frac{3}{4}u^5 + \cdots - 2a + 1 \\ -3u^4a + \frac{1}{2}u^5 + \cdots - 4a + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^4a - u^3a - u^4 - u^2a + u^3 + a \\ u^4a - u^3a - u^4 + u^3 - au - u^2 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 11u^5 - 41u^4 + 56u^3 - 10u^2 - 12u - 38$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - 10u^{11} + \cdots + 23u + 1$
c_2, c_5, c_{11}	$u^{12} - 5u^{10} + \cdots - 3u + 1$
c_3, c_9	$u^{12} - 2u^{11} + \cdots - 6u + 1$
c_4, c_{10}	$(u^6 - 5u^5 + 10u^4 - 8u^3 + u^2 - 2u + 4)^2$
c_6	$u^{12} + 7u^{11} + \cdots - 841u + 683$
c_7	$u^{12} - 3u^{11} + \cdots + 184u + 83$
c_8	$(u^6 + 2u^5 + 7u^4 + u^3 + 5u^2 + 1)^2$
c_{12}	$(u^6 - 2u^5 + 6u^4 - 2u^3 + 10u^2 - 2u + 5)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12}+22y^{11}+\cdots+635y+1$
c_2, c_5, c_{11}	$y^{12}-10y^{11}+\cdots+23y+1$
c_3, c_9	$y^{12}-2y^{11}+\cdots-10y+1$
c_4, c_{10}	$(y^6-5y^5+22y^4-56y^3+49y^2+4y+16)^2$
c_6	$y^{12}+5y^{11}+\cdots+483871y+466489$
c_7	$y^{12}-11y^{11}+\cdots-9288y+6889$
c_8	$(y^6+10y^5+55y^4+71y^3+39y^2+10y+1)^2$
c_{12}	$(y^6+8y^5+48y^4+118y^3+152y^2+96y+25)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.416505 + 0.576021I$ $a = 1.267250 + 0.372963I$ $b = 0.462791 - 0.185881I$	$-0.82381 + 1.88495I$	$-3.85860 - 4.25494I$
$u = -0.416505 + 0.576021I$ $a = 0.341182 - 0.466302I$ $b = -0.662439 + 0.575225I$	$-0.82381 + 1.88495I$	$-3.85860 - 4.25494I$
$u = -0.416505 - 0.576021I$ $a = 1.267250 - 0.372963I$ $b = 0.462791 + 0.185881I$	$-0.82381 - 1.88495I$	$-3.85860 + 4.25494I$
$u = -0.416505 - 0.576021I$ $a = 0.341182 + 0.466302I$ $b = -0.662439 - 0.575225I$	$-0.82381 - 1.88495I$	$-3.85860 + 4.25494I$
$u = 1.44321 + 0.21109I$ $a = -1.46241 - 0.27942I$ $b = -1.35407 - 1.14684I$	$-6.77592 - 4.75667I$	$-18.9940 + 11.0912I$
$u = 1.44321 + 0.21109I$ $a = 1.89212 - 0.31592I$ $b = 0.656685 + 0.167255I$	$-6.77592 - 4.75667I$	$-18.9940 + 11.0912I$
$u = 1.44321 - 0.21109I$ $a = -1.46241 + 0.27942I$ $b = -1.35407 + 1.14684I$	$-6.77592 + 4.75667I$	$-18.9940 - 11.0912I$
$u = 1.44321 - 0.21109I$ $a = 1.89212 + 0.31592I$ $b = 0.656685 - 0.167255I$	$-6.77592 + 4.75667I$	$-18.9940 - 11.0912I$
$u = 1.47330 + 1.24522I$ $a = 1.222760 - 0.470970I$ $b = 0.951529 + 0.941807I$	$9.24467 - 5.12766I$	$-4.64737 + 2.37505I$
$u = 1.47330 + 1.24522I$ $a = 0.489110 - 0.210227I$ $b = 0.94550 - 1.05898I$	$9.24467 - 5.12766I$	$-4.64737 + 2.37505I$

	Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.47330 - 1.24522I$		
$a =$	$1.222760 + 0.470970I$	$9.24467 + 5.12766I$	$-4.64737 - 2.37505I$
$b =$	$0.951529 - 0.941807I$		
$u =$	$1.47330 - 1.24522I$		
$a =$	$0.489110 + 0.210227I$	$9.24467 + 5.12766I$	$-4.64737 - 2.37505I$
$b =$	$0.94550 + 1.05898I$		

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

(i) Arc colorings

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

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

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

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

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

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

$$a_9 = \begin{pmatrix} 1 \\ b+1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -b \\ -b \end{pmatrix}$$

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8b - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_{11}	$u^2 - u + 1$
c_2, c_3, c_7 c_8, c_9	$u^2 + u + 1$
c_4, c_{10}, c_{12}	u^2

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_5, c_6, c_7 c_8, c_9, c_{11}	$y^2 + y + 1$
c_4, c_{10}, c_{12}	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = \quad 0$ $b = -0.500000 + 0.866025I$	$4.05977I$	$0. - 6.92820I$
$v = -1.00000$ $a = \quad 0$ $b = -0.500000 - 0.866025I$	$-4.05977I$	$0. + 6.92820I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)(u^{11}-23u^{10}+\cdots+21u-1)(u^{12}-10u^{11}+\cdots+23u+1)$ $\cdot(u^{14}-7u^{13}+\cdots+3u+1)$
c_2	$(u^2+u+1)(u^{11}+u^{10}+\cdots-u-1)(u^{12}-5u^{10}+\cdots-3u+1)$ $\cdot(u^{14}-3u^{13}+\cdots-3u+1)$
c_3, c_9	$(u^2+u+1)(u^{11}-u^{10}+2u^8+2u^7-2u^5+4u^4+3u^3+u^2-u-1)$ $\cdot(u^{12}-2u^{11}+\cdots-6u+1)(u^{14}+7u^{13}+\cdots+4u+1)$
c_4, c_{10}	$u^2(u^6-5u^5+\cdots-2u+4)^2(u^{11}-8u^{10}+\cdots+4u-8)$ $\cdot(u^{14}-9u^{12}+33u^{10}-60u^8+48u^6+6u^4-37u^2+19)$
c_5, c_{11}	$(u^2-u+1)(u^{11}+u^{10}+\cdots-u-1)(u^{12}-5u^{10}+\cdots-3u+1)$ $\cdot(u^{14}+3u^{13}+\cdots+3u+1)$
c_6	$(u^2-u+1)(u^{11}+u^{10}+\cdots-145u-67)(u^{12}+7u^{11}+\cdots-841u+683)$ $\cdot(u^{14}+8u^{13}+\cdots+449u+137)$
c_7	$(u^2+u+1)(u^{11}+u^{10}+\cdots+56u+8)(u^{12}-3u^{11}+\cdots+184u+83)$ $\cdot(u^{14}+5u^{12}+\cdots-8u+8)$
c_8	$(u^2+u+1)(u^6+2u^5+7u^4+u^3+5u^2+1)^2$ $\cdot((u^7-2u^5+u^4+u^3+u-1)^2)(u^{11}-4u^{10}+\cdots-17u-8)$
c_{12}	$u^2(u^6-2u^5+6u^4-2u^3+10u^2-2u+5)^2$ $\cdot(u^{11}+5u^{10}+\cdots-76u-52)$ $\cdot(u^{14}-4u^{12}+6u^{10}+5u^8-8u^6-15u^4+49u^2+19)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)(y^{11}+13y^{10}+\cdots+49y-1)(y^{12}+22y^{11}+\cdots+635y+1)$ $\cdot(y^{14}-y^{13}+\cdots+5y+1)$
c_2, c_5, c_{11}	$(y^2+y+1)(y^{11}-23y^{10}+\cdots+21y-1)(y^{12}-10y^{11}+\cdots+23y+1)$ $\cdot(y^{14}+7y^{13}+\cdots-3y+1)$
c_3, c_9	$(y^2+y+1)(y^{11}-y^{10}+\cdots+3y-1)(y^{12}-2y^{11}+\cdots-10y+1)$ $\cdot(y^{14}-3y^{13}+\cdots-10y+1)$
c_4, c_{10}	$y^2(y^6-5y^5+22y^4-56y^3+49y^2+4y+16)^2$ $\cdot(y^7-9y^6+33y^5-60y^4+48y^3+6y^2-37y+19)^2$ $\cdot(y^{11}-8y^{10}+\cdots+208y-64)$
c_6	$(y^2+y+1)(y^{11}+31y^{10}+\cdots-35389y-4489)$ $\cdot(y^{12}+5y^{11}+\cdots+483871y+466489)$ $\cdot(y^{14}-20y^{13}+\cdots-90357y+18769)$
c_7	$(y^2+y+1)(y^{11}-7y^{10}+\cdots+1792y-64)$ $\cdot(y^{12}-11y^{11}+\cdots-9288y+6889)(y^{14}+10y^{13}+\cdots+448y+64)$
c_8	$(y^2+y+1)(y^6+10y^5+55y^4+71y^3+39y^2+10y+1)^2$ $\cdot(y^7-4y^6+6y^5-3y^4-3y^3+4y^2+y-1)^2$ $\cdot(y^{11}+12y^{10}+\cdots+961y-64)$
c_{12}	$y^2(y^6+8y^5+48y^4+118y^3+152y^2+96y+25)^2$ $\cdot(y^7-4y^6+6y^5+5y^4-8y^3-15y^2+49y+19)^2$ $\cdot(y^{11}+11y^{10}+\cdots+13056y-2704)$