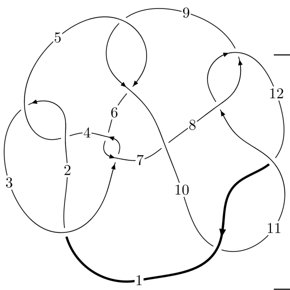
$12n_{0083}$ ($K12n_{0083}$)



A knot diagram[1]

Linearized knot diagam

$\to\downarrow\to\downarrow\to\downarrow\to\downarrow\to\uparrow\to\downarrow\to\downarrow\to\downarrow\to\uparrow\to\downarrow\to\downarrow\to\downarrow\to$

3 5 7 2 10 4 10 12 5 1 8 11

Solving Sequence

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

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

$$
\begin{aligned}
I_1^u = \langle &-7.39937\times10^{54}u^{61} - 7.95828\times10^{55}u^{60} + \cdots + 9.36658\times10^{54}b + 4.21903\times10^{55},\\
&-4.20292\times10^{54}u^{61} - 2.34926\times10^{55}u^{60} + \cdots + 4.68329\times10^{54}a + 1.31817\times10^{55},\ u^{62} + 5u^{61} + \cdots - 7u -
\end{aligned}
$$

$I_2^u = \langle u^2 + b + u,\ a,\ u^3 + u^2 - 1\rangle$

$I_3^u = \langle b^2 + 3u^2 + b + 5u + 4,\ a,\ u^3 + u^2 - 1\rangle$

$I_4^u = \langle b,\ a + 1,\ u - 1\rangle$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 72 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.

$\boldsymbol{I_1^u = \langle -7.40\times10^{54}u^{61} - 7.96\times10^{55}u^{60} + \cdots + 9.37\times10^{54}b + 4.22\times10^{55},\ -4.20\times10^{54}u^{61} - 2.35\times10^{55}u^{60} + \cdots + 4.68\times10^{54}a + 1.32\times10^{55},\ u^{62} + 5u^{61} + \cdots - 7u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.897429u^{61} + 5.01625u^{60} + \cdots - 31.2394u - 2.81463 \\ 0.789976u^{61} + 8.49647u^{60} + \cdots + 33.8636u - 4.50435 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.284554u^{61} + 1.83768u^{60} + \cdots - 2.18948u + 3.46404 \\ -0.353321u^{61} - 0.129700u^{60} + \cdots - 1.33250u - 0.387951 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.873580u^{61} + 3.94211u^{60} + \cdots - 25.2656u - 4.12853 \\ 1.29842u^{61} + 10.9238u^{60} + \cdots + 41.7471u - 5.56745 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.834045u^{61} + 3.97405u^{60} + \cdots - 11.3813u + 4.68603 \\ 0.196170u^{61} + 2.00667u^{60} + \cdots - 10.5243u + 0.834045 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.897429u^{61} + 5.01625u^{60} + \cdots - 31.2394u - 2.81463 \\ 0.271747u^{61} + 6.65168u^{60} + \cdots + 36.6699u - 5.03346 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.835301u^{61} - 3.12639u^{60} + \cdots + 14.5834u + 4.37470 \\ -5.11158u^{61} - 24.5806u^{60} + \cdots - 4.66960u + 0.596938 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 - 1 \\ 2.88576u^{61} + 15.7183u^{60} + \cdots + 14.2886u - 2.18510 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6.52357u^{61} + 48.3926u^{60} + \cdots + 104.147u - 23.8150$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{62} + 35u^{61} + \cdots + 141u + 1$
c_2, c_4	$u^{62} - 5u^{61} + \cdots + 7u + 1$
c_3, c_6	$u^{62} - 4u^{61} + \cdots + 10u - 2$
c_5, c_9	$u^{62} + 4u^{61} + \cdots + 512u + 512$
c_7	$u^{62} - 3u^{61} + \cdots + 26312u - 2116$
c_8, c_{11}	$u^{62} + 5u^{61} + \cdots + 11u - 1$
c_{10}, c_{12}	$u^{62} + 23u^{61} + \cdots + 261u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{62} - 11y^{61} + \cdots - 18829y + 1$
c_2, c_4	$y^{62} - 35y^{61} + \cdots - 141y + 1$
c_3, c_6	$y^{62} + 18y^{61} + \cdots - 459y^2 + 4$
c_5, c_9	$y^{62} + 48y^{61} + \cdots + 1703936y + 262144$
c_7	$y^{62} - 47y^{61} + \cdots - 1209188200y + 4477456$
c_8, c_{11}	$y^{62} - 23y^{61} + \cdots - 261y + 1$
c_{10}, c_{12}	$y^{62} + 37y^{61} + \cdots - 59949y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.174819 + 1.015820I$ $a = \quad 1.39308 + 0.32509I$ $b = -0.169145 + 0.123365I$	$-0.70247 - 10.05410I$	$-8.00000 + 0.I$
$u = -0.174819 - 1.015820I$ $a = \quad 1.39308 - 0.32509I$ $b = -0.169145 - 0.123365I$	$-0.70247 + 10.05410I$	$-8.00000 + 0.I$
$u = -0.180060 + 0.947177I$ $a = -1.40332 - 0.28966I$ $b = \quad 0.218716 - 0.044373I$	$0.58990 - 4.34695I$	$-4.42907 + 2.23582I$
$u = -0.180060 - 0.947177I$ $a = -1.40332 + 0.28966I$ $b = \quad 0.218716 + 0.044373I$	$0.58990 + 4.34695I$	$-4.42907 - 2.23582I$
$u = \quad 0.008820 + 0.960888I$ $a = \quad 1.46292 + 0.33775I$ $b = -0.0127547 - 0.0398138I$	$-5.70261 - 3.52968I$	$-11.39023 + 3.16583I$
$u = \quad 0.008820 - 0.960888I$ $a = \quad 1.46292 - 0.33775I$ $b = -0.0127547 + 0.0398138I$	$-5.70261 + 3.52968I$	$-11.39023 - 3.16583I$
$u = -0.925664 + 0.154080I$ $a = \quad 1.55623 + 0.95238I$ $b = \quad 1.16403 + 0.90014I$	$-3.09925 + 0.70693I$	$-5.36300 - 9.97003I$
$u = -0.925664 - 0.154080I$ $a = \quad 1.55623 - 0.95238I$ $b = \quad 1.16403 - 0.90014I$	$-3.09925 - 0.70693I$	$-5.36300 + 9.97003I$
$u = -0.961954 + 0.456687I$ $a = -0.996485 - 0.482853I$ $b = -0.773429 - 0.351449I$	$1.77868 + 2.87670I$	0
$u = -0.961954 - 0.456687I$ $a = -0.996485 + 0.482853I$ $b = -0.773429 + 0.351449I$	$1.77868 - 2.87670I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.072360 + 0.027388I$ $a = 0.302091 + 0.387550I$ $b = -0.44401 + 2.52455I$	$-2.88487 - 0.32439I$	0
$u = 1.072360 - 0.027388I$ $a = 0.302091 - 0.387550I$ $b = -0.44401 - 2.52455I$	$-2.88487 + 0.32439I$	0
$u = 1.026130 + 0.340287I$ $a = -0.816921 + 0.074019I$ $b = 0.010122 + 1.005580I$	$-0.058930 + 1.340430I$	0
$u = 1.026130 - 0.340287I$ $a = -0.816921 - 0.074019I$ $b = 0.010122 - 1.005580I$	$-0.058930 - 1.340430I$	0
$u = 0.263341 + 0.858285I$ $a = 1.45496 + 0.37428I$ $b = 0.129842 - 0.231061I$	$-2.48962 + 3.11257I$	$-8.69664 - 2.35415I$
$u = 0.263341 - 0.858285I$ $a = 1.45496 - 0.37428I$ $b = 0.129842 + 0.231061I$	$-2.48962 - 3.11257I$	$-8.69664 + 2.35415I$
$u = -0.799508 + 0.362955I$ $a = 0.895892 - 0.982033I$ $b = -0.36497 - 1.79872I$	$3.99898 + 4.77294I$	$-4.23166 - 6.20197I$
$u = -0.799508 - 0.362955I$ $a = 0.895892 + 0.982033I$ $b = -0.36497 + 1.79872I$	$3.99898 - 4.77294I$	$-4.23166 + 6.20197I$
$u = 0.871772 + 0.018873I$ $a = -0.012598 + 0.371703I$ $b = 0.29638 + 4.67077I$	$1.75714 - 2.86066I$	$-51.0320 + 5.8085I$
$u = 0.871772 - 0.018873I$ $a = -0.012598 - 0.371703I$ $b = 0.29638 - 4.67077I$	$1.75714 + 2.86066I$	$-51.0320 - 5.8085I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.896158 + 0.689044I$ $a = -0.409815 - 0.214201I$ $b = -0.330845 - 0.132174I$	$2.20517 + 2.65821I$	0
$u = -0.896158 - 0.689044I$ $a = -0.409815 + 0.214201I$ $b = -0.330845 + 0.132174I$	$2.20517 - 2.65821I$	0
$u = 1.129020 + 0.261697I$ $a = 0.757928 - 0.225431I$ $b = -0.024907 - 1.263230I$	$-0.33332 - 3.49089I$	0
$u = 1.129020 - 0.261697I$ $a = 0.757928 + 0.225431I$ $b = -0.024907 + 1.263230I$	$-0.33332 + 3.49089I$	0
$u = -1.097400 + 0.397924I$ $a = 1.239460 + 0.321056I$ $b = 0.994156 + 0.243940I$	$0.08735 + 7.90185I$	0
$u = -1.097400 - 0.397924I$ $a = 1.239460 - 0.321056I$ $b = 0.994156 - 0.243940I$	$0.08735 - 7.90185I$	0
$u = 0.819617$ $a = -0.307172$ $b = 0.434770$	-1.19404	-8.40790
$u = -0.847597 + 0.872677I$ $a = 0.347460 - 0.563753I$ $b = 0.206725 - 0.482515I$	$5.15087 + 0.64514I$	0
$u = -0.847597 - 0.872677I$ $a = 0.347460 + 0.563753I$ $b = 0.206725 + 0.482515I$	$5.15087 - 0.64514I$	0
$u = -0.680841 + 0.367855I$ $a = -1.112590 + 0.853351I$ $b = 0.40199 + 1.42776I$	$4.31390 - 1.39878I$	$-2.91240 + 0.35592I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.680841 - 0.367855I$ $a = -1.112590 - 0.853351I$ $b = 0.40199 - 1.42776I$	$4.31390 + 1.39878I$	$-2.91240 - 0.35592I$
$u = -0.915257 + 0.866442I$ $a = -0.468319 + 0.452475I$ $b = -0.323390 + 0.408101I$	$4.96004 + 5.72433I$	0
$u = -0.915257 - 0.866442I$ $a = -0.468319 - 0.452475I$ $b = -0.323390 - 0.408101I$	$4.96004 - 5.72433I$	0
$u = -1.208710 + 0.423576I$ $a = 0.149684 - 1.293320I$ $b = -0.07945 - 2.58390I$	$-4.51527 + 5.72958I$	0
$u = -1.208710 - 0.423576I$ $a = 0.149684 + 1.293320I$ $b = -0.07945 + 2.58390I$	$-4.51527 - 5.72958I$	0
$u = -1.240470 + 0.336251I$ $a = -0.16206 + 1.41432I$ $b = 0.04078 + 2.56231I$	$-7.10231 + 0.65623I$	0
$u = -1.240470 - 0.336251I$ $a = -0.16206 - 1.41432I$ $b = 0.04078 - 2.56231I$	$-7.10231 - 0.65623I$	0
$u = 1.176840 + 0.522272I$ $a = 0.189318 + 1.049630I$ $b = 0.70577 + 2.17746I$	$-3.81660 - 2.96163I$	0
$u = 1.176840 - 0.522272I$ $a = 0.189318 - 1.049630I$ $b = 0.70577 - 2.17746I$	$-3.81660 + 2.96163I$	0
$u = 0.067472 + 0.687187I$ $a = -1.57662 - 0.37750I$ $b = 0.048649 + 0.283986I$	$-0.89271 - 1.62585I$	$-5.09936 + 3.39490I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.067472 - 0.687187I$ $a = -1.57662 + 0.37750I$ $b = 0.048649 - 0.283986I$	$-0.89271 + 1.62585I$	$-5.09936 - 3.39490I$
$u = 1.289650 + 0.343544I$ $a = 0.359603 + 0.917247I$ $b = 0.58072 + 2.17986I$	$-4.20310 + 0.00438I$	0
$u = 1.289650 - 0.343544I$ $a = 0.359603 - 0.917247I$ $b = 0.58072 - 2.17986I$	$-4.20310 - 0.00438I$	0
$u = 1.204210 + 0.581904I$ $a = -0.199785 - 1.111010I$ $b = -0.70126 - 2.14987I$	$-5.30672 - 8.46798I$	0
$u = 1.204210 - 0.581904I$ $a = -0.199785 + 1.111010I$ $b = -0.70126 + 2.14987I$	$-5.30672 + 8.46798I$	0
$u = -1.247410 + 0.558996I$ $a = -0.008282 - 1.191920I$ $b = -0.03995 - 2.65434I$	$-2.68389 + 9.79746I$	0
$u = -1.247410 - 0.558996I$ $a = -0.008282 + 1.191920I$ $b = -0.03995 + 2.65434I$	$-2.68389 - 9.79746I$	0
$u = 0.433777 + 0.453147I$ $a = -1.191930 - 0.656817I$ $b = -0.050682 + 0.450591I$	$-1.02754 - 1.38144I$	$-8.05413 + 4.71760I$
$u = 0.433777 - 0.453147I$ $a = -1.191930 + 0.656817I$ $b = -0.050682 - 0.450591I$	$-1.02754 + 1.38144I$	$-8.05413 - 4.71760I$
$u = -1.293820 + 0.477820I$ $a = -0.023615 + 1.302060I$ $b = 0.04451 + 2.61060I$	$-9.73955 + 8.61640I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.293820 - 0.477820I$ $a = -0.023615 - 1.302060I$ $b = 0.04451 - 2.61060I$	$-9.73955 - 8.61640I$	0
$u = -0.315761 + 0.523302I$ $a = -0.18061 - 1.62642I$ $b = -0.419756 - 0.854977I$	$3.48000 + 1.09960I$	$-1.12389 - 2.21841I$
$u = -0.315761 - 0.523302I$ $a = -0.18061 + 1.62642I$ $b = -0.419756 + 0.854977I$	$3.48000 - 1.09960I$	$-1.12389 + 2.21841I$
$u = 1.303730 + 0.481258I$ $a = -0.318337 - 1.050310I$ $b = -0.65397 - 2.15550I$	$-9.72761 - 1.62399I$	0
$u = 1.303730 - 0.481258I$ $a = -0.318337 + 1.050310I$ $b = -0.65397 + 2.15550I$	$-9.72761 + 1.62399I$	0
$u = -1.274470 + 0.579615I$ $a = 0.050317 + 1.202790I$ $b = 0.01989 + 2.64791I$	$-4.1048 + 15.7750I$	0
$u = -1.274470 - 0.579615I$ $a = 0.050317 - 1.202790I$ $b = 0.01989 - 2.64791I$	$-4.1048 - 15.7750I$	0
$u = 1.369400 + 0.350028I$ $a = -0.430304 - 0.959677I$ $b = -0.58989 - 2.12605I$	$-5.80592 + 5.27823I$	0
$u = 1.369400 - 0.350028I$ $a = -0.430304 + 0.959677I$ $b = -0.58989 + 2.12605I$	$-5.80592 - 5.27823I$	0
$u = -0.109124 + 0.515994I$ $a = -0.17301 + 1.83308I$ $b = 0.531901 + 0.923027I$	$2.76743 - 4.27360I$	$-2.53028 + 4.40261I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.109124 - 0.515994I$ $a = -0.17301 - 1.83308I$ $b = 0.531901 - 0.923027I$	$2.76743 + 4.27360I$	$-2.53028 - 4.40261I$
$u = 0.0853866$ $a = -6.04151$ $b = 0.733691$	-1.41710	-6.18580

II. $I_2^u = \langle u^2 + b + u,\ a,\ u^3 + u^2 - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ -u^2 - u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 - u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u + 1 \\ -2u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 - 1 \\ u^2 + u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ -u^2 - u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^2 \\ u^2 - u - 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 - 1 \\ u^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^2 - 11u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_7 c_{10}	$u^3 - u^2 + 2u - 1$
c_2, c_8	$u^3 + u^2 - 1$
c_4, c_{11}	$u^3 - u^2 + 1$
c_5, c_9	u^3
c_6, c_{12}	$u^3 + u^2 + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6 c_7, c_{10}, c_{12}	$y^3 + 3y^2 + 2y - 1$
c_2, c_4, c_8 c_{11}	$y^3 - y^2 + 2y - 1$
c_5, c_9	y^3

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = 0$ $b = 0.662359 + 0.562280I$	$6.04826 + 5.65624I$	$-0.77833 - 5.57920I$
$u = -0.877439 - 0.744862I$ $a = 0$ $b = 0.662359 - 0.562280I$	$6.04826 - 5.65624I$	$-0.77833 + 5.57920I$
$u = 0.754878$ $a = 0$ $b = -1.32472$	-2.22691	-19.4430

III. $I_3^u = \langle b^2 + 3u^2 + b + 5u + 4,\ a,\ u^3 + u^2 - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 - u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^2 b - bu \\ 2u^2 b \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 - 1 \\ u^2 + u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 b - 2bu - u^2 + 2b - u + 1 \\ -2bu + u^2 + 2b + u + 3 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 - 1 \\ -u^2 b + 2u^2 + b + 3u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^2 b + 12bu + 9u^2 - 10b + 14u - 9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = 0$ $b = -0.807599 - 0.320410I$	6.04826	$-1.68265 + 0.98317I$
$u = -0.877439 + 0.744862I$ $a = 0$ $b = -0.192401 + 0.320410I$	$1.91067 + 2.82812I$	$-17.1302 - 8.6725I$
$u = -0.877439 - 0.744862I$ $a = 0$ $b = -0.807599 + 0.320410I$	6.04826	$-1.68265 - 0.98317I$
$u = -0.877439 - 0.744862I$ $a = 0$ $b = -0.192401 - 0.320410I$	$1.91067 - 2.82812I$	$-17.1302 + 8.6725I$
$u = 0.754878$ $a = 0$ $b = -0.50000 + 3.03873I$	$1.91067 + 2.82812I$	$6.31282 + 2.33391I$
$u = 0.754878$ $a = 0$ $b = -0.50000 - 3.03873I$	$1.91067 - 2.82812I$	$6.31282 - 2.33391I$

IV. $I_4^u = \langle b,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

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

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

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

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

$a_1 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

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

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

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

$a_{12} = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = 0$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^3-u^2+2u-1)^3(u^{62}+35u^{61}+\cdots+141u+1)$
c_2	$(u-1)(u^3+u^2-1)^3(u^{62}-5u^{61}+\cdots+7u+1)$
c_3	$u(u^3-u^2+2u-1)^3(u^{62}-4u^{61}+\cdots+10u-2)$
c_4	$(u+1)(u^3-u^2+1)^3(u^{62}-5u^{61}+\cdots+7u+1)$
c_5	$u^9(u-1)(u^{62}+4u^{61}+\cdots+512u+512)$
c_6	$u(u^3+u^2+2u+1)^3(u^{62}-4u^{61}+\cdots+10u-2)$
c_7	$(u-1)(u^3-u^2+2u-1)^3(u^{62}-3u^{61}+\cdots+26312u-2116)$
c_8	$(u-1)(u^3+u^2-1)^3(u^{62}+5u^{61}+\cdots+11u-1)$
c_9	$u^9(u+1)(u^{62}+4u^{61}+\cdots+512u+512)$
c_{10}	$(u-1)(u^3-u^2+2u-1)^3(u^{62}+23u^{61}+\cdots+261u+1)$
c_{11}	$(u+1)(u^3-u^2+1)^3(u^{62}+5u^{61}+\cdots+11u-1)$
c_{12}	$(u+1)(u^3+u^2+2u+1)^3(u^{62}+23u^{61}+\cdots+261u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^3+3y^2+2y-1)^3(y^{62}-11y^{61}+\cdots-18829y+1)$
c_2, c_4	$(y-1)(y^3-y^2+2y-1)^3(y^{62}-35y^{61}+\cdots-141y+1)$
c_3, c_6	$y(y^3+3y^2+2y-1)^3(y^{62}+18y^{61}+\cdots-459y^2+4)$
c_5, c_9	$y^9(y-1)(y^{62}+48y^{61}+\cdots+1703936y+262144)$
c_7	$(y-1)(y^3+3y^2+2y-1)^3$ $\cdot\,(y^{62}-47y^{61}+\cdots-1209188200y+4477456)$
c_8, c_{11}	$(y-1)(y^3-y^2+2y-1)^3(y^{62}-23y^{61}+\cdots-261y+1)$
c_{10}, c_{12}	$(y-1)(y^3+3y^2+2y-1)^3(y^{62}+37y^{61}+\cdots-59949y+1)$