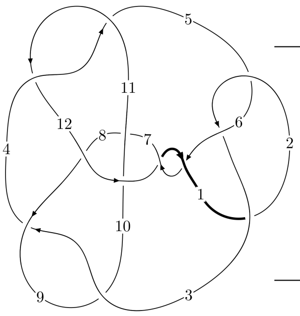
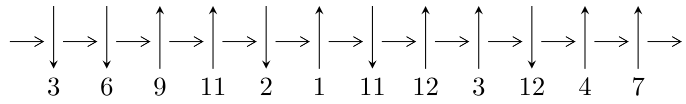
$12n_{0497}$ $(K12n_{0497})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{26} + u^{25} + \cdots + b - 1,\ -u^{27} + u^{26} + \cdots + 2a - 1,\ u^{28} - 3u^{27} + \cdots - 5u + 2 \rangle$$
$$I_2^u = \langle 15u^{16}a + 46u^{16} + \cdots + 16a + 57,\ 2u^{16}a + 2u^{16} + \cdots + 2a + 2,$$
$$u^{17} + u^{16} - 4u^{15} - 5u^{14} + 7u^{13} + 11u^{12} - 4u^{11} - 12u^{10} - 3u^9 + 5u^8 + 6u^7 + 2u^6 - 2u^5 - 2u^4 + u + 1 \rangle$$
$$I_3^u = \langle -u^9 + u^8 + 2u^7 - 2u^6 - u^5 + 2u^4 - 2u^3 + b + u,\ -u^9 + 3u^7 - 3u^5 - u^3 - u^2 + a + 2u + 1,$$
$$u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1 \rangle$$

* 3 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.

$$I_1^u = \langle -u^{26}+u^{25}+\cdots+b-1,\ -u^{27}+u^{26}+\cdots+2a-1,\ u^{28}-3u^{27}+\cdots-5u+2\rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^5-2u^3+u \\ u^5-u^3+u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{1}{2}u^{27}-\frac{1}{2}u^{26}+\cdots+\frac{1}{2}u+\frac{1}{2} \\ u^{26}-u^{25}+\cdots-2u+1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{5}{2}u^{27}-\frac{11}{2}u^{26}+\cdots+\frac{19}{2}u-\frac{7}{2} \\ u^{27}-2u^{26}+\cdots+4u-1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^8+2u^6-2u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^{27}-\frac{1}{2}u^{26}+\cdots-\frac{1}{2}u-\frac{1}{2} \\ -u^{26}+u^{25}+\cdots+u-1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{27}+\frac{1}{2}u^{26}+\cdots-\frac{3}{2}u+\frac{1}{2} \\ -u^{26}+u^{25}+\cdots+u-1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{1}{2}u^{27}+\frac{1}{2}u^{26}+\cdots-\frac{3}{2}u-\frac{1}{2} \\ u^{27}-3u^{26}+\cdots+4u-3 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= 12u^{27} - 26u^{26} - 60u^{25} + 194u^{24} + 66u^{23} - 624u^{22} + 300u^{21} + 1000u^{20} - 1212u^{19} - 496u^{18} + 1882u^{17} - 990u^{16} - 1108u^{15} + 1922u^{14} - 632u^{13} - 1070u^{12} + 1352u^{11} - 364u^{10} - 552u^9 + 642u^8 - 188u^7 - 148u^6 + 140u^5 - 26u^4 - 4u^3 - 26u^2 + 40u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28}+15u^{27}+\cdots+5u+4$
c_2, c_5	$u^{28}+3u^{27}+\cdots+5u+2$
c_3, c_4, c_9 c_{11}	$u^{28}+4u^{26}+\cdots+4u^2+1$
c_6, c_{12}	$u^{28}+9u^{27}+\cdots+131u+22$
c_7, c_{10}	$u^{28}+8u^{27}+\cdots+8u+1$
c_8	$u^{28}-27u^{27}+\cdots-1310720u+131072$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} - 3y^{27} + \cdots + 127y + 16$
c_2, c_5	$y^{28} - 15y^{27} + \cdots - 5y + 4$
c_3, c_4, c_9 c_{11}	$y^{28} + 8y^{27} + \cdots + 8y + 1$
c_6, c_{12}	$y^{28} + 21y^{27} + \cdots + 4619y + 484$
c_7, c_{10}	$y^{28} + 36y^{27} + \cdots - 4y + 1$
c_8	$y^{28} - y^{27} + \cdots - 68719476736y + 17179869184$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.838339 + 0.609506I$ $a = 2.02490 + 0.32117I$ $b = 1.63543 - 0.56429I$	$4.54882 - 8.90596I$	$2.89775 + 8.10604I$
$u = 0.838339 - 0.609506I$ $a = 2.02490 - 0.32117I$ $b = 1.63543 + 0.56429I$	$4.54882 + 8.90596I$	$2.89775 - 8.10604I$
$u = 0.921727 + 0.275365I$ $a = 0.108050 - 0.114256I$ $b = -0.344737 - 0.488716I$	$-1.55959 - 1.05431I$	$-1.79804 + 0.46594I$
$u = 0.921727 - 0.275365I$ $a = 0.108050 + 0.114256I$ $b = -0.344737 + 0.488716I$	$-1.55959 + 1.05431I$	$-1.79804 - 0.46594I$
$u = 0.703652 + 0.629749I$ $a = -1.30690 - 1.80011I$ $b = -1.40201 - 0.27411I$	$4.93581 + 4.08901I$	$4.07475 - 1.93995I$
$u = 0.703652 - 0.629749I$ $a = -1.30690 + 1.80011I$ $b = -1.40201 + 0.27411I$	$4.93581 - 4.08901I$	$4.07475 + 1.93995I$
$u = -1.111100 + 0.197384I$ $a = -0.663263 + 0.454903I$ $b = 0.402976 + 0.493201I$	$-1.23154 + 4.92206I$	$-2.90000 - 5.98103I$
$u = -1.111100 - 0.197384I$ $a = -0.663263 - 0.454903I$ $b = 0.402976 - 0.493201I$	$-1.23154 - 4.92206I$	$-2.90000 + 5.98103I$
$u = -1.034790 + 0.451847I$ $a = -1.004190 + 0.787576I$ $b = -0.429091 - 0.267812I$	$-0.61833 + 4.24425I$	$2.47597 - 7.12989I$
$u = -1.034790 - 0.451847I$ $a = -1.004190 - 0.787576I$ $b = -0.429091 + 0.267812I$	$-0.61833 - 4.24425I$	$2.47597 + 7.12989I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.192590 + 0.822500I$ $a = 1.84621 + 0.80888I$ $b = 1.77610 + 1.30259I$	$1.19759 + 10.21300I$	$1.05547 - 6.41912I$
$u = 0.192590 - 0.822500I$ $a = 1.84621 - 0.80888I$ $b = 1.77610 - 1.30259I$	$1.19759 - 10.21300I$	$1.05547 + 6.41912I$
$u = 0.013220 + 0.818433I$ $a = -1.241790 - 0.286928I$ $b = -1.169750 - 0.031128I$	$-4.44025 - 1.37296I$	$0.48249 + 5.14234I$
$u = 0.013220 - 0.818433I$ $a = -1.241790 + 0.286928I$ $b = -1.169750 + 0.031128I$	$-4.44025 + 1.37296I$	$0.48249 - 5.14234I$
$u = 0.302848 + 0.727841I$ $a = -0.358063 + 0.787194I$ $b = -0.755447 - 0.122906I$	$3.14248 - 2.30749I$	$3.95704 + 2.80848I$
$u = 0.302848 - 0.727841I$ $a = -0.358063 - 0.787194I$ $b = -0.755447 + 0.122906I$	$3.14248 + 2.30749I$	$3.95704 - 2.80848I$
$u = 1.121240 + 0.535567I$ $a = 0.156564 + 1.250950I$ $b = 0.581791 - 0.415759I$	$0.75026 - 2.48047I$	$1.02092 + 1.26757I$
$u = 1.121240 - 0.535567I$ $a = 0.156564 - 1.250950I$ $b = 0.581791 + 0.415759I$	$0.75026 + 2.48047I$	$1.02092 - 1.26757I$
$u = -1.217360 + 0.336899I$ $a = 1.098970 + 0.381945I$ $b = -1.49642 + 1.46220I$	$-3.14603 - 6.41259I$	$-3.85247 + 3.94753I$
$u = -1.217360 - 0.336899I$ $a = 1.098970 - 0.381945I$ $b = -1.49642 - 1.46220I$	$-3.14603 + 6.41259I$	$-3.85247 - 3.94753I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.222980 + 0.448998I$ $a = 0.044120 - 1.217890I$ $b = 1.286970 - 0.254811I$	$-8.11487 + 5.88224I$	$-3.16516 - 8.68270I$
$u = -1.222980 - 0.448998I$ $a = 0.044120 + 1.217890I$ $b = 1.286970 + 0.254811I$	$-8.11487 - 5.88224I$	$-3.16516 + 8.68270I$
$u = 1.187410 + 0.536042I$ $a = -1.78923 - 1.80447I$ $b = -1.92014 + 1.45210I$	$-1.7522 - 15.2166I$	$-2.10611 + 9.57397I$
$u = 1.187410 - 0.536042I$ $a = -1.78923 + 1.80447I$ $b = -1.92014 - 1.45210I$	$-1.7522 + 15.2166I$	$-2.10611 - 9.57397I$
$u = 1.218890 + 0.463215I$ $a = 0.092034 + 0.847732I$ $b = 1.348210 + 0.129672I$	$-8.01221 - 3.21387I$	$-2.49318 - 1.97492I$
$u = 1.218890 - 0.463215I$ $a = 0.092034 - 0.847732I$ $b = 1.348210 - 0.129672I$	$-8.01221 + 3.21387I$	$-2.49318 + 1.97492I$
$u = -0.413687 + 0.465218I$ $a = 1.242590 - 0.032918I$ $b = 0.486106 - 0.112850I$	$1.140620 - 0.349325I$	$8.35057 + 1.44622I$
$u = -0.413687 - 0.465218I$ $a = 1.242590 + 0.032918I$ $b = 0.486106 + 0.112850I$	$1.140620 + 0.349325I$	$8.35057 - 1.44622I$

II. $I_2^u =$ $\langle 15u^{16}a+46u^{16}+\cdots+16a+57,\ 2u^{16}a+2u^{16}+\cdots+2a+2,\ u^{17}+u^{16}+\cdots+u+1\rangle$

(i) Arc colorings

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

$$a_{11} = \begin{pmatrix} a \\ -1.07143au^{16}-3.28571u^{16}+\cdots-1.14286a-4.07143 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.64286au^{16}-5.57143u^{16}+\cdots-3.28571a-6.64286 \\ -0.785714au^{16}-0.142857u^{16}+\cdots-0.571429a+0.214286 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^8+2u^6-2u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{5}{14}u^{16}a-\frac{4}{7}u^{16}+\cdots+\frac{5}{7}a-\frac{9}{14} \\ -0.785714au^{16}-2.64286u^{16}+\cdots-1.07143a-3.28571 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.14286au^{16}+2.07143u^{16}+\cdots+1.78571a+2.64286 \\ -0.785714au^{16}-2.64286u^{16}+\cdots-1.07143a-3.28571 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.14286au^{16}+2.07143u^{16}+\cdots+1.78571a+3.64286 \\ -0.785714au^{16}-2.64286u^{16}+\cdots-1.07143a-3.28571 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -4u^{16}+20u^{14}+4u^{13}-44u^{12}-16u^{11}+44u^{10}+28u^9-8u^8-20u^7-24u^6+16u^4+8u^3-6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{17}+9u^{16}+\cdots+u+1)^2$
c_2, c_5	$(u^{17}-u^{16}+\cdots+u-1)^2$
c_3, c_4, c_9 c_{11}	$u^{34}-u^{33}+\cdots-4u+17$
c_6, c_{12}	$(u^{17}-3u^{16}+\cdots+9u-3)^2$
c_7, c_{10}	$u^{34}+15u^{33}+\cdots+3996u+289$
c_8	$(u+1)^{34}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{17} - y^{16} + \cdots + 9y - 1)^2$
c_2, c_5	$(y^{17} - 9y^{16} + \cdots + y - 1)^2$
c_3, c_4, c_9 c_{11}	$y^{34} + 15y^{33} + \cdots + 3996y + 289$
c_6, c_{12}	$(y^{17} + 11y^{16} + \cdots + 57y - 9)^2$
c_7, c_{10}	$y^{34} + 7y^{33} + \cdots + 13684y + 83521$
c_8	$(y - 1)^{34}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.774885 + 0.615952I$ $a = 1.95560 - 0.12550I$ $b = 1.43682 + 0.54249I$	$5.48114 + 2.39923I$	$4.86600 - 3.27109I$
$u = -0.774885 + 0.615952I$ $a = -1.12508 + 1.73447I$ $b = -1.313090 + 0.274756I$	$5.48114 + 2.39923I$	$4.86600 - 3.27109I$
$u = -0.774885 - 0.615952I$ $a = 1.95560 + 0.12550I$ $b = 1.43682 - 0.54249I$	$5.48114 - 2.39923I$	$4.86600 + 3.27109I$
$u = -0.774885 - 0.615952I$ $a = -1.12508 - 1.73447I$ $b = -1.313090 - 0.274756I$	$5.48114 - 2.39923I$	$4.86600 + 3.27109I$
$u = 0.758174 + 0.422247I$ $a = -0.385946 + 0.814951I$ $b = -0.345721 - 0.443070I$	$-2.16659 - 1.83062I$	$3.59303 + 5.22267I$
$u = 0.758174 + 0.422247I$ $a = 1.57848 - 1.49239I$ $b = 0.098207 - 1.328870I$	$-2.16659 - 1.83062I$	$3.59303 + 5.22267I$
$u = 0.758174 - 0.422247I$ $a = -0.385946 - 0.814951I$ $b = -0.345721 + 0.443070I$	$-2.16659 + 1.83062I$	$3.59303 - 5.22267I$
$u = 0.758174 - 0.422247I$ $a = 1.57848 + 1.49239I$ $b = 0.098207 + 1.328870I$	$-2.16659 + 1.83062I$	$3.59303 - 5.22267I$
$u = -0.231761 + 0.782357I$ $a = -0.473057 - 0.691325I$ $b = -0.848798 + 0.084430I$	$2.86113 - 3.91820I$	$3.59784 + 2.39256I$
$u = -0.231761 + 0.782357I$ $a = 1.63626 - 0.70519I$ $b = 1.40711 - 1.14265I$	$2.86113 - 3.91820I$	$3.59784 + 2.39256I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.231761-0.782357I$ $a=-0.473057+0.691325I$ $b=-0.848798-0.084430I$	$2.86113+3.91820I$	$3.59784-2.39256I$
$u=-0.231761-0.782357I$ $a=\ \ 1.63626+0.70519I$ $b=\ \ 1.40711+1.14265I$	$2.86113+3.91820I$	$3.59784-2.39256I$
$u=\ \ 1.172060+0.309872I$ $a=\ \ 0.890855-0.052712I$ $b=-1.06012-1.21986I$	$-1.42208+0.50801I$	$-1.57451+0.23246I$
$u=\ \ 1.172060+0.309872I$ $a=-0.592391-0.231519I$ $b=\ \ 0.574760-0.116741I$	$-1.42208+0.50801I$	$-1.57451+0.23246I$
$u=\ \ 1.172060-0.309872I$ $a=\ \ 0.890855+0.052712I$ $b=-1.06012+1.21986I$	$-1.42208-0.50801I$	$-1.57451-0.23246I$
$u=\ \ 1.172060-0.309872I$ $a=-0.592391+0.231519I$ $b=\ \ 0.574760+0.116741I$	$-1.42208-0.50801I$	$-1.57451-0.23246I$
$u=-1.151920+0.412149I$ $a=\ \ 0.37723-1.47258I$ $b=\ \ 1.58984-0.43724I$	$-7.43223+2.05778I$	$-5.01930-0.37816I$
$u=-1.151920+0.412149I$ $a=\ \ 1.36789-1.01197I$ $b=\ \ 0.14263+2.01039I$	$-7.43223+2.05778I$	$-5.01930-0.37816I$
$u=-1.151920-0.412149I$ $a=\ \ 0.37723+1.47258I$ $b=\ \ 1.58984+0.43724I$	$-7.43223-2.05778I$	$-5.01930+0.37816I$
$u=-1.151920-0.412149I$ $a=\ \ 1.36789+1.01197I$ $b=\ \ 0.14263-2.01039I$	$-7.43223-2.05778I$	$-5.01930+0.37816I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.756727$ $a = -2.02895 + 0.42231I$ $b = -0.610864 - 1.213540I$	-4.29463	-6.86910
$u = -0.756727$ $a = -2.02895 - 0.42231I$ $b = -0.610864 + 1.213540I$	-4.29463	-6.86910
$u = 1.156820 + 0.481476I$ $a = 0.604787 + 1.109620I$ $b = 1.61273 + 0.16388I$	$-6.93551 - 6.09306I$	$-3.29297 + 6.87425I$
$u = 1.156820 + 0.481476I$ $a = -2.32403 - 0.58332I$ $b = -0.24092 + 1.93715I$	$-6.93551 - 6.09306I$	$-3.29297 + 6.87425I$
$u = 1.156820 - 0.481476I$ $a = 0.604787 - 1.109620I$ $b = 1.61273 - 0.16388I$	$-6.93551 + 6.09306I$	$-3.29297 - 6.87425I$
$u = 1.156820 - 0.481476I$ $a = -2.32403 + 0.58332I$ $b = -0.24092 - 1.93715I$	$-6.93551 + 6.09306I$	$-3.29297 - 6.87425I$
$u = -1.162590 + 0.537552I$ $a = 0.095082 - 1.330870I$ $b = 0.768573 + 0.266965I$	$0.12247 + 8.83664I$	$0.37368 - 5.87120I$
$u = -1.162590 + 0.537552I$ $a = -1.77126 + 1.49317I$ $b = -1.49812 - 1.33018I$	$0.12247 + 8.83664I$	$0.37368 - 5.87120I$
$u = -1.162590 - 0.537552I$ $a = 0.095082 + 1.330870I$ $b = 0.768573 - 0.266965I$	$0.12247 - 8.83664I$	$0.37368 + 5.87120I$
$u = -1.162590 - 0.537552I$ $a = -1.77126 - 1.49317I$ $b = -1.49812 + 1.33018I$	$0.12247 - 8.83664I$	$0.37368 + 5.87120I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.112463 + 0.679715I$ $a = \ \ 0.762089 + 1.010660I$ $b = \ \ 0.06904 + 1.77832I$	$-3.98789 + 1.70542I$	$-0.10923 - 4.02096I$
$u = \ \ 0.112463 + 0.679715I$ $a = -2.06756 - 0.51340I$ $b = -1.282070 - 0.039466I$	$-3.98789 + 1.70542I$	$-0.10923 - 4.02096I$
$u = \ \ 0.112463 - 0.679715I$ $a = \ \ 0.762089 - 1.010660I$ $b = \ \ 0.06904 - 1.77832I$	$-3.98789 - 1.70542I$	$-0.10923 + 4.02096I$
$u = \ \ 0.112463 - 0.679715I$ $a = -2.06756 + 0.51340I$ $b = -1.282070 + 0.039466I$	$-3.98789 - 1.70542I$	$-0.10923 + 4.02096I$

III. $\boldsymbol{I_3^u = \langle -u^9 + u^8 + \cdots + b + u,\ -u^9 + 3u^7 - 3u^5 - u^3 - u^2 + a + 2u + 1,\ u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^9 - 3u^7 + 3u^5 + u^3 + u^2 - 2u - 1 \\ u^9 - u^8 - 2u^7 + 2u^6 + u^5 - 2u^4 + 2u^3 - u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^8 + u^7 - 2u^6 - 2u^5 + 2u^4 + 2u^3 + u^2 + u \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^9 + u^8 - 3u^7 - 3u^6 + 3u^5 + 3u^4 + u^3 + u^2 - 2u - 2 \\ u^9 - 2u^7 + u^5 + 2u^3 - u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - u^3 + u^2 - u - 2 \\ u^9 - 2u^7 + u^5 + 2u^3 - u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9 - 3u^7 + 4u^5 - u^3 + u^2 - u - 1 \\ u^9 - u^8 - 2u^7 + 2u^6 + 2u^5 - 2u^4 + u^3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^8 - 8u^6 + 8u^4 + 4u^2 - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)^2$
c_2, c_5	$u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1$
c_3, c_4, c_9 c_{11}	$(u^2 + 1)^5$
c_6, c_{12}	$u^{10} + 5u^8 + 8u^6 + 3u^4 - u^2 + 1$
c_7, c_{10}	$(u - 1)^{10}$
c_8	$u^{10} - 10u^9 + \cdots - 108u + 17$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2$
c_2, c_5	$(y^5 - 3y^4 + 4y^3 - y^2 - y + 1)^2$
c_3, c_4, c_9 c_{11}	$(y + 1)^{10}$
c_6, c_{12}	$(y^5 + 5y^4 + 8y^3 + 3y^2 - y + 1)^2$
c_7, c_{10}	$(y - 1)^{10}$
c_8	$y^{10} + 16y^8 + \cdots - 716y + 289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.822375 + 0.339110I$ $a = 0.668968 + 0.313470I$ $b = -0.30992 + 1.54991I$	$-3.61897 + 1.53058I$	$-4.51511 - 4.43065I$
$u = -0.822375 - 0.339110I$ $a = 0.668968 - 0.313470I$ $b = -0.30992 - 1.54991I$	$-3.61897 - 1.53058I$	$-4.51511 + 4.43065I$
$u = 0.822375 + 0.339110I$ $a = -1.54636 + 1.42897I$ $b = -0.309916 + 0.450089I$	$-3.61897 - 1.53058I$	$-4.51511 + 4.43065I$
$u = 0.822375 - 0.339110I$ $a = -1.54636 - 1.42897I$ $b = -0.309916 - 0.450089I$	$-3.61897 + 1.53058I$	$-4.51511 - 4.43065I$
$u = 0.766826I$ $a = -1.58802 - 0.62971I$ $b = -1.21774 - 1.00000I$	-5.69095	-5.48110
$u = -0.766826I$ $a = -1.58802 + 0.62971I$ $b = -1.21774 + 1.00000I$	-5.69095	-5.48110
$u = -1.200150 + 0.455697I$ $a = -0.641941 - 0.907733I$ $b = 1.41878 - 1.21917I$	$-9.16243 + 4.40083I$	$-8.74431 - 3.49859I$
$u = -1.200150 - 0.455697I$ $a = -0.641941 + 0.907733I$ $b = 1.41878 + 1.21917I$	$-9.16243 - 4.40083I$	$-8.74431 + 3.49859I$
$u = 1.200150 + 0.455697I$ $a = 1.10735 + 1.27989I$ $b = 1.41878 - 0.78083I$	$-9.16243 - 4.40083I$	$-8.74431 + 3.49859I$
$u = 1.200150 - 0.455697I$ $a = 1.10735 - 1.27989I$ $b = 1.41878 + 0.78083I$	$-9.16243 + 4.40083I$	$-8.74431 - 3.49859I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^5-3u^4+4u^3-u^2-u+1)^2)(u^{17}+9u^{16}+\cdots+u+1)^2$ $\cdot(u^{28}+15u^{27}+\cdots+5u+4)$
c_2, c_5	$(u^{10}-3u^8+4u^6-u^4-u^2+1)(u^{17}-u^{16}+\cdots+u-1)^2$ $\cdot(u^{28}+3u^{27}+\cdots+5u+2)$
c_3, c_4, c_9 c_{11}	$((u^2+1)^5)(u^{28}+4u^{26}+\cdots+4u^2+1)(u^{34}-u^{33}+\cdots-4u+17)$
c_6, c_{12}	$(u^{10}+5u^8+8u^6+3u^4-u^2+1)(u^{17}-3u^{16}+\cdots+9u-3)^2$ $\cdot(u^{28}+9u^{27}+\cdots+131u+22)$
c_7, c_{10}	$((u-1)^{10})(u^{28}+8u^{27}+\cdots+8u+1)(u^{34}+15u^{33}+\cdots+3996u+289)$
c_8	$((u+1)^{34})(u^{10}-10u^9+\cdots-108u+17)$ $\cdot(u^{28}-27u^{27}+\cdots-1310720u+131072)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2)(y^{17} - y^{16} + \cdots + 9y - 1)^2$ $\cdot (y^{28} - 3y^{27} + \cdots + 127y + 16)$
c_2, c_5	$((y^5 - 3y^4 + 4y^3 - y^2 - y + 1)^2)(y^{17} - 9y^{16} + \cdots + y - 1)^2$ $\cdot (y^{28} - 15y^{27} + \cdots - 5y + 4)$
c_3, c_4, c_9 c_{11}	$((y + 1)^{10})(y^{28} + 8y^{27} + \cdots + 8y + 1)(y^{34} + 15y^{33} + \cdots + 3996y + 289)$
c_6, c_{12}	$((y^5 + 5y^4 + 8y^3 + 3y^2 - y + 1)^2)(y^{17} + 11y^{16} + \cdots + 57y - 9)^2$ $\cdot (y^{28} + 21y^{27} + \cdots + 4619y + 484)$
c_7, c_{10}	$((y - 1)^{10})(y^{28} + 36y^{27} + \cdots - 4y + 1)$ $\cdot (y^{34} + 7y^{33} + \cdots + 13684y + 83521)$
c_8	$((y - 1)^{34})(y^{10} + 16y^8 + \cdots - 716y + 289)$ $\cdot (y^{28} - y^{27} + \cdots - 68719476736y + 17179869184)$