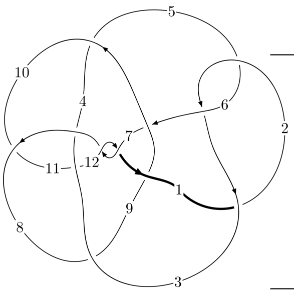
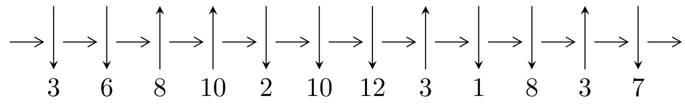
$12n_{0452}$ ($K12n_{0452}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -2u^{19} + 19u^{18} + \cdots + 4b - 12,\ 3u^{19} - 20u^{18} + \cdots + 32a - 80,\ u^{20} - 12u^{19} + \cdots + 288u - 32 \rangle \\
I_2^u &= \langle -145388409a^9u - 416262498a^8u + \cdots - 5046614442a - 113580331, \\
&\quad - a^9u + 4a^8u + \cdots + 2a + 1,\ u^2 + u + 1 \rangle \\
I_3^u &= \langle 2u^{12} + 2u^{11} + 8u^{10} + 5u^9 + 15u^8 - u^7 + 13u^6 - 10u^5 + 5u^4 - 11u^3 + 2u^2 + b - 3u, \\
&\quad 2u^{11} + 2u^{10} + 8u^9 + 5u^8 + 15u^7 - u^6 + 13u^5 - 10u^4 + 5u^3 - 11u^2 + a + 2u - 3, \\
&\quad u^{13} + u^{12} + 5u^{11} + 4u^{10} + 12u^9 + 4u^8 + 15u^7 - 2u^6 + 8u^5 - 8u^4 - 6u^2 - 2u - 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I^u_1 = \langle -2u^{19} + 19u^{18} + \cdots + 4b - 12,\ 3u^{19} - 20u^{18} + \cdots + 32a - 80,\ u^{20} - 12u^{19} + \cdots + 288u - 32\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} -\frac{3}{32}u^{19} + \frac{5}{8}u^{18} + \cdots - \frac{23}{2}u + \frac{5}{2} \\ \frac{1}{2}u^{19} - \frac{19}{4}u^{18} + \cdots - \frac{59}{2}u + 3 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{19}{32}u^{19} + \frac{105}{16}u^{18} + \cdots + \frac{267}{2}u - 16 \\ \frac{9}{16}u^{19} - \frac{51}{8}u^{18} + \cdots - 154u + 19 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{32}u^{19} + \frac{3}{16}u^{18} + \cdots - \frac{41}{2}u + 3 \\ \frac{9}{16}u^{19} - \frac{51}{8}u^{18} + \cdots - 154u + 19 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{32}u^{19} - \frac{1}{8}u^{18} + \cdots - 16u + 2 \\ -\frac{1}{2}u^{19} + \frac{45}{8}u^{18} + \cdots + 218u - 29 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{13}{32}u^{19} + \frac{71}{16}u^{18} + \cdots + \frac{241}{2}u - 15 \\ \frac{7}{16}u^{19} - \frac{37}{8}u^{18} + \cdots - 101u + 13 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{16}u^{19} - \frac{27}{16}u^{18} + \cdots - \frac{167}{4}u + \frac{7}{2} \\ -\frac{3}{16}u^{19} + \frac{19}{8}u^{18} + \cdots + \frac{371}{2}u - 24 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{13}{32}u^{19} + \frac{33}{8}u^{18} + \cdots + 41u - \frac{11}{2} \\ -\frac{1}{2}u^{19} + \frac{19}{4}u^{18} + \cdots + \frac{59}{2}u - 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{19}{32}u^{19} - \frac{105}{16}u^{18} + \cdots - \frac{267}{2}u + 17 \\ -\frac{9}{16}u^{19} + \frac{51}{8}u^{18} + \cdots + 155u - 19 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{7}{4}u^{19} - 20u^{18} + \frac{491}{4}u^{17} - 517u^{16} + \frac{6595}{4}u^{15} - \frac{8353}{2}u^{14} + \frac{34489}{4}u^{13} - \frac{58707}{4}u^{12} + \frac{82427}{4}u^{11} - \frac{47101}{2}u^{10} + \frac{42177}{2}u^9 - 13237u^8 + 3090u^7 + \frac{19739}{4}u^6 - \frac{32253}{4}u^5 + \frac{27135}{4}u^4 - \frac{7505}{2}u^3 + 1346u^2 - 268u + 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} + 8u^{19} + \cdots + 140u + 16$
c_2, c_5	$u^{20} + 8u^{19} + \cdots - 14u - 4$
c_3, c_4, c_8 c_{11}	$u^{20} + 13u^{18} + \cdots - 2u + 1$
c_6, c_9	$u^{20} - u^{19} + \cdots + 8u - 1$
c_7, c_{12}	$u^{20} + 12u^{19} + \cdots - 288u - 32$
c_{10}	$u^{20} - 14u^{19} + \cdots + 92u - 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20}+12y^{19}+\cdots+144y+256$
c_2, c_5	$y^{20}-8y^{19}+\cdots-140y+16$
c_3, c_4, c_8 c_{11}	$y^{20}+26y^{19}+\cdots-6y+1$
c_6, c_9	$y^{20}+15y^{19}+\cdots-44y+1$
c_7, c_{12}	$y^{20}+10y^{19}+\cdots-2560y+1024$
c_{10}	$y^{20}-2y^{19}+\cdots+1488y+256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.075750 + 0.527136I$ $a = -0.573996 - 1.042510I$ $b = 0.06793 + 1.42405I$	$-0.652295 - 0.063400I$	$-3.10398 + 0.28543I$
$u = 1.075750 - 0.527136I$ $a = -0.573996 + 1.042510I$ $b = 0.06793 - 1.42405I$	$-0.652295 + 0.063400I$	$-3.10398 - 0.28543I$
$u = -0.773680$ $a = 0.883116$ $b = 0.683249$	-2.79948	5.16970
$u = 1.220080 + 0.372661I$ $a = 0.488481 + 1.192350I$ $b = -0.15165 - 1.63680I$	$-2.48213 + 6.73732I$	$-5.81800 - 4.44905I$
$u = 1.220080 - 0.372661I$ $a = 0.488481 - 1.192350I$ $b = -0.15165 + 1.63680I$	$-2.48213 - 6.73732I$	$-5.81800 + 4.44905I$
$u = 0.224454 + 1.268350I$ $a = -0.027225 - 0.309278I$ $b = -0.386163 + 0.103950I$	$2.15799 - 3.14030I$	$6.33386 + 3.02203I$
$u = 0.224454 - 1.268350I$ $a = -0.027225 + 0.309278I$ $b = -0.386163 - 0.103950I$	$2.15799 + 3.14030I$	$6.33386 - 3.02203I$
$u = 0.641665$ $a = -0.577618$ $b = 0.370637$	-1.75232	-4.33040
$u = 0.27440 + 1.41304I$ $a = 0.552394 - 0.086578I$ $b = -0.273914 - 0.756798I$	$5.72955 - 3.97634I$	$-2.60990 + 3.53536I$
$u = 0.27440 - 1.41304I$ $a = 0.552394 + 0.086578I$ $b = -0.273914 + 0.756798I$	$5.72955 + 3.97634I$	$-2.60990 - 3.53536I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.75896 + 1.24508I$ $a = -0.712912 - 0.941128I$ $b = -0.63071 + 1.60191I$	$1.64002 - 6.67897I$	$-2.46195 + 3.53003I$
$u = 0.75896 - 1.24508I$ $a = -0.712912 + 0.941128I$ $b = -0.63071 - 1.60191I$	$1.64002 + 6.67897I$	$-2.46195 - 3.53003I$
$u = 0.378434 + 0.367449I$ $a = -0.582962 - 0.854221I$ $b = -0.093271 + 0.537475I$	$-0.254529 - 1.078120I$	$-3.77931 + 6.22924I$
$u = 0.378434 - 0.367449I$ $a = -0.582962 + 0.854221I$ $b = -0.093271 - 0.537475I$	$-0.254529 + 1.078120I$	$-3.77931 - 6.22924I$
$u = 0.73237 + 1.30566I$ $a = 0.793219 + 0.921154I$ $b = 0.62179 - 1.71030I$	$0.48491 - 13.65130I$	$-3.87240 + 7.23711I$
$u = 0.73237 - 1.30566I$ $a = 0.793219 - 0.921154I$ $b = 0.62179 + 1.71030I$	$0.48491 + 13.65130I$	$-3.87240 - 7.23711I$
$u = 0.24241 + 1.52074I$ $a = -0.616057 - 0.104390I$ $b = -0.009409 + 0.962170I$	$4.41718 + 1.57291I$	$-2.59421 - 1.48846I$
$u = 0.24241 - 1.52074I$ $a = -0.616057 + 0.104390I$ $b = -0.009409 - 0.962170I$	$4.41718 - 1.57291I$	$-2.59421 + 1.48846I$
$u = 1.15915 + 1.09993I$ $a = 0.526308 + 0.853253I$ $b = 0.32845 - 1.56795I$	$-7.94232 - 4.19743I$	$-2.01377 + 4.62761I$
$u = 1.15915 - 1.09993I$ $a = 0.526308 - 0.853253I$ $b = 0.32845 + 1.56795I$	$-7.94232 + 4.19743I$	$-2.01377 - 4.62761I$

II. $\boldsymbol{I_2^u = \langle -1.45 \times 10^8 a^9 u - 4.16 \times 10^8 a^8 u + \cdots - 5.05 \times 10^9 a - 1.14 \times 10^8,\ -a^9 u + 4a^8 u + \cdots + 2a + 1,\ u^2 + u + 1 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u+1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 0.161928a^9u + 0.463617a^8u + \cdots + 5.62073a + 0.126501 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -a^2u \\ 0.0874157a^9u - 0.164877a^8u + \cdots - 1.57349a - 2.70031 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.0874157a^9u - 0.164877a^8u + \cdots - 1.57349a - 2.70031 \\ 0.0874157a^9u - 0.164877a^8u + \cdots - 1.57349a - 2.70031 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0351466a^9u - 0.131650a^8u + \cdots - 2.53636a + 0.218613 \\ -0.00781644a^9u + 0.156367a^8u + \cdots - 0.328653a + 1.97905 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.0874157a^9u - 0.164877a^8u + \cdots - 1.57349a - 2.70031 \\ 0.275733a^9u + 0.677652a^8u + \cdots + 2.30695a - 1.97416 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0777622a^9u - 0.0954980a^8u + \cdots - 6.08282a - 0.886513 \\ 0.0777622a^9u - 0.0954980a^8u + \cdots - 5.08282a - 0.886513 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.161928a^9u - 0.463617a^8u + \cdots - 6.62073a - 0.126501 \\ -0.161928a^9u - 0.463617a^8u + \cdots - 5.62073a - 0.126501 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.181574a^9u - 0.256387a^8u + \cdots - 0.366731a + 2.33724 \\ 0.0806728a^9u - 0.751019a^8u + \cdots - 5.08719a - 5.76370 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{510421912}{897858103}a^9u + \frac{905299596}{897858103}a^8u + \cdots + \frac{3135128908}{897858103}a - \frac{6259589598}{897858103}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^4$
c_2, c_5	$(u^5 - u^4 + u^2 + u - 1)^4$
c_3, c_4, c_8 c_{11}	$u^{20} + u^{19} + \cdots + 16u + 91$
c_6, c_9	$u^{20} + 3u^{19} + \cdots + 480u + 193$
c_7, c_{12}	$(u^2 - u + 1)^{10}$
c_{10}	$(u^5 + 3u^4 - 5u^2 - u + 3)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5+7y^4+16y^3+13y^2+3y-1)^4$
c_2, c_5	$(y^5-y^4+4y^3-3y^2+3y-1)^4$
c_3, c_4, c_8 c_{11}	$y^{20}+15y^{19}+\cdots+124596y+8281$
c_6, c_9	$y^{20}+11y^{19}+\cdots-106108y+37249$
c_7, c_{12}	$(y^2+y+1)^{10}$
c_{10}	$(y^5-9y^4+28y^3-43y^2+31y-9)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0.667123 - 0.865495I$ $b = -0.23410 + 1.65564I$	$-3.11500 - 0.18409I$	$-5.11432 + 0.75879I$
$u = -0.500000 + 0.866025I$ $a = 0.487783 - 0.467051I$ $b = 1.65437 - 0.13929I$	$6.02349 + 5.36163I$	$-4.08126 - 5.82638I$
$u = -0.500000 + 0.866025I$ $a = 1.26160 - 0.72565I$ $b = 0.88139 + 1.21499I$	$-3.11500 + 4.24385I$	$-5.11432 - 7.68699I$
$u = -0.500000 + 0.866025I$ $a = 1.20118 - 0.88684I$ $b = 0.37558 + 1.84419I$	$-5.81699 + 2.02988I$	$-13.60884 - 3.46410I$
$u = -0.500000 + 0.866025I$ $a = -0.61152 + 1.37080I$ $b = 0.00237 - 1.45540I$	$-3.11500 + 4.24385I$	$-5.11432 - 7.68699I$
$u = -0.500000 + 0.866025I$ $a = -0.350835 + 0.320152I$ $b = -1.53744 + 0.43212I$	$6.02349 - 1.30186I$	$-4.08126 - 1.10182I$
$u = -0.500000 + 0.866025I$ $a = -1.14295 - 1.11541I$ $b = 0.101843 + 0.463908I$	$6.02349 - 1.30186I$	$-4.08126 - 1.10182I$
$u = -0.500000 + 0.866025I$ $a = 0.94782 + 1.36308I$ $b = -0.160586 - 0.655958I$	$6.02349 + 5.36163I$	$-4.08126 - 5.82638I$
$u = -0.500000 + 0.866025I$ $a = -1.55088 + 0.62509I$ $b = -0.415979 - 1.010490I$	$-3.11500 - 0.18409I$	$-5.11432 + 0.75879I$
$u = -0.500000 + 0.866025I$ $a = -1.40932 + 1.24736I$ $b = -0.16744 - 1.48368I$	$-5.81699 + 2.02988I$	$-13.60884 - 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.500000-0.866025I$ $a=\ \ 0.667123+0.865495I$ $b=-0.23410-1.65564I$	$-3.11500+0.18409I$	$-5.11432-0.75879I$
$u=-0.500000-0.866025I$ $a=\ \ 0.487783+0.467051I$ $b=\ \ 1.65437+0.13929I$	$6.02349-5.36163I$	$-4.08126+5.82638I$
$u=-0.500000-0.866025I$ $a=\ \ 1.26160+0.72565I$ $b=\ \ 0.88139-1.21499I$	$-3.11500-4.24385I$	$-5.11432+7.68699I$
$u=-0.500000-0.866025I$ $a=\ \ 1.20118+0.88684I$ $b=\ \ 0.37558-1.84419I$	$-5.81699-2.02988I$	$-13.60884+3.46410I$
$u=-0.500000-0.866025I$ $a=-0.61152-1.37080I$ $b=\ \ 0.00237+1.45540I$	$-3.11500-4.24385I$	$-5.11432+7.68699I$
$u=-0.500000-0.866025I$ $a=-0.350835-0.320152I$ $b=-1.53744-0.43212I$	$6.02349+1.30186I$	$-4.08126+1.10182I$
$u=-0.500000-0.866025I$ $a=-1.14295+1.11541I$ $b=\ \ 0.101843-0.463908I$	$6.02349+1.30186I$	$-4.08126+1.10182I$
$u=-0.500000-0.866025I$ $a=\ \ 0.94782-1.36308I$ $b=-0.160586+0.655958I$	$6.02349-5.36163I$	$-4.08126+5.82638I$
$u=-0.500000-0.866025I$ $a=-1.55088-0.62509I$ $b=-0.415979+1.010490I$	$-3.11500+0.18409I$	$-5.11432-0.75879I$
$u=-0.500000-0.866025I$ $a=-1.40932-1.24736I$ $b=-0.16744+1.48368I$	$-5.81699-2.02988I$	$-13.60884+3.46410I$

III.

$$\boldsymbol{I^u_3 = \langle 2u^{12}+2u^{11}+\cdots+b-3u,\ 2u^{11}+2u^{10}+\cdots+a-3,\ u^{13}+u^{12}+\cdots-2u-1\rangle}$$

(i) Arc colorings

$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u\\u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-2u^{11}-2u^{10}+\cdots-2u+3\\-2u^{12}-2u^{11}+\cdots-2u^2+3u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}2u^{12}+2u^{11}+\cdots-7u-4\\-u^{11}-u^{10}-4u^9-3u^8-8u^7-u^6-7u^5+3u^4-u^3+5u^2+u+2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2u^{12}+u^{11}+\cdots-6u-2\\-u^{11}-u^{10}-4u^9-3u^8-8u^7-u^6-7u^5+3u^4-u^3+5u^2+u+2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-4u^{12}-5u^{11}+\cdots+12u+4\\-u^{12}-u^{11}-4u^{10}-2u^9-7u^8+2u^7-5u^6+8u^5-2u^4+7u^3-2u^2-2\end{pmatrix}$$
$$a_2 = \begin{pmatrix}u^{12}+4u^{10}+9u^8-4u^7+14u^6-9u^5+11u^4-9u^3+4u^2-6u-2\\-u^{12}-u^{11}-4u^{10}-3u^9-8u^8-u^7-7u^6+3u^5-u^4+5u^3+u^2+u+1\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-5u^{12}-8u^{11}+\cdots+11u+1\\-2u^{12}-3u^{11}+\cdots+2u^2-1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-2u^{12}-4u^{11}+\cdots+u+3\\-2u^{12}-2u^{11}+\cdots-2u^2+3u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}2u^{12}+2u^{11}+\cdots-7u-3\\-u^{11}-u^{10}-4u^9-3u^8-8u^7-u^6-7u^5+3u^4-u^3+5u^2+2\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 3u^{12}+8u^{10}-6u^9+11u^8-25u^7+16u^6-32u^5+17u^4-21u^3+10u^2-6u-3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} - 7u^{12} + \cdots + 11u - 1$
c_2	$u^{13} + 3u^{12} + \cdots - 3u - 1$
c_3, c_{11}	$u^{13} + 5u^{11} + \cdots + 2u - 1$
c_4, c_8	$u^{13} + 5u^{11} + \cdots + 2u + 1$
c_5	$u^{13} - 3u^{12} + \cdots - 3u + 1$
c_6, c_9	$u^{13} - u^{12} + \cdots + 4u - 1$
c_7	$u^{13} + u^{12} + \cdots - 2u - 1$
c_{10}	$u^{13} + 9u^{12} + \cdots + 37u + 13$
c_{12}	$u^{13} - u^{12} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} + 5y^{12} + \cdots + 3y - 1$
c_2, c_5	$y^{13} - 7y^{12} + \cdots + 11y - 1$
c_3, c_4, c_8 c_{11}	$y^{13} + 10y^{12} + \cdots - 8y - 1$
c_6, c_9	$y^{13} + 7y^{12} + \cdots - 6y - 1$
c_7, c_{12}	$y^{13} + 9y^{12} + \cdots - 8y - 1$
c_{10}	$y^{13} - 13y^{12} + \cdots + 823y - 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.455315 + 0.926259I$ $a = 1.30401 - 0.92398I$ $b = 0.26211 + 1.62856I$	$-5.10038 + 1.80525I$	$-0.685652 + 0.373124I$
$u = -0.455315 - 0.926259I$ $a = 1.30401 + 0.92398I$ $b = 0.26211 - 1.62856I$	$-5.10038 - 1.80525I$	$-0.685652 - 0.373124I$
$u = 0.330629 + 1.050710I$ $a = 0.526104 - 0.756260I$ $b = 0.968558 + 0.302743I$	$7.37935 + 2.09783I$	$1.85932 - 2.29421I$
$u = 0.330629 - 1.050710I$ $a = 0.526104 + 0.756260I$ $b = 0.968558 - 0.302743I$	$7.37935 - 2.09783I$	$1.85932 + 2.29421I$
$u = 0.261606 + 1.120690I$ $a = -0.257704 + 0.773845I$ $b = -0.934657 - 0.086363I$	$7.75893 - 4.58141I$	$1.77723 + 3.45534I$
$u = 0.261606 - 1.120690I$ $a = -0.257704 - 0.773845I$ $b = -0.934657 + 0.086363I$	$7.75893 + 4.58141I$	$1.77723 - 3.45534I$
$u = 0.821318$ $a = -0.679855$ $b = -0.558377$	-3.20028	-15.7750
$u = 0.187185 + 1.333980I$ $a = 0.289656 + 0.057723I$ $b = -0.022783 + 0.397202I$	$1.68403 - 3.14745I$	$-11.16043 + 3.23588I$
$u = 0.187185 - 1.333980I$ $a = 0.289656 - 0.057723I$ $b = -0.022783 - 0.397202I$	$1.68403 + 3.14745I$	$-11.16043 - 3.23588I$
$u = -1.00368 + 1.09374I$ $a = -0.690172 + 0.872596I$ $b = -0.26168 - 1.63068I$	$-8.74104 + 3.76955I$	$-10.38992 - 1.19515I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00368 - 1.09374I$ $a = -0.690172 - 0.872596I$ $b = -0.26168 + 1.63068I$	$-8.74104 - 3.76955I$	$-10.38992 + 1.19515I$
$u = -0.231085 + 0.352821I$ $a = 2.16803 - 2.17855I$ $b = 0.267639 + 1.268360I$	$-3.02569 + 2.39354I$	$-4.01321 - 3.22127I$
$u = -0.231085 - 0.352821I$ $a = 2.16803 + 2.17855I$ $b = 0.267639 - 1.268360I$	$-3.02569 - 2.39354I$	$-4.01321 + 3.22127I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^5+u^4+4u^3+3u^2+3u+1)^4)(u^{13}-7u^{12}+\cdots+11u-1)$ $\cdot(u^{20}+8u^{19}+\cdots+140u+16)$
c_2	$((u^5-u^4+u^2+u-1)^4)(u^{13}+3u^{12}+\cdots-3u-1)$ $\cdot(u^{20}+8u^{19}+\cdots-14u-4)$
c_3, c_{11}	$(u^{13}+5u^{11}+\cdots+2u-1)(u^{20}+13u^{18}+\cdots-2u+1)$ $\cdot(u^{20}+u^{19}+\cdots+16u+91)$
c_4, c_8	$(u^{13}+5u^{11}+\cdots+2u+1)(u^{20}+13u^{18}+\cdots-2u+1)$ $\cdot(u^{20}+u^{19}+\cdots+16u+91)$
c_5	$((u^5-u^4+u^2+u-1)^4)(u^{13}-3u^{12}+\cdots-3u+1)$ $\cdot(u^{20}+8u^{19}+\cdots-14u-4)$
c_6, c_9	$(u^{13}-u^{12}+\cdots+4u-1)(u^{20}-u^{19}+\cdots+8u-1)$ $\cdot(u^{20}+3u^{19}+\cdots+480u+193)$
c_7	$((u^2-u+1)^{10})(u^{13}+u^{12}+\cdots-2u-1)(u^{20}+12u^{19}+\cdots-288u-32)$
c_{10}	$((u^5+3u^4-5u^2-u+3)^4)(u^{13}+9u^{12}+\cdots+37u+13)$ $\cdot(u^{20}-14u^{19}+\cdots+92u-16)$
c_{12}	$((u^2-u+1)^{10})(u^{13}-u^{12}+\cdots-2u+1)(u^{20}+12u^{19}+\cdots-288u-32)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^5+7y^4+16y^3+13y^2+3y-1)^4)(y^{13}+5y^{12}+\cdots+3y-1)$ $\cdot(y^{20}+12y^{19}+\cdots+144y+256)$
c_2, c_5	$((y^5-y^4+4y^3-3y^2+3y-1)^4)(y^{13}-7y^{12}+\cdots+11y-1)$ $\cdot(y^{20}-8y^{19}+\cdots-140y+16)$
c_3, c_4, c_8 c_{11}	$(y^{13}+10y^{12}+\cdots-8y-1)(y^{20}+15y^{19}+\cdots+124596y+8281)$ $\cdot(y^{20}+26y^{19}+\cdots-6y+1)$
c_6, c_9	$(y^{13}+7y^{12}+\cdots-6y-1)(y^{20}+11y^{19}+\cdots-106108y+37249)$ $\cdot(y^{20}+15y^{19}+\cdots-44y+1)$
c_7, c_{12}	$((y^2+y+1)^{10})(y^{13}+9y^{12}+\cdots-8y-1)$ $\cdot(y^{20}+10y^{19}+\cdots-2560y+1024)$
c_{10}	$((y^5-9y^4+28y^3-43y^2+31y-9)^4)(y^{13}-13y^{12}+\cdots+823y-169)$ $\cdot(y^{20}-2y^{19}+\cdots+1488y+256)$