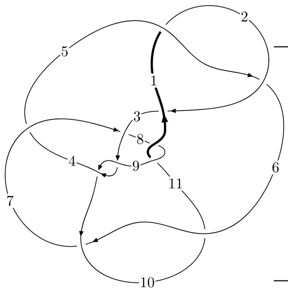
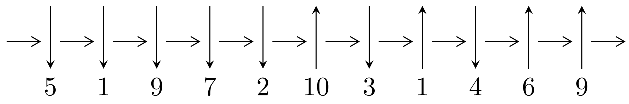
$11n_{112}$ $(K11n_{112})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$1,5 \underset{c_1}{\longrightarrow} 2 \underset{c_2}{\longrightarrow} 3 \underset{c_5}{\longrightarrow} 6,9 \underset{c_8}{\longrightarrow} 8 \underset{c_7}{\longrightarrow} 7 \underset{c_4}{\longrightarrow} 4 \underset{c_{11}}{\longrightarrow} 11 \underset{c_{10}}{\longrightarrow} 10 \longrightarrow\!\!\!\!\!\to c_3, c_6, c_9$$

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

$$I_1^u = \langle 3u^{17} - 18u^{16} + \cdots + 2b + 10,\ 5u^{17} - 20u^{16} + \cdots + 4a + 12,\ u^{18} - 6u^{17} + \cdots + 10u - 4\rangle$$
$$I_2^u = \langle -27u^4a^3 - 15u^4a^2 + \cdots + 53a - 207,\ -u^4a^3 - 2u^4a^2 + \cdots + 14a + 29,\ u^5 + u^4 - u^2 + u + 1\rangle$$
$$\begin{aligned} I_3^u = \langle &-u^{10} - u^9 + 2u^8 + 3u^7 - 3u^6 - 5u^5 + 2u^4 + 3u^3 - 2u^2 + b - u + 1, \\ &u^{10} + u^9 - 3u^8 - 3u^7 + 5u^6 + 6u^5 - 6u^4 - 5u^3 + 5u^2 + a + 2u - 3, \\ &u^{11} + u^{10} - 2u^9 - 3u^8 + 3u^7 + 5u^6 - 2u^5 - 4u^4 + 2u^3 + 2u^2 - u - 1\rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 49 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. $I_1^u =$
$\langle 3u^{17}-18u^{16}+\cdots+2b+10,\ 5u^{17}-20u^{16}+\cdots+4a+12,\ u^{18}-6u^{17}+\cdots+10u-4\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-\frac{5}{4}u^{17}+5u^{16}+\cdots+\frac{19}{4}u-3\\-\frac{3}{2}u^{17}+9u^{16}+\cdots+\frac{21}{2}u-5\end{pmatrix}$$
$$a_8 = \begin{pmatrix}\frac{1}{4}u^{17}-4u^{16}+\cdots-\frac{23}{4}u+2\\-\frac{3}{2}u^{17}+9u^{16}+\cdots+\frac{21}{2}u-5\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-\frac{5}{4}u^{17}+9u^{16}+\cdots+\frac{59}{4}u-9\\\frac{5}{2}u^{17}-15u^{16}+\cdots-\frac{39}{2}u+11\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-\frac{1}{2}u^{17}+\frac{5}{2}u^{16}+\cdots+\frac{5}{2}u-\frac{1}{2}\\\frac{1}{2}u^{17}-2u^{16}+\cdots+2u^2-\frac{1}{2}u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}3u^{17}-\frac{35}{2}u^{16}+\cdots-26u+\frac{31}{2}\\-\frac{7}{2}u^{17}+18u^{16}+\cdots+\frac{45}{2}u-10\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-\frac{1}{2}u^{16}+2u^{15}+\cdots-u+\frac{3}{2}\\\frac{3}{2}u^{17}-6u^{16}+\cdots+5u^2-\frac{9}{2}u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-\frac{1}{2}u^{16}+2u^{15}+\cdots-u+\frac{3}{2}\\\frac{3}{2}u^{17}-6u^{16}+\cdots+5u^2-\frac{9}{2}u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3u^{17}+18u^{16}-43u^{15}+32u^{14}+66u^{13}-182u^{12}+133u^{11}+115u^{10}-314u^9+239u^8+3u^7-163u^6+156u^5-65u^4-7u^3+6u^2+24u-26$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{18} + 6u^{17} + \cdots - 10u - 4$
c_2	$u^{18} + 6u^{17} + \cdots + 44u + 16$
c_3, c_4, c_9	$u^{18} - u^{17} + \cdots + 2u + 1$
c_6, c_{10}	$u^{18} - 12u^{17} + \cdots + 144u - 32$
c_7	$u^{18} + 17u^{16} + \cdots - 4u - 1$
c_8, c_{11}	$u^{18} + 2u^{17} + \cdots - 15u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{18} - 6y^{17} + \cdots - 44y + 16$
c_2	$y^{18} + 14y^{17} + \cdots + 1680y + 256$
c_3, c_4, c_9	$y^{18} - 9y^{17} + \cdots - 8y + 1$
c_6, c_{10}	$y^{18} + 6y^{17} + \cdots - 9984y + 1024$
c_7	$y^{18} + 34y^{17} + \cdots - 6y + 1$
c_8, c_{11}	$y^{18} - 30y^{17} + \cdots - 93y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.03064$ $a = -0.576519$ $b = -1.20658$	-0.344722	-12.6080
$u = 0.034225 + 0.854848I$ $a = -0.575049 + 0.286242I$ $b = 0.667178 + 0.239294I$	$-1.28974 - 2.24091I$	$-2.04967 + 3.46388I$
$u = 0.034225 - 0.854848I$ $a = -0.575049 - 0.286242I$ $b = 0.667178 - 0.239294I$	$-1.28974 + 2.24091I$	$-2.04967 - 3.46388I$
$u = 0.761337 + 0.893787I$ $a = 1.58989 + 0.60538I$ $b = -1.84179 + 0.14912I$	$6.17929 - 0.49659I$	$-2.59772 - 0.34027I$
$u = 0.761337 - 0.893787I$ $a = 1.58989 - 0.60538I$ $b = -1.84179 - 0.14912I$	$6.17929 + 0.49659I$	$-2.59772 + 0.34027I$
$u = 0.745128$ $a = -0.611661$ $b = 0.116162$	-0.993591	-11.3770
$u = 0.783872 + 0.987963I$ $a = -1.19142 - 0.90650I$ $b = 1.87322 + 0.37011I$	$3.90675 + 6.64708I$	$-3.39037 - 3.27550I$
$u = 0.783872 - 0.987963I$ $a = -1.19142 + 0.90650I$ $b = 1.87322 - 0.37011I$	$3.90675 - 6.64708I$	$-3.39037 + 3.27550I$
$u = 1.172860 + 0.467576I$ $a = -0.060409 - 0.687195I$ $b = 0.433362 - 0.027095I$	$-4.67695 - 2.28427I$	$-4.21274 + 1.51830I$
$u = 1.172860 - 0.467576I$ $a = -0.060409 + 0.687195I$ $b = 0.433362 + 0.027095I$	$-4.67695 + 2.28427I$	$-4.21274 - 1.51830I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.232750 + 0.324924I$ $a = 0.257894 + 0.181216I$ $b = 0.886664 + 0.189258I$	$-5.50095 + 6.46042I$	$-6.77713 - 7.07518I$
$u = -1.232750 - 0.324924I$ $a = 0.257894 - 0.181216I$ $b = 0.886664 - 0.189258I$	$-5.50095 - 6.46042I$	$-6.77713 + 7.07518I$
$u = 1.038010 + 0.783746I$ $a = 1.12937 + 1.35055I$ $b = -1.78812 + 0.17611I$	$5.30009 - 5.74871I$	$-4.51000 + 4.97294I$
$u = 1.038010 - 0.783746I$ $a = 1.12937 - 1.35055I$ $b = -1.78812 - 0.17611I$	$5.30009 + 5.74871I$	$-4.51000 - 4.97294I$
$u = 1.063090 + 0.847970I$ $a = -1.42765 - 0.98450I$ $b = 1.87096 - 0.72149I$	$3.01116 - 13.36860I$	$-4.65398 + 7.41233I$
$u = 1.063090 - 0.847970I$ $a = -1.42765 + 0.98450I$ $b = 1.87096 + 0.72149I$	$3.01116 + 13.36860I$	$-4.65398 - 7.41233I$
$u = -0.477881 + 0.414788I$ $a = 0.121456 - 0.765696I$ $b = -0.556271 - 0.507565I$	$1.14170 + 1.25649I$	$2.18406 - 4.14834I$
$u = -0.477881 - 0.414788I$ $a = 0.121456 + 0.765696I$ $b = -0.556271 + 0.507565I$	$1.14170 - 1.25649I$	$2.18406 + 4.14834I$

II. $\boldsymbol{I_2^u = \langle -27u^4a^3 - 15u^4a^2 + \cdots + 53a - 207,\ -u^4a^3 - 2u^4a^2 + \cdots + 14a + 29,\ u^5 + u^4 - u^2 + u + 1\rangle}$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a \\ 0.380282a^3u^4 + 0.211268a^2u^4 + \cdots - 0.746479a + 2.91549 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.380282a^3u^4 - 0.211268a^2u^4 + \cdots + 1.74648a - 2.91549 \\ 0.380282a^3u^4 + 0.211268a^2u^4 + \cdots - 0.746479a + 2.91549 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0140845a^3u^4 + 0.436620a^2u^4 + \cdots + 0.323944a - 1.77465 \\ 0.394366a^3u^4 - 0.225352a^2u^4 + \cdots - 0.0704225a + 4.69014 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.140845a^3u^4 - 0.366197a^2u^4 + \cdots - 0.239437a - 2.25352 \\ -0.0140845a^3u^4 - 0.563380a^2u^4 + \cdots + 0.323944a + 6.22535 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0845070a^3u^4 + 0.619718a^2u^4 + \cdots - 0.0563380a - 4.64789 \\ -0.0563380a^3u^4 - 0.253521a^2u^4 + \cdots + 0.295775a + 4.90141 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.309859a^3u^4 + 0.605634a^2u^4 + \cdots + 0.126761a - 5.04225 \\ -0.0985915a^3u^4 - 0.943662a^2u^4 + \cdots + 0.267606a + 5.57746 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.309859a^3u^4 + 0.605634a^2u^4 + \cdots + 0.126761a - 5.04225 \\ -0.0985915a^3u^4 - 0.943662a^2u^4 + \cdots + 0.267606a + 5.57746 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{20}{71}u^4a^3 - \frac{52}{71}u^4a^2 + \cdots - \frac{176}{71}a - \frac{462}{71}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^5 - u^4 + u^2 + u - 1)^4$
c_2	$(u^5 + u^4 + 4u^3 + 3u^2 + 3u + 1)^4$
c_3, c_4, c_9	$u^{20} + u^{19} + \cdots - 78u + 43$
c_6, c_{10}	$(u^2 + u + 1)^{10}$
c_7	$u^{20} + u^{19} + \cdots + 860u + 1849$
c_8, c_{11}	$u^{20} + 3u^{19} + \cdots + 982u + 169$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^4$
c_2	$(y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^4$
c_3, c_4, c_9	$y^{20} - 9y^{19} + \cdots - 12276y + 1849$
c_6, c_{10}	$(y^2 + y + 1)^{10}$
c_7	$y^{20} + 15y^{19} + \cdots - 22905412y + 3418801$
c_8, c_{11}	$y^{20} - 13y^{19} + \cdots + 46972y + 28561$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.758138 + 0.584034I$ $a = 0.749890 - 0.621375I$ $b = -0.08602 + 1.68144I$	$-3.11500 - 4.24385I$	$-5.11432 + 7.68699I$
$u = 0.758138 + 0.584034I$ $a = -0.566965 + 0.314182I$ $b = 0.882926 + 0.389982I$	$-3.11500 - 0.18409I$	$-5.11432 + 0.75879I$
$u = 0.758138 + 0.584034I$ $a = -0.06960 - 1.47984I$ $b = 0.362793 - 0.374311I$	$-3.11500 - 4.24385I$	$-5.11432 + 7.68699I$
$u = 0.758138 + 0.584034I$ $a = -1.59288 + 0.14727I$ $b = 0.110691 - 1.283240I$	$-3.11500 - 0.18409I$	$-5.11432 + 0.75879I$
$u = 0.758138 - 0.584034I$ $a = 0.749890 + 0.621375I$ $b = -0.08602 - 1.68144I$	$-3.11500 + 4.24385I$	$-5.11432 - 7.68699I$
$u = 0.758138 - 0.584034I$ $a = -0.566965 - 0.314182I$ $b = 0.882926 - 0.389982I$	$-3.11500 + 0.18409I$	$-5.11432 - 0.75879I$
$u = 0.758138 - 0.584034I$ $a = -0.06960 + 1.47984I$ $b = 0.362793 + 0.374311I$	$-3.11500 + 4.24385I$	$-5.11432 - 7.68699I$
$u = 0.758138 - 0.584034I$ $a = -1.59288 - 0.14727I$ $b = 0.110691 + 1.283240I$	$-3.11500 + 0.18409I$	$-5.11432 - 0.75879I$
$u = -0.935538 + 0.903908I$ $a = -0.917729 + 0.847158I$ $b = 1.52925 - 0.42833I$	$6.02349 + 1.30186I$	$-4.08126 + 1.10182I$
$u = -0.935538 + 0.903908I$ $a = 1.18464 - 0.79636I$ $b = -2.04795 - 0.07963I$	$6.02349 + 5.36163I$	$-4.08126 - 5.82638I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.935538 + 0.903908I$ $a = 1.16701 - 1.04206I$ $b = -1.78733 - 0.41229I$	$6.02349 + 1.30186I$	$-4.08126 + 1.10182I$
$u = -0.935538 + 0.903908I$ $a = -1.47807 + 0.67792I$ $b = 1.44900 + 0.72345I$	$6.02349 + 5.36163I$	$-4.08126 - 5.82638I$
$u = -0.935538 - 0.903908I$ $a = -0.917729 - 0.847158I$ $b = 1.52925 + 0.42833I$	$6.02349 - 1.30186I$	$-4.08126 - 1.10182I$
$u = -0.935538 - 0.903908I$ $a = 1.18464 + 0.79636I$ $b = -2.04795 + 0.07963I$	$6.02349 - 5.36163I$	$-4.08126 + 5.82638I$
$u = -0.935538 - 0.903908I$ $a = 1.16701 + 1.04206I$ $b = -1.78733 + 0.41229I$	$6.02349 - 1.30186I$	$-4.08126 - 1.10182I$
$u = -0.935538 - 0.903908I$ $a = -1.47807 - 0.67792I$ $b = 1.44900 - 0.72345I$	$6.02349 - 5.36163I$	$-4.08126 + 5.82638I$
$u = -0.645200$ $a = -1.90553 + 0.26854I$ $b = 1.09670 + 1.08254I$	$-5.81699 - 2.02988I$	$-13.60884 + 3.46410I$
$u = -0.645200$ $a = -1.90553 - 0.26854I$ $b = 1.09670 - 1.08254I$	$-5.81699 + 2.02988I$	$-13.60884 - 3.46410I$
$u = -0.645200$ $a = 2.92924 + 1.50457I$ $b = -0.010057 + 0.799590I$	$-5.81699 - 2.02988I$	$-13.60884 + 3.46410I$
$u = -0.645200$ $a = 2.92924 - 1.50457I$ $b = -0.010057 - 0.799590I$	$-5.81699 + 2.02988I$	$-13.60884 - 3.46410I$

III.

$$I_3^u = \langle -u^{10} - u^9 + \cdots + b + 1,\ u^{10} + u^9 + \cdots + a - 3,\ u^{11} + u^{10} + \cdots - u - 1\rangle$$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{10} - u^9 + 3u^8 + 3u^7 - 5u^6 - 6u^5 + 6u^4 + 5u^3 - 5u^2 - 2u + 3 \\ u^{10} + u^9 - 2u^8 - 3u^7 + 3u^6 + 5u^5 - 2u^4 - 3u^3 + 2u^2 + u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2u^{10} - 2u^9 + 5u^8 + 6u^7 - 8u^6 - 11u^5 + 8u^4 + 8u^3 - 7u^2 - 3u + 4 \\ u^{10} + u^9 - 2u^8 - 3u^7 + 3u^6 + 5u^5 - 2u^4 - 3u^3 + 2u^2 + u - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{10} - u^9 + 3u^8 + 3u^7 - 5u^6 - 6u^5 + 5u^4 + 5u^3 - 4u^2 - 2u + 2 \\ u^9 - 2u^7 - u^6 + 4u^5 + 2u^4 - 3u^3 - u^2 + 2u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2u^{10} + u^9 - 5u^8 - 4u^7 + 9u^6 + 7u^5 - 9u^4 - 6u^3 + 7u^2 + 2u - 3 \\ -u^{10} - u^9 + 2u^8 + 3u^7 - 3u^6 - 5u^5 + 2u^4 + 4u^3 - u^2 - u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 2u^{10} + u^9 - 5u^8 - 3u^7 + 9u^6 + 5u^5 - 9u^4 - 3u^3 + 8u^2 - 2 \\ -u^{10} + 3u^8 + u^7 - 5u^6 - 2u^5 + 5u^4 + 2u^3 - 3u^2 + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{10} - 3u^8 - u^7 + 6u^6 + 2u^5 - 6u^4 - 2u^3 + 5u^2 - 1 \\ u^8 + u^7 - u^6 - 2u^5 + u^4 + 3u^3 - u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{10} - 3u^8 - u^7 + 6u^6 + 2u^5 - 6u^4 - 2u^3 + 5u^2 - 1 \\ u^8 + u^7 - u^6 - 2u^5 + u^4 + 3u^3 - u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^{10} + u^9 + u^8 - u^7 + u^6 + u^5 + 2u^4 + u^3 + 4u^2 + u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{11}+u^{10}-2u^9-3u^8+3u^7+5u^6-2u^5-4u^4+2u^3+2u^2-u-1$
c_2	$u^{11}+5u^{10}+\cdots+5u+1$
c_3	$u^{11}+u^{10}-4u^9-4u^8+6u^7+6u^6-2u^5-3u^4-4u^3-u^2+4u+1$
c_4, c_9	$u^{11}-u^{10}-4u^9+4u^8+6u^7-6u^6-2u^5+3u^4-4u^3+u^2+4u-1$
c_5	$u^{11}-u^{10}-2u^9+3u^8+3u^7-5u^6-2u^5+4u^4+2u^3-2u^2-u+1$
c_6	$u^{11}-u^{10}+3u^9+u^8+u^7+6u^6+4u^4+4u^3+u^2+2u+1$
c_7	$u^{11}-u^9-5u^8-9u^7+7u^6+24u^5-3u^4+6u^3+6u^2+2u+1$
c_8	$u^{11}+2u^{10}+u^9+4u^8+4u^7+6u^5+u^4+u^3+3u^2-u+1$
c_{10}	$u^{11}+u^{10}+3u^9-u^8+u^7-6u^6-4u^4+4u^3-u^2+2u-1$
c_{11}	$u^{11}-2u^{10}+u^9-4u^8+4u^7+6u^5-u^4+u^3-3u^2-u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{11} - 5y^{10} + \cdots + 5y - 1$
c_2	$y^{11} + 7y^{10} + \cdots - 7y - 1$
c_3, c_4, c_9	$y^{11} - 9y^{10} + \cdots + 18y - 1$
c_6, c_{10}	$y^{11} + 5y^{10} + \cdots + 2y - 1$
c_7	$y^{11} - 2y^{10} + \cdots - 8y - 1$
c_8, c_{11}	$y^{11} - 2y^{10} + \cdots - 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.890464$ $a = 0.557576$ $b = 0.938618$	0.241342	1.70090
$u = -1.050460 + 0.434817I$ $a = -0.953762 - 0.951226I$ $b = -0.325584 + 0.585988I$	$-6.50834 + 4.79164I$	$-9.43330 - 4.58871I$
$u = -1.050460 - 0.434817I$ $a = -0.953762 + 0.951226I$ $b = -0.325584 - 0.585988I$	$-6.50834 - 4.79164I$	$-9.43330 + 4.58871I$
$u = 0.568178 + 0.624341I$ $a = -0.810571 - 0.115740I$ $b = -0.251884 - 1.139160I$	$-4.04644 - 2.66477I$	$-7.34246 + 3.51719I$
$u = 0.568178 - 0.624341I$ $a = -0.810571 + 0.115740I$ $b = -0.251884 + 1.139160I$	$-4.04644 + 2.66477I$	$-7.34246 - 3.51719I$
$u = 1.087470 + 0.533146I$ $a = 0.213335 + 0.242827I$ $b = 0.012610 + 0.843323I$	$-5.77248 - 1.97523I$	$-11.11734 + 0.94758I$
$u = 1.087470 - 0.533146I$ $a = 0.213335 - 0.242827I$ $b = 0.012610 - 0.843323I$	$-5.77248 + 1.97523I$	$-11.11734 - 0.94758I$
$u = -0.931392 + 0.876271I$ $a = -1.23579 + 0.88821I$ $b = 1.69939 + 0.19552I$	$6.35313 + 3.25083I$	$-3.04144 - 2.67262I$
$u = -0.931392 - 0.876271I$ $a = -1.23579 - 0.88821I$ $b = 1.69939 - 0.19552I$	$6.35313 - 3.25083I$	$-3.04144 + 2.67262I$
$u = -0.619026 + 0.353653I$ $a = 2.00800 + 1.43553I$ $b = -0.603838 - 0.687137I$	$-4.95095 - 1.33491I$	$-5.91593 - 1.31203I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.619026 - 0.353653I$ $a = 2.00800 - 1.43553I$ $b = -0.603838 + 0.687137I$	$-4.95095 + 1.33491I$	$-5.91593 + 1.31203I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5-u^4+u^2+u-1)^4$ $\cdot(u^{11}+u^{10}-2u^9-3u^8+3u^7+5u^6-2u^5-4u^4+2u^3+2u^2-u-1)$ $\cdot(u^{18}+6u^{17}+\cdots-10u-4)$
c_2	$((u^5+u^4+4u^3+3u^2+3u+1)^4)(u^{11}+5u^{10}+\cdots+5u+1)$ $\cdot(u^{18}+6u^{17}+\cdots+44u+16)$
c_3	$(u^{11}+u^{10}-4u^9-4u^8+6u^7+6u^6-2u^5-3u^4-4u^3-u^2+4u+1)$ $\cdot(u^{18}-u^{17}+\cdots+2u+1)(u^{20}+u^{19}+\cdots-78u+43)$
c_4, c_9	$(u^{11}-u^{10}-4u^9+4u^8+6u^7-6u^6-2u^5+3u^4-4u^3+u^2+4u-1)$ $\cdot(u^{18}-u^{17}+\cdots+2u+1)(u^{20}+u^{19}+\cdots-78u+43)$
c_5	$(u^5-u^4+u^2+u-1)^4$ $\cdot(u^{11}-u^{10}-2u^9+3u^8+3u^7-5u^6-2u^5+4u^4+2u^3-2u^2-u+1)$ $\cdot(u^{18}+6u^{17}+\cdots-10u-4)$
c_6	$((u^2+u+1)^{10})(u^{11}-u^{10}+\cdots+2u+1)$ $\cdot(u^{18}-12u^{17}+\cdots+144u-32)$
c_7	$(u^{11}-u^9-5u^8-9u^7+7u^6+24u^5-3u^4+6u^3+6u^2+2u+1)$ $\cdot(u^{18}+17u^{16}+\cdots-4u-1)(u^{20}+u^{19}+\cdots+860u+1849)$
c_8	$(u^{11}+2u^{10}+u^9+4u^8+4u^7+6u^5+u^4+u^3+3u^2-u+1)$ $\cdot(u^{18}+2u^{17}+\cdots-15u-1)(u^{20}+3u^{19}+\cdots+982u+169)$
c_{10}	$((u^2+u+1)^{10})(u^{11}+u^{10}+\cdots+2u-1)$ $\cdot(u^{18}-12u^{17}+\cdots+144u-32)$
c_{11}	$(u^{11}-2u^{10}+u^9-4u^8+4u^7+6u^5-u^4+u^3-3u^2-u-1)$ $\cdot(u^{18}+2u^{17}+\cdots-15u-1)(u^{20}+3u^{19}+\cdots+982u+169)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^4)(y^{11} - 5y^{10} + \cdots + 5y - 1)$ $\cdot (y^{18} - 6y^{17} + \cdots - 44y + 16)$
c_2	$((y^5 + 7y^4 + 16y^3 + 13y^2 + 3y - 1)^4)(y^{11} + 7y^{10} + \cdots - 7y - 1)$ $\cdot (y^{18} + 14y^{17} + \cdots + 1680y + 256)$
c_3, c_4, c_9	$(y^{11} - 9y^{10} + \cdots + 18y - 1)(y^{18} - 9y^{17} + \cdots - 8y + 1)$ $\cdot (y^{20} - 9y^{19} + \cdots - 12276y + 1849)$
c_6, c_{10}	$((y^2 + y + 1)^{10})(y^{11} + 5y^{10} + \cdots + 2y - 1)$ $\cdot (y^{18} + 6y^{17} + \cdots - 9984y + 1024)$
c_7	$(y^{11} - 2y^{10} + \cdots - 8y - 1)(y^{18} + 34y^{17} + \cdots - 6y + 1)$ $\cdot (y^{20} + 15y^{19} + \cdots - 22905412y + 3418801)$
c_8, c_{11}	$(y^{11} - 2y^{10} + \cdots - 5y - 1)(y^{18} - 30y^{17} + \cdots - 93y + 1)$ $\cdot (y^{20} - 13y^{19} + \cdots + 46972y + 28561)$