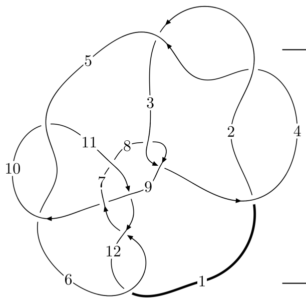
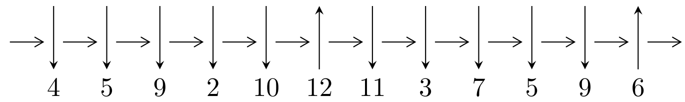
$12n_{0696}$ ($K12n_{0696}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -4.17337\times10^{102}u^{27} - 1.93423\times10^{103}u^{26} + \cdots + 3.84681\times10^{106}b + 1.79302\times10^{107},\\
& -1.16409\times10^{103}u^{27} - 5.28576\times10^{103}u^{26} + \cdots + 7.69362\times10^{106}a + 4.42452\times10^{107},\\
& u^{28} + 4u^{27} + \cdots - 75264u + 25088\rangle\\
I_2^u = \langle & 75504u^{12} + 165674u^{11} + \cdots + 485b + 93972,\ -42944u^{12} - 93489u^{11} + \cdots + 485a - 52132,\\
& u^{13} + 3u^{12} - 3u^{11} - 4u^{10} + u^9 - 5u^8 + 12u^7 + 23u^6 - 15u^5 - 13u^4 + 12u^3 + u^2 - 3u + 1\rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v = \langle & a,\ -579074v^8 - 1101995v^7 + \cdots + 5353327b + 7952402,\\
& v^9 + v^8 - 8v^7 - v^6 + 33v^5 - 23v^4 - 14v^3 + 2v^2 + 3v + 7\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 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. $\boldsymbol{I_1^u = \langle -4.17\times10^{102}u^{27} - 1.93\times10^{103}u^{26} + \cdots + 3.85\times10^{106}b + 1.79\times10^{107},\ -1.16\times10^{103}u^{27} - 5.29\times10^{103}u^{26} + \cdots + 7.69\times10^{106}a + 4.42\times10^{107},\ u^{28} + 4u^{27} + \cdots - 75264u + 25088\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.000151306u^{27} + 0.000687032u^{26} + \cdots + 8.22933u - 5.75089\\0.000108489u^{27} + 0.000502815u^{26} + \cdots + 7.32645u - 4.66105\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.000151306u^{27} + 0.000687032u^{26} + \cdots + 8.22933u - 5.75089\\0.000150012u^{27} + 0.000689256u^{26} + \cdots + 9.68762u - 6.71343\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.0000766347u^{27} - 0.000357137u^{26} + \cdots - 1.56565u + 3.20147\\-0.0000700433u^{27} - 0.000319328u^{26} + \cdots - 3.53946u + 2.63866\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.000123162u^{27} + 0.000561945u^{26} + \cdots + 8.07319u - 4.92967\\0.0000757763u^{27} + 0.000354447u^{26} + \cdots + 5.43594u - 3.01687\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0000668361u^{27} - 0.000317419u^{26} + \cdots - 3.53613u + 1.93449\\0.0000195598u^{27} + 0.0000729436u^{26} + \cdots + 2.44504u - 1.73891\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.0000318531u^{27} + 0.000142983u^{26} + \cdots + 1.78955u - 0.554362\\0.0000298229u^{27} + 0.000134348u^{26} + \cdots + 1.61686u - 1.48562\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-9.21121\times10^{-6}u^{27} - 0.0000407445u^{26} + \cdots - 0.545453u - 0.540627\\0.0000226419u^{27} + 0.000102238u^{26} + \cdots + 1.24410u - 1.09499\end{pmatrix}$$
$$a_2 = \begin{pmatrix}9.21121\times10^{-6}u^{27} + 0.0000407445u^{26} + \cdots + 0.545453u + 0.540627\\0.0000242016u^{27} + 0.000109392u^{26} + \cdots + 1.30651u - 1.19282\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.000152878u^{27} - 0.000780946u^{26} + \cdots - 9.76931u - 4.69330$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{28} - 16u^{27} + \cdots + 419u - 49$
c_3, c_8	$u^{28} + 4u^{27} + \cdots - 75264u + 25088$
c_5, c_{10}	$u^{28} + 2u^{27} + \cdots - 1173u - 1219$
c_6, c_{12}	$u^{28} + 3u^{27} + \cdots + 300u + 59$
c_7	$u^{28} - u^{27} + \cdots - 246402u - 218849$
c_9	$u^{28} - 4u^{27} + \cdots + 9u - 9$
c_{11}	$u^{28} - u^{27} + \cdots + 26513u + 36713$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{28} - 4y^{27} + \cdots - 168113y + 2401$
c_3, c_8	$y^{28} + 78y^{27} + \cdots + 603717632y + 629407744$
c_5, c_{10}	$y^{28} + 42y^{27} + \cdots + 5986831y + 1485961$
c_6, c_{12}	$y^{28} + y^{27} + \cdots - 86696y + 3481$
c_7	$y^{28} + 53y^{27} + \cdots + 367398468196y + 47894884801$
c_9	$y^{28} + 2y^{27} + \cdots - 657y + 81$
c_{11}	$y^{28} + 29y^{27} + \cdots - 4800844229y + 1347844369$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.661495 + 0.747398I$ $a = -1.193220 + 0.182648I$ $b = -2.37661 + 0.83239I$	$-2.93456 - 1.71766I$	$-11.35116 + 2.24777I$
$u = 0.661495 - 0.747398I$ $a = -1.193220 - 0.182648I$ $b = -2.37661 - 0.83239I$	$-2.93456 + 1.71766I$	$-11.35116 - 2.24777I$
$u = -0.893984 + 0.439919I$ $a = 0.046736 - 0.846720I$ $b = -0.140462 - 0.488416I$	$-0.665833 - 0.463592I$	$-8.88124 - 0.80143I$
$u = -0.893984 - 0.439919I$ $a = 0.046736 + 0.846720I$ $b = -0.140462 + 0.488416I$	$-0.665833 + 0.463592I$	$-8.88124 + 0.80143I$
$u = -0.060146 + 1.078200I$ $a = -0.366791 - 0.845658I$ $b = -0.469643 + 0.590527I$	$1.30627 + 3.65816I$	$0.62607 - 9.21590I$
$u = -0.060146 - 1.078200I$ $a = -0.366791 + 0.845658I$ $b = -0.469643 - 0.590527I$	$1.30627 - 3.65816I$	$0.62607 + 9.21590I$
$u = 1.083710 + 0.326182I$ $a = 0.715235 - 0.997232I$ $b = 0.204712 + 0.075027I$	$-5.85717 + 6.56767I$	$-13.7398 - 3.9298I$
$u = 1.083710 - 0.326182I$ $a = 0.715235 + 0.997232I$ $b = 0.204712 - 0.075027I$	$-5.85717 - 6.56767I$	$-13.7398 + 3.9298I$
$u = -0.775820 + 0.972482I$ $a = 0.469871 + 0.774727I$ $b = -0.205034 - 0.207127I$	$-5.97045 + 2.54425I$	$-12.99283 - 2.62358I$
$u = -0.775820 - 0.972482I$ $a = 0.469871 - 0.774727I$ $b = -0.205034 + 0.207127I$	$-5.97045 - 2.54425I$	$-12.99283 + 2.62358I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.617923 + 0.406438I$ $a = 1.204910 - 0.100272I$ $b = 0.612974 - 0.582117I$	$2.45728 - 1.44782I$	$-2.14877 + 4.95256I$
$u = 0.617923 - 0.406438I$ $a = 1.204910 + 0.100272I$ $b = 0.612974 + 0.582117I$	$2.45728 + 1.44782I$	$-2.14877 - 4.95256I$
$u = 0.585624 + 0.073997I$ $a = -0.95222 + 1.58256I$ $b = 0.16008 + 1.49787I$	$-2.72280 + 3.22335I$	$-17.5168 - 5.4562I$
$u = 0.585624 - 0.073997I$ $a = -0.95222 - 1.58256I$ $b = 0.16008 - 1.49787I$	$-2.72280 - 3.22335I$	$-17.5168 + 5.4562I$
$u = -0.528658$ $a = 0.651300$ $b = -0.226944$	-0.770752	-12.6200
$u = -0.034927 + 0.413671I$ $a = 1.289190 - 0.171430I$ $b = -0.662191 + 0.707353I$	$-0.83719 + 2.37006I$	$-4.55412 - 1.61124I$
$u = -0.034927 - 0.413671I$ $a = 1.289190 + 0.171430I$ $b = -0.662191 - 0.707353I$	$-0.83719 - 2.37006I$	$-4.55412 + 1.61124I$
$u = 1.45117 + 2.14148I$ $a = -0.665316 - 0.045728I$ $b = -1.79657 + 0.17540I$	$13.0799 - 5.8001I$	0
$u = 1.45117 - 2.14148I$ $a = -0.665316 + 0.045728I$ $b = -1.79657 - 0.17540I$	$13.0799 + 5.8001I$	0
$u = -1.61598 + 2.05576I$ $a = -0.921601 - 0.257100I$ $b = -2.10745 - 0.14996I$	$12.8917 + 14.5389I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.61598 - 2.05576I$ $a = -0.921601 + 0.257100I$ $b = -2.10745 + 0.14996I$	$12.8917 - 14.5389I$	0
$u = 0.68402 + 3.16013I$ $a = 0.685728 - 0.115457I$ $b = 2.03515 - 0.07059I$	$14.7956 - 5.0968I$	0
$u = 0.68402 - 3.16013I$ $a = 0.685728 + 0.115457I$ $b = 2.03515 + 0.07059I$	$14.7956 + 5.0968I$	0
$u = -3.30423$ $a = 1.48289$ $b = 2.19015$	-19.0273	0
$u = -2.12239 + 3.48864I$ $a = -0.683688 + 0.783505I$ $b = -1.298960 + 0.127397I$	$4.30987 - 2.62944I$	0
$u = -2.12239 - 3.48864I$ $a = -0.683688 - 0.783505I$ $b = -1.298960 - 0.127397I$	$4.30987 + 2.62944I$	0
$u = 0.33576 + 4.88530I$ $a = 0.804068 - 0.346474I$ $b = 1.84810 + 0.02973I$	$16.2350 - 2.8419I$	0
$u = 0.33576 - 4.88530I$ $a = 0.804068 + 0.346474I$ $b = 1.84810 - 0.02973I$	$16.2350 + 2.8419I$	0

II. $\boldsymbol{I_2^u = \langle 75504u^{12} + 165674u^{11} + \cdots + 485b + 93972,\ -42944u^{12} - 93489u^{11} + \cdots + 485a - 52132,\ u^{13} + 3u^{12} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 88.5443u^{12} + 192.761u^{11} + \cdots - 461.643u + 107.489 \\ -155.678u^{12} - 341.596u^{11} + \cdots + 801.984u - 193.757 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 88.5443u^{12} + 192.761u^{11} + \cdots - 461.643u + 107.489 \\ -96.5423u^{12} - 212.656u^{11} + \cdots + 494.823u - 120.885 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 308.078u^{12} + 670.996u^{11} + \cdots - 1605.18u + 378.957 \\ 381.951u^{12} + 833.476u^{11} + \cdots - 1976.31u + 464.501 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -116.975u^{12} - 255.738u^{11} + \cdots + 606.153u - 145.751 \\ -361.198u^{12} - 790.095u^{11} + \cdots + 1870.78u - 446.996 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 552.301u^{12} + 1205.35u^{11} + \cdots - 2868.81u + 680.202 \\ 803.901u^{12} + 1754.95u^{11} + \cdots - 4169.61u + 986.002 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 120.435u^{12} + 262.188u^{11} + \cdots - 628.151u + 148.470 \\ 168.903u^{12} + 368.058u^{11} + \cdots - 879.431u + 207.606 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 31.8907u^{12} + 69.4268u^{11} + \cdots - 166.507u + 39.9814 \\ -88.5443u^{12} - 192.761u^{11} + \cdots + 461.643u - 108.489 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 31.8907u^{12} + 69.4268u^{11} + \cdots - 166.507u + 39.9814 \\ 109.767u^{12} + 239.118u^{11} + \cdots - 572.270u + 134.734 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{296049}{485}u^{12} + \frac{650349}{485}u^{11} + \cdots - \frac{1491522}{485}u + \frac{340092}{485}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$u^{13} + 6u^{12} + \cdots - 3u + 1$
c_3	$u^{13} + 3u^{12} + \cdots - 3u + 1$
c_4	$u^{13} - 6u^{12} + \cdots - 3u - 1$
c_5	$u^{13} + 3u^{11} + \cdots - 3u - 1$
c_6	$u^{13} - 3u^{12} + \cdots + 3u^2 + 1$
c_7	$u^{13} - 3u^{12} + \cdots - 6u + 1$
c_8	$u^{13} - 3u^{12} + \cdots - 3u - 1$
c_9	$u^{13} + 6u^{12} + \cdots - 3u - 1$
c_{10}	$u^{13} + 3u^{11} + \cdots - 3u + 1$
c_{11}	$u^{13} + 7u^{12} + \cdots + 5u + 1$
c_{12}	$u^{13} + 3u^{12} + \cdots - 3u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{13} - 16y^{12} + \cdots - y - 1$
c_3, c_8	$y^{13} - 15y^{12} + \cdots + 7y - 1$
c_5, c_{10}	$y^{13} + 6y^{12} + \cdots - 5y - 1$
c_6, c_{12}	$y^{13} + 5y^{12} + \cdots - 6y - 1$
c_7	$y^{13} - 15y^{12} + \cdots + 2y - 1$
c_9	$y^{13} - 2y^{12} + \cdots + 15y - 1$
c_{11}	$y^{13} - 31y^{12} + \cdots + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.816041+0.000203I$ $a=-1.61968+0.39099I$ $b=-1.80223-0.68201I$	$1.72418+0.65957I$	$-8.99705+2.64502I$
$u=-0.816041-0.000203I$ $a=-1.61968-0.39099I$ $b=-1.80223+0.68201I$	$1.72418-0.65957I$	$-8.99705-2.64502I$
$u=-1.128350+0.374297I$ $a=\ \ 0.383878-0.179213I$ $b=\ \ 0.067884-0.564804I$	$-6.59749+5.36054I$	$-16.7957-3.3098I$
$u=-1.128350-0.374297I$ $a=\ \ 0.383878+0.179213I$ $b=\ \ 0.067884+0.564804I$	$-6.59749-5.36054I$	$-16.7957+3.3098I$
$u=\ \ 0.556612+0.262804I$ $a=-1.195460-0.299951I$ $b=-0.22686-1.50683I$	$-1.55737-3.31191I$	$-8.81382+5.67289I$
$u=\ \ 0.556612-0.262804I$ $a=-1.195460+0.299951I$ $b=-0.22686+1.50683I$	$-1.55737+3.31191I$	$-8.81382-5.67289I$
$u=\ \ 1.312050+0.498669I$ $a=\ \ 0.473709+0.239750I$ $b=\ \ 0.594861-0.162148I$	$-4.99110-3.58519I$	$-10.54784+4.86342I$
$u=\ \ 1.312050-0.498669I$ $a=\ \ 0.473709-0.239750I$ $b=\ \ 0.594861+0.162148I$	$-4.99110+3.58519I$	$-10.54784-4.86342I$
$u=-0.00605+1.41713I$ $a=-0.242443+0.861161I$ $b=-0.561264-0.496045I$	$0.87702-3.30359I$	$-11.32603-0.21831I$
$u=-0.00605-1.41713I$ $a=-0.242443-0.861161I$ $b=-0.561264+0.496045I$	$0.87702+3.30359I$	$-11.32603+0.21831I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.314233 + 0.325307I$ $a = -2.01758 + 0.09750I$ $b = -3.15000 + 2.21154I$	$-3.04698 - 2.63834I$	$-10.8062 + 21.0195I$
$u = \quad 0.314233 - 0.325307I$ $a = -2.01758 - 0.09750I$ $b = -3.15000 - 2.21154I$	$-3.04698 + 2.63834I$	$-10.8062 - 21.0195I$
$u = -3.46490$ $a = \quad 1.43517$ $b = \quad 2.15521$	-18.8747	13.5730

III. $I_1^v = \langle a,\ -5.79\times10^5 v^8 - 1.10\times10^6 v^7 + \cdots + 5.35\times10^6 b + 7.95\times10^6,\ v^9 + v^8 + \cdots + 3v + 7\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ 0.108171v^8 + 0.205852v^7 + \cdots - 0.000774472v - 1.48551 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.102023v^8 - 0.224509v^7 + \cdots + 1.05024v + 0.683770 \\ 0.108171v^8 + 0.205852v^7 + \cdots - 0.000774472v - 1.48551 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} v \\ 0.109964v^8 + 0.217820v^7 + \cdots - 1.73167v - 1.00939 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.159020v^8 + 0.294157v^7 + \cdots - 0.0933167v - 0.754991 \\ -0.0798487v^8 - 0.139548v^7 + \cdots + 0.391226v - 0.126428 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0944713v^8 + 0.166302v^7 + \cdots + 0.644723v - 0.337094 \\ 0.0798487v^8 + 0.139548v^7 + \cdots - 0.391226v + 0.126428 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.163153v^8 - 0.314762v^7 + \cdots + 0.866612v + 1.49020 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.163153v^8 + 0.314762v^7 + \cdots - 0.866612v - 1.49020 \\ 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.163153v^8 - 0.314762v^7 + \cdots + 0.866612v + 2.49020 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{37039389}{37473289}v^8 - \frac{67980124}{37473289}v^7 + \frac{235056117}{37473289}v^6 + \frac{227362865}{37473289}v^5 - \frac{992262694}{37473289}v^4 + \frac{36681292}{37473289}v^3 + \frac{60669880}{5353327}v^2 + \frac{304560980}{37473289}v - \frac{262488239}{37473289}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_8	u^9
c_4	$(u+1)^9$
c_5	$u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1$
c_6	$u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1$
c_7	$u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1$
c_9	$u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1$
c_{10}	$u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1$
c_{11}	$u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1$
c_{12}	$u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_8	y^9
c_5, c_{10}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_6, c_{12}	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_7, c_{11}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_9	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.094310 + 0.114265I$ $a = 0$ $b = -0.650520 + 0.534295I$	$0.13850 + 2.09337I$	$-5.49232 - 4.08340I$
$v = 1.094310 - 0.114265I$ $a = 0$ $b = -0.650520 - 0.534295I$	$0.13850 - 2.09337I$	$-5.49232 + 4.08340I$
$v = -0.703774$ $a = 0$ $b = -1.17358$	-2.84338	-14.1380
$v = -0.187998 + 0.564097I$ $a = 0$ $b = -1.104930 + 0.619057I$	$-2.26187 + 2.45442I$	$-12.87375 - 1.42824I$
$v = -0.187998 - 0.564097I$ $a = 0$ $b = -1.104930 - 0.619057I$	$-2.26187 - 2.45442I$	$-12.87375 + 1.42824I$
$v = 1.51733 + 0.93950I$ $a = 0$ $b = 0.443756 - 0.532821I$	$-6.01628 + 1.33617I$	$-13.72452 + 1.86826I$
$v = 1.51733 - 0.93950I$ $a = 0$ $b = 0.443756 + 0.532821I$	$-6.01628 - 1.33617I$	$-13.72452 - 1.86826I$
$v = -2.57175 + 0.82630I$ $a = 0$ $b = 0.469909 - 0.043588I$	$-5.24306 + 7.08493I$	$-7.53426 - 10.08360I$
$v = -2.57175 - 0.82630I$ $a = 0$ $b = 0.469909 + 0.043588I$	$-5.24306 - 7.08493I$	$-7.53426 + 10.08360I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^9)(u^{13}+6u^{12}+\cdots-3u+1)(u^{28}-16u^{27}+\cdots+419u-49)$
c_3	$u^9(u^{13}+3u^{12}+\cdots-3u+1)(u^{28}+4u^{27}+\cdots-75264u+25088)$
c_4	$((u+1)^9)(u^{13}-6u^{12}+\cdots-3u-1)(u^{28}-16u^{27}+\cdots+419u-49)$
c_5	$(u^9+u^8+\cdots+u-1)(u^{13}+3u^{11}+\cdots-3u-1)$ $\cdot(u^{28}+2u^{27}+\cdots-1173u-1219)$
c_6	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{13}-3u^{12}+\cdots+3u^2+1)(u^{28}+3u^{27}+\cdots+300u+59)$
c_7	$(u^9+u^8+\cdots-u-1)(u^{13}-3u^{12}+\cdots-6u+1)$ $\cdot(u^{28}-u^{27}+\cdots-246402u-218849)$
c_8	$u^9(u^{13}-3u^{12}+\cdots-3u-1)(u^{28}+4u^{27}+\cdots-75264u+25088)$
c_9	$(u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1)$ $\cdot(u^{13}+6u^{12}+\cdots-3u-1)(u^{28}-4u^{27}+\cdots+9u-9)$
c_{10}	$(u^9-u^8+\cdots+u+1)(u^{13}+3u^{11}+\cdots-3u+1)$ $\cdot(u^{28}+2u^{27}+\cdots-1173u-1219)$
c_{11}	$(u^9-u^8+\cdots-u+1)(u^{13}+7u^{12}+\cdots+5u+1)$ $\cdot(u^{28}-u^{27}+\cdots+26513u+36713)$
c_{12}	$(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{13}+3u^{12}+\cdots-3u^2-1)(u^{28}+3u^{27}+\cdots+300u+59)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^9)(y^{13} - 16y^{12} + \cdots - y - 1)$ $\cdot\, (y^{28} - 4y^{27} + \cdots - 168113y + 2401)$
c_3, c_8	$y^9(y^{13} - 15y^{12} + \cdots + 7y - 1)$ $\cdot\, (y^{28} + 78y^{27} + \cdots + 603717632y + 629407744)$
c_5, c_{10}	$(y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)$ $\cdot\, (y^{13} + 6y^{12} + \cdots - 5y - 1)(y^{28} + 42y^{27} + \cdots + 5986831y + 1485961)$
c_6, c_{12}	$(y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)$ $\cdot\, (y^{13} + 5y^{12} + \cdots - 6y - 1)(y^{28} + y^{27} + \cdots - 86696y + 3481)$
c_7	$(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)$ $\cdot\, (y^{13} - 15y^{12} + \cdots + 2y - 1)$ $\cdot\, (y^{28} + 53y^{27} + \cdots + 367398468196y + 47894884801)$
c_9	$(y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)$ $\cdot\, (y^{13} - 2y^{12} + \cdots + 15y - 1)(y^{28} + 2y^{27} + \cdots - 657y + 81)$
c_{11}	$(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)$ $\cdot\, (y^{13} - 31y^{12} + \cdots + 3y - 1)$ $\cdot\, (y^{28} + 29y^{27} + \cdots - 4800844229y + 1347844369)$