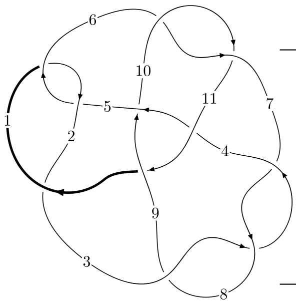
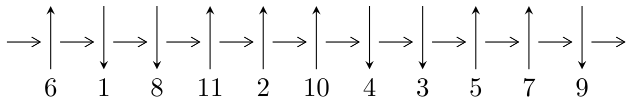
$11a_{137}$ ($K11a_{137}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 2.62286 \times 10^{122} u^{66} - 5.83233 \times 10^{122} u^{65} + \cdots + 8.34384 \times 10^{121} b + 3.23422 \times 10^{123}, \\
& 7.89658 \times 10^{122} u^{66} - 1.90489 \times 10^{123} u^{65} + \cdots + 5.84069 \times 10^{122} a + 4.77578 \times 10^{123}, \\
& u^{67} - u^{66} + \cdots + 178u + 14 \rangle \\
I_2^u = \langle & u^6 - u^5 - 3u^4 + 3u^3 + 3u^2 + b - 2u - 1, \\
& - u^{11} + 2u^{10} + 5u^9 - 12u^8 - 9u^7 + 31u^6 + 4u^5 - 43u^4 + 8u^3 + 31u^2 + 2a - 10u - 9, \\
& u^{12} - 2u^{11} - 5u^{10} + 12u^9 + 9u^8 - 29u^7 - 6u^6 + 35u^5 - 21u^3 + 5u + 2 \rangle
\end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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. $\boldsymbol{I_1^u = \langle 2.62 \times 10^{122} u^{66} - 5.83 \times 10^{122} u^{65} + \cdots + 8.34 \times 10^{121} b + 3.23 \times 10^{123},\ 7.90 \times 10^{122} u^{66} - 1.90 \times 10^{123} u^{65} + \cdots + 5.84 \times 10^{122} a + 4.78 \times 10^{123},\ u^{67} - u^{66} + \cdots + 178u + 14 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.35200u^{66} + 3.26141u^{65} + \cdots - 118.518u - 8.17674 \\ -3.14346u^{66} + 6.98998u^{65} + \cdots - 456.720u - 38.7618 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.79147u^{66} - 3.72857u^{65} + \cdots + 338.203u + 30.5851 \\ -3.14346u^{66} + 6.98998u^{65} + \cdots - 456.720u - 38.7618 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 6.35511u^{66} - 14.1634u^{65} + \cdots + 956.320u + 88.5224 \\ -5.13936u^{66} + 11.5473u^{65} + \cdots - 761.528u - 66.6848 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.65994u^{66} - 3.47429u^{65} + \cdots + 303.006u + 31.5407 \\ -5.11342u^{66} + 11.2674u^{65} + \cdots - 724.107u - 63.0777 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 8.11928u^{66} - 17.8617u^{65} + \cdots + 1164.71u + 104.265 \\ -8.57661u^{66} + 18.9928u^{65} + \cdots - 1183.18u - 101.347 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.57345u^{66} + 3.70563u^{65} + \cdots - 91.7422u - 2.61257 \\ 2.16777u^{66} - 4.87111u^{65} + \cdots + 235.385u + 18.0302 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 4.14278u^{66} - 9.73696u^{65} + \cdots + 392.893u + 31.7183 \\ -6.68802u^{66} + 15.1248u^{65} + \cdots - 868.092u - 73.9457 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 4.14278u^{66} - 9.73696u^{65} + \cdots + 392.893u + 31.7183 \\ -6.68802u^{66} + 15.1248u^{65} + \cdots - 868.092u - 73.9457 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 15.0826u^{66} - 33.1683u^{65} + \cdots + 1975.74u + 173.234$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{67} + 12u^{65} + \cdots + 23u + 1$
c_2	$u^{67} + 24u^{66} + \cdots + 655u - 1$
c_3, c_7, c_8	$u^{67} + u^{66} + \cdots + 34u - 11$
c_4	$u^{67} - 3u^{66} + \cdots - 56360u + 14843$
c_6, c_{10}	$u^{67} + u^{66} + \cdots + 178u - 14$
c_9	$u^{67} + u^{66} + \cdots + 1218u - 523$
c_{11}	$u^{67} - 11u^{66} + \cdots + 19734u - 3697$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{67} + 24y^{66} + \cdots + 655y - 1$
c_2	$y^{67} + 44y^{66} + \cdots + 467315y - 1$
c_3, c_7, c_8	$y^{67} + 73y^{66} + \cdots - 5026y - 121$
c_4	$y^{67} - 31y^{66} + \cdots + 4845129346y - 220314649$
c_6, c_{10}	$y^{67} - 59y^{66} + \cdots + 2144y - 196$
c_9	$y^{67} - 19y^{66} + \cdots + 1068262y - 273529$
c_{11}	$y^{67} + 25y^{66} + \cdots - 401527606y - 13667809$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.142657 + 0.992860I$ $a = 0.56636 + 1.48377I$ $b = 0.033263 + 1.144420I$	$1.70877 + 2.32867I$	0
$u = -0.142657 - 0.992860I$ $a = 0.56636 - 1.48377I$ $b = 0.033263 - 1.144420I$	$1.70877 - 2.32867I$	0
$u = -0.099779 + 1.006020I$ $a = -0.20395 - 1.63071I$ $b = 0.623398 - 0.982401I$	$-0.20027 - 6.31062I$	0
$u = -0.099779 - 1.006020I$ $a = -0.20395 + 1.63071I$ $b = 0.623398 + 0.982401I$	$-0.20027 + 6.31062I$	0
$u = -0.981096 + 0.054455I$ $a = -0.76387 - 1.69840I$ $b = -0.044418 - 0.942425I$	$0.0186179 + 0.0387429I$	0
$u = -0.981096 - 0.054455I$ $a = -0.76387 + 1.69840I$ $b = -0.044418 + 0.942425I$	$0.0186179 - 0.0387429I$	0
$u = -0.270773 + 0.833923I$ $a = 0.195059 + 0.748297I$ $b = 0.604424 + 0.639267I$	$0.80579 - 1.40750I$	$0. + 4.43919I$
$u = -0.270773 - 0.833923I$ $a = 0.195059 - 0.748297I$ $b = 0.604424 - 0.639267I$	$0.80579 + 1.40750I$	$0. - 4.43919I$
$u = 1.107010 + 0.303823I$ $a = 0.50610 - 1.37239I$ $b = -0.121641 - 1.174720I$	$-0.89603 + 4.38119I$	0
$u = 1.107010 - 0.303823I$ $a = 0.50610 + 1.37239I$ $b = -0.121641 + 1.174720I$	$-0.89603 - 4.38119I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.136800 + 0.224242I$ $a = 0.966929 - 0.878075I$ $b = -0.740988 - 1.111300I$	$2.93656 + 4.60816I$	0
$u = 1.136800 - 0.224242I$ $a = 0.966929 + 0.878075I$ $b = -0.740988 + 1.111300I$	$2.93656 - 4.60816I$	0
$u = 1.224370 + 0.009584I$ $a = 0.293275 + 0.010079I$ $b = -0.933790 + 0.466037I$	$4.82838 - 1.51282I$	0
$u = 1.224370 - 0.009584I$ $a = 0.293275 - 0.010079I$ $b = -0.933790 - 0.466037I$	$4.82838 + 1.51282I$	0
$u = 1.104740 + 0.538484I$ $a = 0.98881 + 1.60795I$ $b = -0.048348 + 0.578810I$	$7.98310 + 2.39539I$	0
$u = 1.104740 - 0.538484I$ $a = 0.98881 - 1.60795I$ $b = -0.048348 - 0.578810I$	$7.98310 - 2.39539I$	0
$u = -1.246690 + 0.004314I$ $a = -0.902444 - 0.638257I$ $b = 0.86616 - 1.20415I$	$9.42380 - 4.94858I$	0
$u = -1.246690 - 0.004314I$ $a = -0.902444 + 0.638257I$ $b = 0.86616 + 1.20415I$	$9.42380 + 4.94858I$	0
$u = 0.424436 + 1.177450I$ $a = 0.101432 + 0.607388I$ $b = -0.768711 + 0.568168I$	$7.58682 + 3.59183I$	0
$u = 0.424436 - 1.177450I$ $a = 0.101432 - 0.607388I$ $b = -0.768711 - 0.568168I$	$7.58682 - 3.59183I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.244190+0.216049I$ $a=1.84039+1.27405I$ $b=-0.662475+0.965347I$	$3.73550-4.99700I$	0
$u=-1.244190-0.216049I$ $a=1.84039-1.27405I$ $b=-0.662475-0.965347I$	$3.73550+4.99700I$	0
$u=-1.267400+0.140376I$ $a=-0.324635+0.014077I$ $b=1.231450-0.468321I$	$11.62150-2.40537I$	0
$u=-1.267400-0.140376I$ $a=-0.324635-0.014077I$ $b=1.231450+0.468321I$	$11.62150+2.40537I$	0
$u=1.275090+0.042068I$ $a=-1.97186-0.47485I$ $b=0.704366-0.840178I$	$11.39430+0.35805I$	0
$u=1.275090-0.042068I$ $a=-1.97186+0.47485I$ $b=0.704366+0.840178I$	$11.39430-0.35805I$	0
$u=0.275788+0.662423I$ $a=-1.09829+1.97732I$ $b=0.088329+0.994872I$	$-3.44236-0.72466I$	$-6.99887+1.47430I$
$u=0.275788-0.662423I$ $a=-1.09829-1.97732I$ $b=0.088329-0.994872I$	$-3.44236+0.72466I$	$-6.99887-1.47430I$
$u=-1.28332$ $a=-0.480905$ $b=0.0382466$	2.83439	0
$u=-1.290700+0.141599I$ $a=0.109094+0.820721I$ $b=-0.682399-0.719924I$	$4.48457+0.21946I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.290700 - 0.141599I$ $a = 0.109094 - 0.820721I$ $b = -0.682399 + 0.719924I$	$4.48457 - 0.21946I$	0
$u = -1.223810 + 0.441106I$ $a = -0.440377 - 1.113580I$ $b = 0.263799 - 1.354580I$	$5.11820 - 7.37502I$	0
$u = -1.223810 - 0.441106I$ $a = -0.440377 + 1.113580I$ $b = 0.263799 + 1.354580I$	$5.11820 + 7.37502I$	0
$u = -0.642398 + 0.199393I$ $a = 2.73814 + 0.59347I$ $b = -0.329606 + 0.827830I$	$-1.07794 - 1.38861I$	$3.80624 + 5.85827I$
$u = -0.642398 - 0.199393I$ $a = 2.73814 - 0.59347I$ $b = -0.329606 - 0.827830I$	$-1.07794 + 1.38861I$	$3.80624 - 5.85827I$
$u = 1.372630 + 0.064390I$ $a = -0.790042 - 0.625685I$ $b = 0.699831 + 0.881652I$	$11.26670 + 5.74067I$	0
$u = 1.372630 - 0.064390I$ $a = -0.790042 + 0.625685I$ $b = 0.699831 - 0.881652I$	$11.26670 - 5.74067I$	0
$u = 1.357220 + 0.338528I$ $a = -0.054546 + 0.327019I$ $b = 0.845002 - 0.591998I$	$5.80090 + 5.54175I$	0
$u = 1.357220 - 0.338528I$ $a = -0.054546 - 0.327019I$ $b = 0.845002 + 0.591998I$	$5.80090 - 5.54175I$	0
$u = 1.35728 + 0.42005I$ $a = -1.27110 + 1.25208I$ $b = 0.700232 + 1.058400I$	$4.39822 + 11.29900I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.35728 - 0.42005I$ $a = -1.27110 - 1.25208I$ $b = 0.700232 - 1.058400I$	$4.39822 - 11.29900I$	0
$u = 0.30910 + 1.39948I$ $a = 0.307214 - 1.270910I$ $b = -0.670107 - 1.042710I$	$6.20108 + 9.04828I$	0
$u = 0.30910 - 1.39948I$ $a = 0.307214 + 1.270910I$ $b = -0.670107 + 1.042710I$	$6.20108 - 9.04828I$	0
$u = -1.33379 + 0.59022I$ $a = -0.882996 - 1.086150I$ $b = 0.632519 - 0.943685I$	$3.61989 - 4.42085I$	0
$u = -1.33379 - 0.59022I$ $a = -0.882996 + 1.086150I$ $b = 0.632519 + 0.943685I$	$3.61989 + 4.42085I$	0
$u = -0.157526 + 0.467985I$ $a = -0.59248 - 2.72678I$ $b = -0.580708 - 0.850266I$	$0.31179 + 2.36087I$	$1.49175 - 2.57935I$
$u = -0.157526 - 0.467985I$ $a = -0.59248 + 2.72678I$ $b = -0.580708 + 0.850266I$	$0.31179 - 2.36087I$	$1.49175 + 2.57935I$
$u = -1.46858 + 0.37754I$ $a = -0.250474 + 0.202698I$ $b = 0.642292 + 0.738861I$	$4.25449 + 0.57931I$	0
$u = -1.46858 - 0.37754I$ $a = -0.250474 - 0.202698I$ $b = 0.642292 - 0.738861I$	$4.25449 - 0.57931I$	0
$u = 1.50959 + 0.30643I$ $a = 0.553270 - 0.283027I$ $b = -0.041798 - 0.750414I$	$7.39577 + 2.70914I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.50959 - 0.30643I$ $a = 0.553270 + 0.283027I$ $b = -0.041798 + 0.750414I$	$7.39577 - 2.70914I$	0
$u = -0.307962 + 0.334683I$ $a = -0.646318 + 0.777154I$ $b = -0.200980 + 0.371837I$	$0.196594 - 0.980812I$	$3.31524 + 7.18006I$
$u = -0.307962 - 0.334683I$ $a = -0.646318 - 0.777154I$ $b = -0.200980 - 0.371837I$	$0.196594 + 0.980812I$	$3.31524 - 7.18006I$
$u = -1.48923 + 0.44102I$ $a = 0.162313 + 0.201835I$ $b = -0.980839 - 0.621887I$	$13.5295 - 9.1720I$	0
$u = -1.48923 - 0.44102I$ $a = 0.162313 - 0.201835I$ $b = -0.980839 + 0.621887I$	$13.5295 + 9.1720I$	0
$u = 0.128136 + 0.410429I$ $a = -1.29668 + 0.78147I$ $b = -0.560999 + 0.890607I$	$0.19847 - 2.17667I$	$0.68586 + 2.94537I$
$u = 0.128136 - 0.410429I$ $a = -1.29668 - 0.78147I$ $b = -0.560999 - 0.890607I$	$0.19847 + 2.17667I$	$0.68586 - 2.94537I$
$u = -1.52256 + 0.50776I$ $a = 1.08603 + 1.06504I$ $b = -0.758307 + 1.104120I$	$12.0155 - 15.5095I$	0
$u = -1.52256 - 0.50776I$ $a = 1.08603 - 1.06504I$ $b = -0.758307 - 1.104120I$	$12.0155 + 15.5095I$	0
$u = 0.046763 + 0.307117I$ $a = 0.04254 - 2.41858I$ $b = 0.820849 + 0.561471I$	$7.58253 + 0.63888I$	$6.93084 - 2.84898I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.046763 - 0.307117I$ $a = 0.04254 + 2.41858I$ $b = 0.820849 - 0.561471I$	$7.58253 - 0.63888I$	$6.93084 + 2.84898I$
$u = -0.198912 + 0.077556I$ $a = -0.94110 + 2.54372I$ $b = 0.706486 - 1.065940I$	$6.10007 - 5.08359I$	$5.69636 + 1.21643I$
$u = -0.198912 - 0.077556I$ $a = -0.94110 - 2.54372I$ $b = 0.706486 + 1.065940I$	$6.10007 + 5.08359I$	$5.69636 - 1.21643I$
$u = 1.65753 + 0.77266I$ $a = 0.897263 - 1.007730I$ $b = -0.679271 - 0.835623I$	$10.85990 + 4.67168I$	0
$u = 1.65753 - 0.77266I$ $a = 0.897263 + 1.007730I$ $b = -0.679271 + 0.835623I$	$10.85990 - 4.67168I$	0
$u = 1.74322 + 0.63886I$ $a = 0.245971 + 0.281094I$ $b = -0.676138 + 0.881444I$	$10.71770 - 0.56043I$	0
$u = 1.74322 - 0.63886I$ $a = 0.245971 - 0.281094I$ $b = -0.676138 - 0.881444I$	$10.71770 + 0.56043I$	0

II. $\boldsymbol{I_2^u = \langle u^6 - u^5 - 3u^4 + 3u^3 + 3u^2 + b - 2u - 1,\ -u^{11} + 2u^{10} + \cdots + 2a - 9,\ u^{12} - 2u^{11} + \cdots + 5u + 2\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -u^{11} + u^{10} + 7u^9 - 6u^8 - 24u^7 + 18u^6 + 43u^5 - 27u^4 - 41u^3 + 17u^2 + 20u + 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - u^{11} + \cdots - u + 1$
c_2	$u^{12} + 5u^{11} + \cdots + 5u + 1$
c_3	$u^{12} + 7u^{10} + 17u^8 + u^7 + 15u^6 + 4u^5 + u^4 + 4u^3 - u^2 + 1$
c_4	$u^{12} - u^{10} - 3u^9 - u^8 + 3u^7 + 4u^6 + u^5 - 2u^3 - u^2 + 1$
c_5	$u^{12} + u^{11} + \cdots + u + 1$
c_6	$u^{12} - 2u^{11} - 5u^{10} + 12u^9 + 9u^8 - 29u^7 - 6u^6 + 35u^5 - 21u^3 + 5u + 2$
c_7, c_8	$u^{12} + 7u^{10} + 17u^8 - u^7 + 15u^6 - 4u^5 + u^4 - 4u^3 - u^2 + 1$
c_9	$u^{12} - u^{10} - 2u^9 + u^7 + 4u^6 + 3u^5 - u^4 - 3u^3 - u^2 + 1$
c_{10}	$u^{12} + 2u^{11} - 5u^{10} - 12u^9 + 9u^8 + 29u^7 - 6u^6 - 35u^5 + 21u^3 - 5u + 2$
c_{11}	$u^{12} - 2u^{11} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{12} + 5y^{11} + \cdots + 5y + 1$
c_2	$y^{12} + 9y^{11} + \cdots + 9y + 1$
c_3, c_7, c_8	$y^{12} + 14y^{11} + \cdots - 2y + 1$
c_4	$y^{12} - 2y^{11} + \cdots - 2y + 1$
c_6, c_{10}	$y^{12} - 14y^{11} + \cdots - 25y + 4$
c_9	$y^{12} - 2y^{11} + \cdots - 2y + 1$
c_{11}	$y^{12} + 2y^{11} - y^{10} - 4y^9 + 9y^8 + 5y^7 - 9y^6 - 6y^5 + 9y^4 - y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.972521 + 0.508215I$ $a = 0.443552 - 1.155780I$ $b = -0.620586 - 1.173980I$	$6.48178 + 6.40598I$	$7.80646 - 6.33972I$
$u = 0.972521 - 0.508215I$ $a = 0.443552 + 1.155780I$ $b = -0.620586 + 1.173980I$	$6.48178 - 6.40598I$	$7.80646 + 6.33972I$
$u = -1.105730 + 0.306025I$ $a = -1.22523 - 1.12382I$ $b = 0.652038 - 1.006000I$	$2.33148 - 3.99686I$	$1.50375 + 2.05925I$
$u = -1.105730 - 0.306025I$ $a = -1.22523 + 1.12382I$ $b = 0.652038 + 1.006000I$	$2.33148 + 3.99686I$	$1.50375 - 2.05925I$
$u = -1.310620 + 0.162001I$ $a = -0.148721 - 0.157045I$ $b = 0.585728 + 0.681872I$	$3.42377 + 0.95171I$	$2.37059 - 4.65710I$
$u = -1.310620 - 0.162001I$ $a = -0.148721 + 0.157045I$ $b = 0.585728 - 0.681872I$	$3.42377 - 0.95171I$	$2.37059 + 4.65710I$
$u = 1.300570 + 0.543594I$ $a = -0.080694 + 0.988779I$ $b = -0.438411 + 0.562405I$	$8.75961 + 1.92614I$	$9.97632 + 1.04911I$
$u = 1.300570 - 0.543594I$ $a = -0.080694 - 0.988779I$ $b = -0.438411 - 0.562405I$	$8.75961 - 1.92614I$	$9.97632 - 1.04911I$
$u = 1.45085 + 0.16539I$ $a = 0.856836 - 0.213098I$ $b = -0.811300 - 0.781246I$	$10.26960 + 3.07498I$	$8.16546 - 2.75495I$
$u = 1.45085 - 0.16539I$ $a = 0.856836 + 0.213098I$ $b = -0.811300 + 0.781246I$	$10.26960 - 3.07498I$	$8.16546 + 2.75495I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.307597 + 0.275985I$ $a = 1.90426 + 3.57986I$ $b = 0.132531 + 0.859925I$	$-1.65743 + 0.58036I$	$-2.32258 + 0.32607I$
$u = -0.307597 - 0.275985I$ $a = 1.90426 - 3.57986I$ $b = 0.132531 - 0.859925I$	$-1.65743 - 0.58036I$	$-2.32258 - 0.32607I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{12} - u^{11} + \cdots - u + 1)(u^{67} + 12u^{65} + \cdots + 23u + 1)$
c_2	$(u^{12} + 5u^{11} + \cdots + 5u + 1)(u^{67} + 24u^{66} + \cdots + 655u - 1)$
c_3	$(u^{12} + 7u^{10} + 17u^8 + u^7 + 15u^6 + 4u^5 + u^4 + 4u^3 - u^2 + 1)$ $\cdot (u^{67} + u^{66} + \cdots + 34u - 11)$
c_4	$(u^{12} - u^{10} - 3u^9 - u^8 + 3u^7 + 4u^6 + u^5 - 2u^3 - u^2 + 1)$ $\cdot (u^{67} - 3u^{66} + \cdots - 56360u + 14843)$
c_5	$(u^{12} + u^{11} + \cdots + u + 1)(u^{67} + 12u^{65} + \cdots + 23u + 1)$
c_6	$(u^{12} - 2u^{11} - 5u^{10} + 12u^9 + 9u^8 - 29u^7 - 6u^6 + 35u^5 - 21u^3 + 5u + 2)$ $\cdot (u^{67} + u^{66} + \cdots + 178u - 14)$
c_7, c_8	$(u^{12} + 7u^{10} + 17u^8 - u^7 + 15u^6 - 4u^5 + u^4 - 4u^3 - u^2 + 1)$ $\cdot (u^{67} + u^{66} + \cdots + 34u - 11)$
c_9	$(u^{12} - u^{10} - 2u^9 + u^7 + 4u^6 + 3u^5 - u^4 - 3u^3 - u^2 + 1)$ $\cdot (u^{67} + u^{66} + \cdots + 1218u - 523)$
c_{10}	$(u^{12} + 2u^{11} - 5u^{10} - 12u^9 + 9u^8 + 29u^7 - 6u^6 - 35u^5 + 21u^3 - 5u + 2)$ $\cdot (u^{67} + u^{66} + \cdots + 178u - 14)$
c_{11}	$(u^{12} - 2u^{11} + \cdots - 2u + 1)(u^{67} - 11u^{66} + \cdots + 19734u - 3697)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{12} + 5y^{11} + \cdots + 5y + 1)(y^{67} + 24y^{66} + \cdots + 655y - 1)$
c_2	$(y^{12} + 9y^{11} + \cdots + 9y + 1)(y^{67} + 44y^{66} + \cdots + 467315y - 1)$
c_3, c_7, c_8	$(y^{12} + 14y^{11} + \cdots - 2y + 1)(y^{67} + 73y^{66} + \cdots - 5026y - 121)$
c_4	$(y^{12} - 2y^{11} + \cdots - 2y + 1)$ $\cdot (y^{67} - 31y^{66} + \cdots + 4845129346y - 220314649)$
c_6, c_{10}	$(y^{12} - 14y^{11} + \cdots - 25y + 4)(y^{67} - 59y^{66} + \cdots + 2144y - 196)$
c_9	$(y^{12} - 2y^{11} + \cdots - 2y + 1)(y^{67} - 19y^{66} + \cdots + 1068262y - 273529)$
c_{11}	$(y^{12} + 2y^{11} - y^{10} - 4y^9 + 9y^8 + 5y^7 - 9y^6 - 6y^5 + 9y^4 - y^2 + 2y + 1)$ $\cdot (y^{67} + 25y^{66} + \cdots - 401527606y - 13667809)$