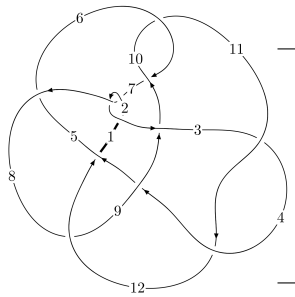
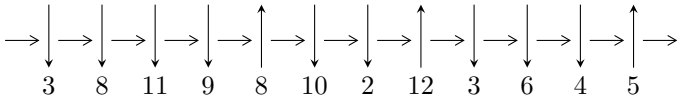
$12n_{0658}$ $(K12n_{0658})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.74970 \times 10^{220} u^{64} - 1.41335 \times 10^{221} u^{63} + \cdots + 1.94971 \times 10^{223} b - 7.61654 \times 10^{223},$$
$$- 4.48176 \times 10^{225} u^{64} - 5.69453 \times 10^{225} u^{63} + \cdots + 3.97935 \times 10^{226} a - 1.23630 \times 10^{228},$$
$$u^{65} + 2u^{64} + \cdots + 1458u + 157 \rangle$$

$$I_2^u = \langle 10854430144646 u^{20} + 12300724825690 u^{19} + \cdots + 24764957468951 b + 6039231440791,$$
$$- 12861674233129 u^{20} - 2850243387257 u^{19} + \cdots + 24764957468951 a - 12778119826149,$$
$$u^{21} + u^{20} + \cdots - 2u^2 - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 86 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. $\boldsymbol{I_1^u = \langle 1.75 \times 10^{220} u^{64} - 1.41 \times 10^{221} u^{63} + \cdots + 1.95 \times 10^{223} b - 7.62 \times 10^{223},\ -4.48 \times 10^{225} u^{64} - 5.69 \times 10^{225} u^{63} + \cdots + 3.98 \times 10^{226} a - 1.24 \times 10^{228},\ u^{65} + 2u^{64} + \cdots + 1458u + 157 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.112625u^{64} + 0.143102u^{63} + \cdots + 200.060u + 31.0678 \\ -0.000897414u^{64} + 0.00724903u^{63} + \cdots + 27.8175u + 3.90651 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0572491u^{64} + 0.0774845u^{63} + \cdots + 125.786u + 22.0769 \\ -0.0345792u^{64} - 0.0375444u^{63} + \cdots - 29.2953u - 3.17970 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.173334u^{64} + 0.262177u^{63} + \cdots + 356.620u + 53.0601 \\ -0.0965680u^{64} - 0.124883u^{63} + \cdots - 167.497u - 21.7230 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.387923u^{64} - 0.492677u^{63} + \cdots - 664.492u - 77.1226 \\ -0.0795910u^{64} - 0.138562u^{63} + \cdots - 238.004u - 33.3801 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.111728u^{64} + 0.150351u^{63} + \cdots + 227.877u + 34.9743 \\ -0.000897414u^{64} + 0.00724903u^{63} + \cdots + 27.8175u + 3.90651 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.149474u^{64} + 0.217371u^{63} + \cdots + 298.867u + 44.4819 \\ 0.0111114u^{64} + 0.0372127u^{63} + \cdots + 70.3743u + 10.2454 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.154001u^{64} + 0.263124u^{63} + \cdots + 403.453u + 65.6548 \\ -0.165095u^{64} - 0.209683u^{63} + \cdots - 275.946u - 35.1275 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.366877u^{64} + 0.486483u^{63} + \cdots + 650.185u + 78.1246 \\ 0.146693u^{64} + 0.235468u^{63} + \cdots + 370.754u + 50.5795 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0507079u^{64} + 0.0927285u^{63} + \cdots + 147.777u + 24.8200 \\ -0.123127u^{64} - 0.167850u^{63} + \cdots - 230.663u - 29.1889 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.737275u^{64} - 0.996152u^{63} + \cdots - 1391.45u - 188.248$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 80u^{64} + \cdots + 26201631u + 703921$
c_2, c_7	$u^{65} + 2u^{64} + \cdots + 2635u - 839$
c_3, c_{11}	$u^{65} - 25u^{63} + \cdots - 25u - 1$
c_4	$u^{65} + 2u^{64} + \cdots + 1458u + 157$
c_5	$u^{65} + 9u^{64} + \cdots - 13866064u + 772201$
c_6, c_{10}	$u^{65} + 6u^{63} + \cdots - 13u + 1$
c_8	$u^{65} + 2u^{64} + \cdots + 1534u + 169$
c_9	$u^{65} + u^{64} + \cdots + 626468359u - 113770343$
c_{12}	$u^{65} - 2u^{64} + \cdots - 23392u - 2011$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 160y^{64} + \cdots - 124582077762381y - 495504774241$
c_2, c_7	$y^{65} - 80y^{64} + \cdots + 26201631y - 703921$
c_3, c_{11}	$y^{65} - 50y^{64} + \cdots + 31y - 1$
c_4	$y^{65} - 14y^{64} + \cdots + 1831546y - 24649$
c_5	$y^{65} + 93y^{64} + \cdots + 51698127994114y - 596294384401$
c_6, c_{10}	$y^{65} + 12y^{64} + \cdots + 43y - 1$
c_8	$y^{65} + 16y^{64} + \cdots - 184548y - 28561$
c_9	$y^{65} - 71y^{64} + \cdots + 305883945614896799y - 12943690946337649$
c_{12}	$y^{65} + 28y^{64} + \cdots - 291747228y - 4044121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.999373 + 0.102603I$ $a = 0.183495 + 1.114360I$ $b = 1.47107 - 0.62237I$	$-13.3785 + 4.9395I$	0
$u = 0.999373 - 0.102603I$ $a = 0.183495 - 1.114360I$ $b = 1.47107 + 0.62237I$	$-13.3785 - 4.9395I$	0
$u = 0.914140 + 0.418551I$ $a = -0.274231 + 1.015020I$ $b = -0.037132 - 0.951807I$	$-0.55815 - 5.01766I$	0
$u = 0.914140 - 0.418551I$ $a = -0.274231 - 1.015020I$ $b = -0.037132 + 0.951807I$	$-0.55815 + 5.01766I$	0
$u = 0.544942 + 0.848280I$ $a = 0.017892 + 0.636408I$ $b = 0.311547 - 0.836295I$	$3.81958 - 0.87527I$	0
$u = 0.544942 - 0.848280I$ $a = 0.017892 - 0.636408I$ $b = 0.311547 + 0.836295I$	$3.81958 + 0.87527I$	0
$u = -0.943989 + 0.244778I$ $a = 1.89766 - 0.46660I$ $b = 1.322510 - 0.167180I$	$-12.02340 - 0.63123I$	0
$u = -0.943989 - 0.244778I$ $a = 1.89766 + 0.46660I$ $b = 1.322510 + 0.167180I$	$-12.02340 + 0.63123I$	0
$u = -0.718967 + 0.646460I$ $a = -0.19383 + 1.54085I$ $b = 1.39393 - 0.34126I$	$-3.94325 + 5.68345I$	0
$u = -0.718967 - 0.646460I$ $a = -0.19383 - 1.54085I$ $b = 1.39393 + 0.34126I$	$-3.94325 - 5.68345I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.564992+0.766638I$ $a=\ \ 0.273439-1.139240I$ $b=-0.098849+0.697594I$	$0.17289+2.65260I$	0
$u=-0.564992-0.766638I$ $a=\ \ 0.273439+1.139240I$ $b=-0.098849-0.697594I$	$0.17289-2.65260I$	0
$u=\ \ 1.032050+0.210054I$ $a=\ \ 0.007300+0.663633I$ $b=-1.346550-0.430450I$	$-4.69587-0.11151I$	0
$u=\ \ 1.032050-0.210054I$ $a=\ \ 0.007300-0.663633I$ $b=-1.346550+0.430450I$	$-4.69587+0.11151I$	0
$u=-1.008770+0.311992I$ $a=-0.87655-2.02191I$ $b=-1.147410+0.096132I$	$-3.68102+0.89750I$	0
$u=-1.008770-0.311992I$ $a=-0.87655+2.02191I$ $b=-1.147410-0.096132I$	$-3.68102-0.89750I$	0
$u=\ \ 0.819844+0.666051I$ $a=-0.04947+1.83615I$ $b=-1.264320-0.103822I$	$-2.80582-3.86569I$	0
$u=\ \ 0.819844-0.666051I$ $a=-0.04947-1.83615I$ $b=-1.264320+0.103822I$	$-2.80582+3.86569I$	0
$u=-1.06438$ $a=\ \ 1.18973$ $b=-0.491702$	-2.53871	0
$u=-0.861352+0.321812I$ $a=\ \ 0.165841-0.909305I$ $b=\ \ 1.47564+0.76252I$	$-11.72340+3.05933I$	$-13.80482+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.861352-0.321812I$ $a=\ 0.165841+0.909305I$ $b=\ 1.47564-0.76252I$	$-11.72340-3.05933I$	$-13.80482+0.I$
$u=\ 0.768490+0.184024I$ $a=\ 2.38615+1.30513I$ $b=\ 1.293180+0.139730I$	$-12.35970-6.17999I$	$-13.5430+5.2560I$
$u=\ 0.768490-0.184024I$ $a=\ 2.38615-1.30513I$ $b=\ 1.293180-0.139730I$	$-12.35970+6.17999I$	$-13.5430-5.2560I$
$u=\ 0.681468+1.023020I$ $a=-0.584449-0.266422I$ $b=\ 1.169520-0.114705I$	$-2.82139+3.87224I$	0
$u=\ 0.681468-1.023020I$ $a=-0.584449+0.266422I$ $b=\ 1.169520+0.114705I$	$-2.82139-3.87224I$	0
$u=\ 1.059320+0.651414I$ $a=-0.068250-0.898603I$ $b=\ 0.142000+1.206150I$	$-9.20705-1.83942I$	0
$u=\ 1.059320-0.651414I$ $a=-0.068250+0.898603I$ $b=\ 0.142000-1.206150I$	$-9.20705+1.83942I$	0
$u=-0.699109+0.200716I$ $a=\ 0.822915-0.817830I$ $b=-0.173433+0.242316I$	$-1.208910+0.548314I$	$-8.64501-2.55655I$
$u=-0.699109-0.200716I$ $a=\ 0.822915+0.817830I$ $b=-0.173433-0.242316I$	$-1.208910-0.548314I$	$-8.64501+2.55655I$
$u=\ 0.862620+1.000680I$ $a=-0.850831-0.045360I$ $b=-0.106228-0.377671I$	$-8.01748-4.29475I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.862620 - 1.000680I$ $a = -0.850831 + 0.045360I$ $b = -0.106228 + 0.377671I$	$-8.01748 + 4.29475I$	0
$u = 1.158140 + 0.659100I$ $a = 0.117313 - 1.313300I$ $b = 1.318680 + 0.427978I$	$-4.81417 - 9.90537I$	0
$u = 1.158140 - 0.659100I$ $a = 0.117313 + 1.313300I$ $b = 1.318680 - 0.427978I$	$-4.81417 + 9.90537I$	0
$u = 0.512850 + 0.407512I$ $a = -0.54396 + 1.92014I$ $b = -1.227830 - 0.206235I$	$-1.82076 - 0.96957I$	$-1.84094 - 0.74780I$
$u = 0.512850 - 0.407512I$ $a = -0.54396 - 1.92014I$ $b = -1.227830 + 0.206235I$	$-1.82076 + 0.96957I$	$-1.84094 + 0.74780I$
$u = -1.075290 + 0.820321I$ $a = 0.029326 + 0.907628I$ $b = 0.210489 - 1.168250I$	$-8.16440 + 10.11900I$	0
$u = -1.075290 - 0.820321I$ $a = 0.029326 - 0.907628I$ $b = 0.210489 + 1.168250I$	$-8.16440 - 10.11900I$	0
$u = -0.633443 + 0.121495I$ $a = 0.80489 - 1.99874I$ $b = -1.072970 + 0.269722I$	$-2.58233 + 0.73416I$	$-9.39358 + 8.45936I$
$u = -0.633443 - 0.121495I$ $a = 0.80489 + 1.99874I$ $b = -1.072970 - 0.269722I$	$-2.58233 - 0.73416I$	$-9.39358 - 8.45936I$
$u = -1.144370 + 0.749445I$ $a = 0.001986 - 0.627491I$ $b = -1.32660 + 0.55872I$	$-1.63568 + 5.32861I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.144370-0.749445I$ $a=\ \ 0.001986+0.627491I$ $b=-1.32660-0.55872I$	$-1.63568-5.32861I$	0
$u=\ \ 0.551203+0.205508I$ $a=\ \ 0.96007-1.78056I$ $b=-0.0840652+0.0654924I$	$0.93353-2.84266I$	$-8.27444-0.53942I$
$u=\ \ 0.551203-0.205508I$ $a=\ \ 0.96007+1.78056I$ $b=-0.0840652-0.0654924I$	$0.93353+2.84266I$	$-8.27444+0.53942I$
$u=-0.94708+1.13082I$ $a=-0.289084+0.976259I$ $b=\ \ 1.321940-0.311580I$	$-4.26583+6.35751I$	0
$u=-0.94708-1.13082I$ $a=-0.289084-0.976259I$ $b=\ \ 1.321940+0.311580I$	$-4.26583-6.35751I$	0
$u=-0.96950+1.11387I$ $a=-0.666748-0.221312I$ $b=-0.152577+0.535195I$	$-7.36307-3.09669I$	0
$u=-0.96950-1.11387I$ $a=-0.666748+0.221312I$ $b=-0.152577-0.535195I$	$-7.36307+3.09669I$	0
$u=\ \ 0.017003+0.520994I$ $a=\ \ 0.52264-1.79134I$ $b=-0.170066+0.616830I$	$1.35247+2.01752I$	$-0.32815-3.57932I$
$u=\ \ 0.017003-0.520994I$ $a=\ \ 0.52264+1.79134I$ $b=-0.170066-0.616830I$	$1.35247-2.01752I$	$-0.32815+3.57932I$
$u=-0.487051+0.184553I$ $a=-0.523976+0.683896I$ $b=-0.364029-1.277030I$	$2.05730-1.12785I$	$-14.5677+6.0985I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.487051-0.184553I$ $a=-0.523976-0.683896I$ $b=-0.364029+1.277030I$	$2.05730+1.12785I$	$-14.5677-6.0985I$
$u=\ \ 1.34403+0.87395I$ $a=\ \ 0.245632-0.677061I$ $b=\ \ 1.137180+0.382997I$	$1.20608-5.29372I$	0
$u=\ \ 1.34403-0.87395I$ $a=\ \ 0.245632+0.677061I$ $b=\ \ 1.137180-0.382997I$	$1.20608+5.29372I$	0
$u=-1.62477$ $a=\ \ 0.128143$ $b=\ \ 1.37061$	-8.24749	0
$u=\ \ 1.48370+0.87202I$ $a=-0.057752+0.890430I$ $b=-1.44306-0.50190I$	$-14.2637-7.7830I$	0
$u=\ \ 1.48370-0.87202I$ $a=-0.057752-0.890430I$ $b=-1.44306+0.50190I$	$-14.2637+7.7830I$	0
$u=-1.44711+0.93929I$ $a=-0.099582-0.974443I$ $b=-1.45292+0.48475I$	$-13.4195+15.8987I$	0
$u=-1.44711-0.93929I$ $a=-0.099582+0.974443I$ $b=-1.45292-0.48475I$	$-13.4195-15.8987I$	0
$u=-1.37855+1.03960I$ $a=-0.123840+0.435880I$ $b=\ \ 1.190040-0.087701I$	$-4.94093+1.63213I$	0
$u=-1.37855-1.03960I$ $a=-0.123840-0.435880I$ $b=\ \ 1.190040+0.087701I$	$-4.94093-1.63213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.144278$ $a=\ \ 5.40384$ $b=-0.674268$	-1.17407	-8.98220
$u=\ \ 1.62504+2.08961I$ $a=\ \ 0.195235+0.198274I$ $b=-1.214090+0.100227I$	$-11.29140-2.66062I$	0
$u=\ \ 1.62504-2.08961I$ $a=\ \ 0.195235-0.198274I$ $b=-1.214090-0.100227I$	$-11.29140+2.66062I$	0
$u=-1.07793+2.55737I$ $a=\ \ 0.184452+0.002607I$ $b=-1.177930-0.198966I$	$-10.35930-5.79368I$	0
$u=-1.07793-2.55737I$ $a=\ \ 0.184452-0.002607I$ $b=-1.177930+0.198966I$	$-10.35930+5.79368I$	0

II.

$\boldsymbol{I_2^u = \langle 1.09\times 10^{13}u^{20}+1.23\times 10^{13}u^{19}+\cdots+2.48\times 10^{13}b+6.04\times 10^{12},\ -1.29\times 10^{13}u^{20}-2.85\times 10^{12}u^{19}+\cdots+2.48\times 10^{13}a-1.28\times 10^{13},\ u^{21}+u^{20}+\cdots-2u^2-1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.519350u^{20} + 0.115092u^{19} + \cdots + 4.75906u + 0.515976 \\ -0.438298u^{20} - 0.496699u^{19} + \cdots - 1.49110u - 0.243862 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.432185u^{20} - 0.347015u^{19} + \cdots + 2.74861u + 0.676372 \\ 0.0360697u^{20} - 0.276002u^{19} + \cdots - 1.57826u - 0.618804 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.343067u^{20} + 0.800587u^{19} + \cdots + 0.543328u + 2.17015 \\ -0.349292u^{20} - 0.630439u^{19} + \cdots + 2.20499u + 0.0265777 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.561265u^{20} + 1.60373u^{19} + \cdots - 5.73182u - 0.208417 \\ 0.0890616u^{20} - 0.213890u^{19} + \cdots + 2.41615u + 1.51061 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0810518u^{20} - 0.381607u^{19} + \cdots + 3.26796u + 0.272114 \\ -0.438298u^{20} - 0.496699u^{19} + \cdots - 1.49110u - 0.243862 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.713332u^{20} - 0.888724u^{19} + \cdots + 4.27797u + 1.97434 \\ -0.739910u^{20} - 0.566010u^{19} + \cdots - 2.10462u - 0.230652 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0219095u^{20} - 0.283308u^{19} + \cdots + 2.48653u + 0.812160 \\ -0.519367u^{20} - 0.445460u^{19} + \cdots - 2.03367u + 0.145816 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.01832u^{20} + 1.08146u^{19} + \cdots + 1.09672u + 1.27496 \\ 0.272340u^{20} - 0.310322u^{19} + \cdots + 2.54320u - 0.924913 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.684289u^{20} + 0.403574u^{19} + \cdots + 1.29439u + 3.50062 \\ -0.623557u^{20} - 1.06224u^{19} + \cdots + 1.98393u - 0.232468 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= \frac{11118351519795}{24764957468951}u^{20} - \frac{6479749559907}{3537851066993}u^{19} + \cdots - \frac{134928284668245}{24764957468951}u - \frac{205361301351383}{24764957468951}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{21} - 21u^{20} + \cdots - 3u - 1$
c_2	$u^{21} - u^{20} + \cdots + 3u - 1$
c_3	$u^{21} - u^{20} + \cdots + 11u + 7$
c_4	$u^{21} + u^{20} + \cdots - 2u^2 - 1$
c_5	$u^{21} + 2u^{20} + \cdots + 6u - 7$
c_6	$u^{21} + u^{20} + \cdots - u + 1$
c_7	$u^{21} + u^{20} + \cdots + 3u + 1$
c_8	$u^{21} + u^{20} + \cdots - 4u + 1$
c_9	$u^{21} + 2u^{20} + \cdots - 71u + 19$
c_{10}	$u^{21} - u^{20} + \cdots - u - 1$
c_{11}	$u^{21} + u^{20} + \cdots + 11u - 7$
c_{12}	$u^{21} - 3u^{20} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{21} - 53y^{20} + \cdots + 73y - 1$
c_2, c_7	$y^{21} - 21y^{20} + \cdots - 3y - 1$
c_3, c_{11}	$y^{21} - 15y^{20} + \cdots + 93y - 49$
c_4	$y^{21} + 5y^{20} + \cdots - 4y - 1$
c_5	$y^{21} - 12y^{20} + \cdots + 2108y - 49$
c_6, c_{10}	$y^{21} + 15y^{20} + \cdots + 5y - 1$
c_8	$y^{21} + 3y^{20} + \cdots + 6y - 1$
c_9	$y^{21} - 8y^{20} + \cdots - 6815y - 361$
c_{12}	$y^{21} - y^{20} + \cdots + 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.995040$ $a = 1.53732$ $b = -0.633509$	-2.63990	-61.2880
$u = 0.887942 + 0.265832I$ $a = -0.27186 + 1.60857I$ $b = -1.105880 - 0.231970I$	$-3.10576 - 1.08145I$	$-11.60473 - 1.20772I$
$u = 0.887942 - 0.265832I$ $a = -0.27186 - 1.60857I$ $b = -1.105880 + 0.231970I$	$-3.10576 + 1.08145I$	$-11.60473 + 1.20772I$
$u = 0.335007 + 0.764873I$ $a = 0.349475 + 0.797361I$ $b = 0.126425 - 1.048160I$	$2.99868 - 1.45719I$	$-4.59366 + 6.14585I$
$u = 0.335007 - 0.764873I$ $a = 0.349475 - 0.797361I$ $b = 0.126425 + 1.048160I$	$2.99868 + 1.45719I$	$-4.59366 - 6.14585I$
$u = -0.768678 + 0.960873I$ $a = -0.391291 + 1.331950I$ $b = 1.355210 - 0.281637I$	$-3.38645 + 6.55264I$	$-3.36004 - 8.68236I$
$u = -0.768678 - 0.960873I$ $a = -0.391291 - 1.331950I$ $b = 1.355210 + 0.281637I$	$-3.38645 - 6.55264I$	$-3.36004 + 8.68236I$
$u = -0.480430 + 0.542921I$ $a = 0.03174 - 1.74407I$ $b = -0.102734 + 0.532504I$	$1.33027 + 3.34421I$	$0.81047 - 9.50324I$
$u = -0.480430 - 0.542921I$ $a = 0.03174 + 1.74407I$ $b = -0.102734 - 0.532504I$	$1.33027 - 3.34421I$	$0.81047 + 9.50324I$
$u = -0.598889 + 0.406001I$ $a = 0.173713 + 0.637671I$ $b = -0.631828 - 1.130440I$	$2.34945 - 0.74831I$	$-4.02686 - 6.25327I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.598889-0.406001I$ $a=\ \ 0.173713-0.637671I$ $b=-0.631828+1.130440I$	$2.34945+0.74831I$	$-4.02686+6.25327I$
$u=-1.166620+0.527651I$ $a=-0.579151-0.728388I$ $b=-1.089360+0.405520I$	$0.49818+4.56432I$	$-8.19695-3.48083I$
$u=-1.166620-0.527651I$ $a=-0.579151+0.728388I$ $b=-1.089360-0.405520I$	$0.49818-4.56432I$	$-8.19695+3.48083I$
$u=-0.725758+1.061050I$ $a=\ \ 0.271335+0.349520I$ $b=\ \ 1.175310+0.315124I$	$-10.06770+2.53564I$	$-8.77876-1.65013I$
$u=-0.725758-1.061050I$ $a=\ \ 0.271335-0.349520I$ $b=\ \ 1.175310-0.315124I$	$-10.06770-2.53564I$	$-8.77876+1.65013I$
$u=\ \ 0.216516+0.360136I$ $a=\ \ 2.00760+2.33089I$ $b=-1.304550-0.087060I$	$-3.10125-2.22500I$	$-10.50218+2.63419I$
$u=\ \ 0.216516-0.360136I$ $a=\ \ 2.00760-2.33089I$ $b=-1.304550+0.087060I$	$-3.10125+2.22500I$	$-10.50218-2.63419I$
$u=\ \ 1.06547+1.24110I$ $a=-0.085748-0.678299I$ $b=\ \ 1.279400+0.468268I$	$-0.73617-6.70838I$	$-6.14219+7.52338I$
$u=\ \ 1.06547-1.24110I$ $a=-0.085748+0.678299I$ $b=\ \ 1.279400-0.468268I$	$-0.73617+6.70838I$	$-6.14219-7.52338I$
$u=\ \ 0.23792+1.75774I$ $a=-0.274467-0.304190I$ $b=\ \ 1.114760-0.227134I$	$-10.13330+5.08046I$	$-10.46087-0.93338I$

	Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.23792-1.75774I$		
$a=$	$-0.274467+0.304190I$	$-10.13330-5.08046I$	$-10.46087+0.93338I$
$b=$	$1.114760+0.227134I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{21}-21u^{20}+\cdots-3u-1)$ $\cdot(u^{65}+80u^{64}+\cdots+26201631u+703921)$
c_2	$(u^{21}-u^{20}+\cdots+3u-1)(u^{65}+2u^{64}+\cdots+2635u-839)$
c_3	$(u^{21}-u^{20}+\cdots+11u+7)(u^{65}-25u^{63}+\cdots-25u-1)$
c_4	$(u^{21}+u^{20}+\cdots-2u^2-1)(u^{65}+2u^{64}+\cdots+1458u+157)$
c_5	$(u^{21}+2u^{20}+\cdots+6u-7)(u^{65}+9u^{64}+\cdots-1.38661\times10^7u+772201)$
c_6	$(u^{21}+u^{20}+\cdots-u+1)(u^{65}+6u^{63}+\cdots-13u+1)$
c_7	$(u^{21}+u^{20}+\cdots+3u+1)(u^{65}+2u^{64}+\cdots+2635u-839)$
c_8	$(u^{21}+u^{20}+\cdots-4u+1)(u^{65}+2u^{64}+\cdots+1534u+169)$
c_9	$(u^{21}+2u^{20}+\cdots-71u+19)$ $\cdot(u^{65}+u^{64}+\cdots+626468359u-113770343)$
c_{10}	$(u^{21}-u^{20}+\cdots-u-1)(u^{65}+6u^{63}+\cdots-13u+1)$
c_{11}	$(u^{21}+u^{20}+\cdots+11u-7)(u^{65}-25u^{63}+\cdots-25u-1)$
c_{12}	$(u^{21}-3u^{20}+\cdots+2u-1)(u^{65}-2u^{64}+\cdots-23392u-2011)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{21} - 53y^{20} + \cdots + 73y - 1)$ $\cdot (y^{65} - 160y^{64} + \cdots - 124582077762381y - 495504774241)$
c_2, c_7	$(y^{21} - 21y^{20} + \cdots - 3y - 1)$ $\cdot (y^{65} - 80y^{64} + \cdots + 26201631y - 703921)$
c_3, c_{11}	$(y^{21} - 15y^{20} + \cdots + 93y - 49)(y^{65} - 50y^{64} + \cdots + 31y - 1)$
c_4	$(y^{21} + 5y^{20} + \cdots - 4y - 1)(y^{65} - 14y^{64} + \cdots + 1831546y - 24649)$
c_5	$(y^{21} - 12y^{20} + \cdots + 2108y - 49)$ $\cdot (y^{65} + 93y^{64} + \cdots + 51698127994114y - 596294384401)$
c_6, c_{10}	$(y^{21} + 15y^{20} + \cdots + 5y - 1)(y^{65} + 12y^{64} + \cdots + 43y - 1)$
c_8	$(y^{21} + 3y^{20} + \cdots + 6y - 1)(y^{65} + 16y^{64} + \cdots - 184548y - 28561)$
c_9	$(y^{21} - 8y^{20} + \cdots - 6815y - 361)$ $\cdot (y^{65} - 71y^{64} + \cdots + 305883945614896799y - 12943690946337649)$
c_{12}	$(y^{21} - y^{20} + \cdots + 2y - 1)$ $\cdot (y^{65} + 28y^{64} + \cdots - 291747228y - 4044121)$