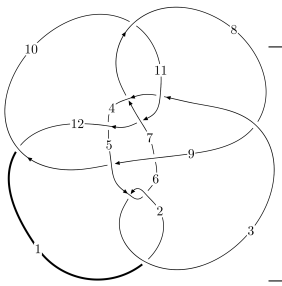
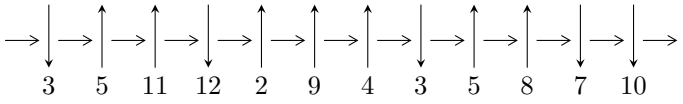
$12n_{0461}$ $(K12n_{0461})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.96588 \times 10^{228} u^{66} + 2.60681 \times 10^{228} u^{65} + \cdots + 5.14418 \times 10^{229} b - 5.03692 \times 10^{229}, \\ & 7.11870 \times 10^{230} u^{66} + 1.26348 \times 10^{231} u^{65} + \cdots + 1.59470 \times 10^{231} a + 9.95544 \times 10^{232}, \\ & u^{67} + 2u^{66} + \cdots + 603u + 31 \rangle \\ I_2^u = \langle & 995343950102 u^{24} + 3663166642595 u^{23} + \cdots + 2665590783190 b + 2009076529451, \\ & - 758722386667 u^{24} - 2572820961963 u^{23} + \cdots + 2665590783190 a + 2793047519965, \\ & u^{25} + 3u^{24} + \cdots + 12u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 92 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. $\boldsymbol{I_1^u = \langle 1.97 \times 10^{228} u^{66} + 2.61 \times 10^{228} u^{65} + \cdots + 5.14 \times 10^{229} b - 5.04 \times 10^{229},\ 7.12 \times 10^{230} u^{66} + 1.26 \times 10^{231} u^{65} + \cdots + 1.59 \times 10^{231} a + 9.96 \times 10^{232},\ u^{67} + 2u^{66} + \cdots + 603u + 31 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.446398u^{66} - 0.792300u^{65} + \cdots - 931.788u - 62.4284 \\ -0.0382156u^{66} - 0.0506750u^{65} + \cdots + 6.93009u + 0.979148 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.446398u^{66} - 0.792300u^{65} + \cdots - 931.788u - 62.4284 \\ -0.0659120u^{66} - 0.0964250u^{65} + \cdots - 39.8309u - 2.13624 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.512310u^{66} - 0.888725u^{65} + \cdots - 971.619u - 64.5646 \\ -0.0659120u^{66} - 0.0964250u^{65} + \cdots - 39.8309u - 2.13624 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.665717u^{66} + 1.16106u^{65} + \cdots + 1367.94u + 89.9273 \\ 0.0771011u^{66} + 0.126191u^{65} + \cdots + 101.139u + 6.37264 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0814414u^{66} - 0.0919983u^{65} + \cdots + 172.852u + 18.2940 \\ -0.105789u^{66} - 0.173936u^{65} + \cdots - 154.253u - 9.77732 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.146834u^{66} - 0.291150u^{65} + \cdots - 526.345u - 36.6710 \\ 0.0133343u^{66} + 0.0148802u^{65} + \cdots + 9.89412u + 0.806420 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.782527u^{66} - 1.35663u^{65} + \cdots - 1584.69u - 109.331 \\ -0.142531u^{66} - 0.231198u^{65} + \cdots - 195.994u - 11.1014 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6.00516u^{66} + 10.3283u^{65} + \cdots + 10856.4u + 703.480$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{67} + 96u^{66} + \cdots - 6593u - 961$
c_2, c_5	$u^{67} - 2u^{66} + \cdots + 603u - 31$
c_3	$u^{67} - 2u^{65} + \cdots + 12u + 1$
c_4	$u^{67} + u^{66} + \cdots + 78u - 4$
c_6	$u^{67} - 3u^{66} + \cdots + 1112592u - 190913$
c_7	$u^{67} - 4u^{66} + \cdots - 152u - 19$
c_8	$u^{67} - 21u^{65} + \cdots + 3707522u - 708772$
c_9	$u^{67} + u^{66} + \cdots - 7924808u - 913579$
c_{10}	$u^{67} + 10u^{66} + \cdots - 24u - 1$
c_{11}	$u^{67} + u^{66} + \cdots + 22u - 1$
c_{12}	$u^{67} - 5u^{66} + \cdots + 4917808u - 488737$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{67} - 248y^{66} + \cdots + 1205710659y - 923521$
c_2, c_5	$y^{67} + 96y^{66} + \cdots - 6593y - 961$
c_3	$y^{67} - 4y^{66} + \cdots + 52y - 1$
c_4	$y^{67} - 15y^{66} + \cdots + 2428y - 16$
c_6	$y^{67} + 129y^{66} + \cdots - 167561891380y - 36447773569$
c_7	$y^{67} + 6y^{66} + \cdots - 8740y - 361$
c_8	$y^{67} - 42y^{66} + \cdots + 5030461829868y - 502357747984$
c_9	$y^{67} + 99y^{66} + \cdots + 1331996748366y - 834626589241$
c_{10}	$y^{67} + 18y^{66} + \cdots - 86y - 1$
c_{11}	$y^{67} + 5y^{66} + \cdots + 12y - 1$
c_{12}	$y^{67} - 111y^{66} + \cdots + 2732023039434y - 238863855169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.457533 + 0.954014I$ $a = 0.589994 + 0.995559I$ $b = 0.778600 + 0.667694I$	$-2.30669 - 1.69781I$	0
$u = 0.457533 - 0.954014I$ $a = 0.589994 - 0.995559I$ $b = 0.778600 - 0.667694I$	$-2.30669 + 1.69781I$	0
$u = -0.115958 + 1.054650I$ $a = 0.263031 + 0.627824I$ $b = 0.21100 + 1.58802I$	$-0.557773 - 1.254050I$	0
$u = -0.115958 - 1.054650I$ $a = 0.263031 - 0.627824I$ $b = 0.21100 - 1.58802I$	$-0.557773 + 1.254050I$	0
$u = -0.193472 + 0.917062I$ $a = -0.773951 + 0.955297I$ $b = 0.193510 + 0.352286I$	$-4.33901 - 2.24983I$	0
$u = -0.193472 - 0.917062I$ $a = -0.773951 - 0.955297I$ $b = 0.193510 - 0.352286I$	$-4.33901 + 2.24983I$	0
$u = 0.893939 + 0.275897I$ $a = -0.407031 - 0.202432I$ $b = -0.623251 + 0.431858I$	$0.01989 - 3.98298I$	0
$u = 0.893939 - 0.275897I$ $a = -0.407031 + 0.202432I$ $b = -0.623251 - 0.431858I$	$0.01989 + 3.98298I$	0
$u = -0.697295 + 0.620282I$ $a = -0.364005 + 0.741958I$ $b = -0.087737 - 1.325970I$	$-0.80774 + 6.08975I$	0
$u = -0.697295 - 0.620282I$ $a = -0.364005 - 0.741958I$ $b = -0.087737 + 1.325970I$	$-0.80774 - 6.08975I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.187614+0.909547I$		
$a=$	$0.751918+1.020130I$	$-2.66802-2.88160I$	0
$b=$	$0.512623-0.137739I$		
$u=$	$0.187614-0.909547I$		
$a=$	$0.751918-1.020130I$	$-2.66802+2.88160I$	0
$b=$	$0.512623+0.137739I$		
$u=$	$-0.516210+0.989811I$		
$a=$	$0.103606+0.654257I$	$-0.24728-2.81998I$	0
$b=$	$0.409249+0.491498I$		
$u=$	$-0.516210-0.989811I$		
$a=$	$0.103606-0.654257I$	$-0.24728+2.81998I$	0
$b=$	$0.409249-0.491498I$		
$u=$	$0.400784+1.045870I$		
$a=$	$-0.43114-1.47222I$	$-3.41227-6.93248I$	0
$b=$	$0.155940-0.982519I$		
$u=$	$0.400784-1.045870I$		
$a=$	$-0.43114+1.47222I$	$-3.41227+6.93248I$	0
$b=$	$0.155940+0.982519I$		
$u=$	$-0.538706+0.567850I$		
$a=$	$-0.955441-0.064037I$	$0.98191-1.38534I$	0
$b=$	$-0.564344+0.249827I$		
$u=$	$-0.538706-0.567850I$		
$a=$	$-0.955441+0.064037I$	$0.98191+1.38534I$	0
$b=$	$-0.564344-0.249827I$		
$u=$	$0.784394+0.984178I$		
$a=$	$0.420939+0.642128I$	$-4.27934+2.18416I$	0
$b=$	$0.255313-0.360077I$		
$u=$	$0.784394-0.984178I$		
$a=$	$0.420939-0.642128I$	$-4.27934-2.18416I$	0
$b=$	$0.255313+0.360077I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.501023 + 0.539600I$ $a = 1.45647 + 0.55036I$ $b = 0.180295 - 0.246221I$	$-1.49173 + 5.01883I$	0
$u = 0.501023 - 0.539600I$ $a = 1.45647 - 0.55036I$ $b = 0.180295 + 0.246221I$	$-1.49173 - 5.01883I$	0
$u = -0.674453 + 1.076020I$ $a = -0.390071 + 0.864497I$ $b = -0.094098 + 0.624906I$	$-0.39462 - 3.04715I$	0
$u = -0.674453 - 1.076020I$ $a = -0.390071 - 0.864497I$ $b = -0.094098 - 0.624906I$	$-0.39462 + 3.04715I$	0
$u = -0.893676 + 0.921028I$ $a = -0.090719 - 1.104600I$ $b = -0.280112 - 0.478115I$	$-0.24710 - 1.93291I$	0
$u = -0.893676 - 0.921028I$ $a = -0.090719 + 1.104600I$ $b = -0.280112 + 0.478115I$	$-0.24710 + 1.93291I$	0
$u = -0.730247 + 1.176420I$ $a = 0.046631 - 0.413439I$ $b = -0.209172 + 0.541131I$	$-2.91897 - 2.04519I$	0
$u = -0.730247 - 1.176420I$ $a = 0.046631 + 0.413439I$ $b = -0.209172 - 0.541131I$	$-2.91897 + 2.04519I$	0
$u = -0.196064 + 0.545051I$ $a = -1.288410 + 0.052000I$ $b = -0.114737 + 0.808653I$	$0.68348 - 1.57687I$	$3.99292 + 3.23694I$
$u = -0.196064 - 0.545051I$ $a = -1.288410 - 0.052000I$ $b = -0.114737 - 0.808653I$	$0.68348 + 1.57687I$	$3.99292 - 3.23694I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.95653 + 1.16937I$ $a = -0.368103 - 0.666516I$ $b = -0.272757 - 0.017375I$	$-2.56627 + 10.48270I$	0
$u = 0.95653 - 1.16937I$ $a = -0.368103 + 0.666516I$ $b = -0.272757 + 0.017375I$	$-2.56627 - 10.48270I$	0
$u = 0.388067 + 0.223024I$ $a = -0.727120 + 0.753413I$ $b = 0.737018 + 0.522103I$	$-1.43906 - 1.78237I$	$-1.33211 + 2.71073I$
$u = 0.388067 - 0.223024I$ $a = -0.727120 - 0.753413I$ $b = 0.737018 - 0.522103I$	$-1.43906 + 1.78237I$	$-1.33211 - 2.71073I$
$u = -0.325137 + 0.268142I$ $a = -0.13146 + 2.12340I$ $b = 0.505270 + 1.102930I$	$0.79855 - 2.50260I$	$-1.01061 - 3.08759I$
$u = -0.325137 - 0.268142I$ $a = -0.13146 - 2.12340I$ $b = 0.505270 - 1.102930I$	$0.79855 + 2.50260I$	$-1.01061 + 3.08759I$
$u = -0.380315 + 0.053193I$ $a = -1.40378 + 1.50656I$ $b = 0.358957 + 0.785864I$	$0.27383 - 2.13551I$	$6.80663 + 3.84102I$
$u = -0.380315 - 0.053193I$ $a = -1.40378 - 1.50656I$ $b = 0.358957 - 0.785864I$	$0.27383 + 2.13551I$	$6.80663 - 3.84102I$
$u = 0.05485 + 1.68623I$ $a = -1.242600 + 0.118981I$ $b = -2.63143 + 0.35846I$	$-9.40596 + 6.77180I$	0
$u = 0.05485 - 1.68623I$ $a = -1.242600 - 0.118981I$ $b = -2.63143 - 0.35846I$	$-9.40596 - 6.77180I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.281287$ $a=-4.51882$ $b=-0.486994$	2.29735	23.7480
$u=-0.258984+0.039539I$ $a=-4.31229-0.59288I$ $b=-0.302792+0.311893I$	$2.29249+0.02089I$	$16.8227+1.1436I$
$u=-0.258984-0.039539I$ $a=-4.31229+0.59288I$ $b=-0.302792-0.311893I$	$2.29249-0.02089I$	$16.8227-1.1436I$
$u=0.07896+1.73800I$ $a=1.039740+0.199144I$ $b=2.21124+0.08008I$	$-7.10246-1.28623I$	0
$u=0.07896-1.73800I$ $a=1.039740-0.199144I$ $b=2.21124-0.08008I$	$-7.10246+1.28623I$	0
$u=-0.19011+1.74929I$ $a=1.325720-0.103891I$ $b=2.54637-0.41828I$	$-13.6672-4.5083I$	0
$u=-0.19011-1.74929I$ $a=1.325720+0.103891I$ $b=2.54637+0.41828I$	$-13.6672+4.5083I$	0
$u=0.17362+1.78193I$ $a=-0.970603-0.264089I$ $b=-2.23387-0.50105I$	$-12.23740-0.69980I$	0
$u=0.17362-1.78193I$ $a=-0.970603+0.264089I$ $b=-2.23387+0.50105I$	$-12.23740+0.69980I$	0
$u=-0.046320+0.187995I$ $a=0.07739+5.42360I$ $b=-0.956677-0.830313I$	$0.32362-8.28539I$	$2.11045+6.37695I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.046320-0.187995I$ $a=\ \ 0.07739-5.42360I$ $b=-0.956677+0.830313I$	$0.32362+8.28539I$	$2.11045-6.37695I$
$u=\ \ 0.21524+1.85123I$ $a=-0.980754+0.224611I$ $b=-2.10786-0.14045I$	$-12.43710+1.73591I$	0
$u=\ \ 0.21524-1.85123I$ $a=-0.980754-0.224611I$ $b=-2.10786+0.14045I$	$-12.43710-1.73591I$	0
$u=\ \ 0.30001+1.84870I$ $a=-1.090890-0.053036I$ $b=-2.41255-0.02971I$	$-14.0664+7.1346I$	0
$u=\ \ 0.30001-1.84870I$ $a=-1.090890+0.053036I$ $b=-2.41255+0.02971I$	$-14.0664-7.1346I$	0
$u=-0.18623+1.88315I$ $a=\ \ 1.257640+0.276336I$ $b=\ \ 2.47525+0.24961I$	$-11.26560-7.17364I$	0
$u=-0.18623-1.88315I$ $a=\ \ 1.257640-0.276336I$ $b=\ \ 2.47525-0.24961I$	$-11.26560+7.17364I$	0
$u=\ \ 0.19090+1.89325I$ $a=\ \ 1.303960-0.063429I$ $b=\ \ 2.30945+0.20589I$	$-14.0589-3.4940I$	0
$u=\ \ 0.19090-1.89325I$ $a=\ \ 1.303960+0.063429I$ $b=\ \ 2.30945-0.20589I$	$-14.0589+3.4940I$	0
$u=-0.30043+1.89642I$ $a=-1.214520-0.110478I$ $b=-2.18382-0.02368I$	$-10.07770-7.36116I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.30043-1.89642I$ $a=-1.214520+0.110478I$ $b=-2.18382+0.02368I$	$-10.07770+7.36116I$	0
$u=\ \ 0.27848+1.90879I$ $a=\ \ 1.157270-0.138990I$ $b=\ \ 2.43580-0.18451I$	$-13.2103+16.0921I$	0
$u=\ \ 0.27848-1.90879I$ $a=\ \ 1.157270+0.138990I$ $b=\ \ 2.43580+0.18451I$	$-13.2103-16.0921I$	0
$u=-0.20073+1.94278I$ $a=-1.099780+0.041621I$ $b=-2.30294-0.15469I$	$-14.2801-6.8482I$	0
$u=-0.20073-1.94278I$ $a=-1.099780-0.041621I$ $b=-2.30294+0.15469I$	$-14.2801+6.8482I$	0
$u=-0.27697+2.20674I$ $a=\ \ 0.627123-0.091513I$ $b=\ \ 2.34576+0.16640I$	$-9.88597-0.66645I$	0
$u=-0.27697-2.20674I$ $a=\ \ 0.627123+0.091513I$ $b=\ \ 2.34576-0.16640I$	$-9.88597+0.66645I$	0

II. $I_2^u = \langle 9.95 \times 10^{11} u^{24} + 3.66 \times 10^{12} u^{23} + \cdots + 2.67 \times 10^{11} b + 2.01 \times 10^{12},\ -7.59 \times 10^{11} u^{24} - 2.57 \times 10^{12} u^{23} + \cdots + 2.67 \times 10^{11} a + 2.79 \times 10^{12},\ u^{25} + 3u^{24} + \cdots + 12u + 1 \rangle$

(i) Arc colorings

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

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

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

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

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.84636u^{24} + 9.65197u^{23} + \cdots - 5.84398u - 10.4782 \\ -3.73405u^{24} - 13.7424u^{23} + \cdots - 81.2939u - 7.53708 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.84636u^{24} + 9.65197u^{23} + \cdots - 5.84398u - 10.4782 \\ -7.11798u^{24} - 22.8323u^{23} + \cdots - 97.4951u - 8.64998 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -4.27162u^{24} - 13.1803u^{23} + \cdots - 103.339u - 19.1281 \\ -7.11798u^{24} - 22.8323u^{23} + \cdots - 97.4951u - 8.64998 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 6.10256u^{24} + 6.20196u^{23} + \cdots - 33.3409u + 1.25824 \\ 7.72169u^{24} + 13.6388u^{23} + \cdots - 68.6810u - 6.55312 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.49665u^{24} - 1.36716u^{23} + \cdots - 96.5452u - 12.2669 \\ -3.81577u^{24} - 10.6336u^{23} + \cdots - 24.1541u - 2.01074 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -9.70049u^{24} - 40.5565u^{23} + \cdots - 291.643u - 26.4926 \\ -1.49368u^{24} - 11.6689u^{23} + \cdots - 116.715u - 10.2072 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.07898u^{24} + 14.0602u^{23} + \cdots + 49.4637u - 8.08709 \\ -12.2235u^{24} - 35.3803u^{23} + \cdots - 90.1398u - 7.84101 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= \frac{12025892582404}{266559078319}u^{24} + \frac{41146040688402}{266559078319}u^{23} + \cdots + \frac{139630789190729}{266559078319}u + \frac{4844913451607}{266559078319}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} - 27u^{24} + \cdots + 36u + 1$
c_2	$u^{25} + 3u^{24} + \cdots + 12u + 1$
c_3	$u^{25} + 3u^{24} + \cdots + u - 1$
c_4	$u^{25} + u^{22} + \cdots - u + 3$
c_5	$u^{25} - 3u^{24} + \cdots + 12u - 1$
c_6	$u^{25} + 4u^{24} + \cdots + 9u + 1$
c_7	$u^{25} + u^{24} + \cdots - u - 1$
c_8	$u^{25} - u^{24} + \cdots - 10u - 7$
c_9	$u^{25} + 5u^{23} + \cdots + 3u - 1$
c_{10}	$u^{25} - 11u^{24} + \cdots + 3u - 1$
c_{11}	$u^{25} - 4u^{24} + \cdots - 3u - 1$
c_{12}	$u^{25} - 4u^{24} + \cdots + 11u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} - 57y^{24} + \cdots + 2256y - 1$
c_2, c_5	$y^{25} + 27y^{24} + \cdots + 36y - 1$
c_3	$y^{25} - 5y^{24} + \cdots + 17y - 1$
c_4	$y^{25} + 10y^{23} + \cdots + 115y - 9$
c_6	$y^{25} + 28y^{24} + \cdots + y - 1$
c_7	$y^{25} - 3y^{24} + \cdots - 7y - 1$
c_8	$y^{25} - 7y^{24} + \cdots - 278y - 49$
c_9	$y^{25} + 10y^{24} + \cdots + 11y - 1$
c_{10}	$y^{25} - 3y^{24} + \cdots + 7y - 1$
c_{11}	$y^{25} + 4y^{24} + \cdots - 7y - 1$
c_{12}	$y^{25} - 52y^{24} + \cdots - 21y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.267306+0.876530I$ $a=-0.913085-0.679632I$ $b=-0.556024-0.412117I$	$-1.42946-3.52997I$	$1.13574+8.28885I$
$u=-0.267306-0.876530I$ $a=-0.913085+0.679632I$ $b=-0.556024+0.412117I$	$-1.42946+3.52997I$	$1.13574-8.28885I$
$u=\ 0.441185+1.005030I$ $a=\ 0.085809-0.383901I$ $b=\ 0.319285-1.249550I$	$-0.40658+10.09140I$	$1.36280-8.09975I$
$u=\ 0.441185-1.005030I$ $a=\ 0.085809+0.383901I$ $b=\ 0.319285+1.249550I$	$-0.40658-10.09140I$	$1.36280+8.09975I$
$u=-0.444912+1.016980I$ $a=-0.610344+0.490309I$ $b=-0.290779+0.988294I$	$0.41239-2.64509I$	$5.51677+7.98470I$
$u=-0.444912-1.016980I$ $a=-0.610344-0.490309I$ $b=-0.290779-0.988294I$	$0.41239+2.64509I$	$5.51677-7.98470I$
$u=\ 0.794978+0.776068I$ $a=-0.119021+0.660012I$ $b=\ 0.018996-0.616325I$	$0.25264-5.73058I$	$2.96305+5.24684I$
$u=\ 0.794978-0.776068I$ $a=-0.119021-0.660012I$ $b=\ 0.018996+0.616325I$	$0.25264+5.73058I$	$2.96305-5.24684I$
$u=-0.241445+0.845709I$ $a=-0.568515-0.872633I$ $b=-0.716529+0.368656I$	$1.40705-0.40083I$	$3.99614+0.12172I$
$u=-0.241445-0.845709I$ $a=-0.568515+0.872633I$ $b=-0.716529-0.368656I$	$1.40705+0.40083I$	$3.99614-0.12172I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.065197+0.866585I$ $a=-0.810886+0.704566I$ $b=-0.66613+1.36652I$	$-1.11023+1.87220I$	$-0.39546-6.82787I$
$u=-0.065197-0.866585I$ $a=-0.810886-0.704566I$ $b=-0.66613-1.36652I$	$-1.11023-1.87220I$	$-0.39546+6.82787I$
$u=\ 0.160583+1.137230I$ $a=-0.031176+0.726781I$ $b=\ 0.39419+1.70553I$	$-0.742657+0.498514I$	$1.66823+3.77577I$
$u=\ 0.160583-1.137230I$ $a=-0.031176-0.726781I$ $b=\ 0.39419-1.70553I$	$-0.742657-0.498514I$	$1.66823-3.77577I$
$u=-0.603268+0.469736I$ $a=-0.103125-1.328870I$ $b=-0.463666-1.010800I$	$1.07581-2.76759I$	$15.7072+11.5636I$
$u=-0.603268-0.469736I$ $a=-0.103125+1.328870I$ $b=-0.463666+1.010800I$	$1.07581+2.76759I$	$15.7072-11.5636I$
$u=-0.748501+1.162150I$ $a=\ 0.082048+0.976953I$ $b=\ 0.369357+0.442332I$	$-1.08945-2.35190I$	$-3.94323+3.34279I$
$u=-0.748501-1.162150I$ $a=\ 0.082048-0.976953I$ $b=\ 0.369357-0.442332I$	$-1.08945+2.35190I$	$-3.94323-3.34279I$
$u=-0.387563+0.431758I$ $a=-1.37723+0.64214I$ $b=\ 0.221518-0.847447I$	$-2.29200-4.06726I$	$-3.68809+5.22736I$
$u=-0.387563-0.431758I$ $a=-1.37723-0.64214I$ $b=\ 0.221518+0.847447I$	$-2.29200+4.06726I$	$-3.68809-5.22736I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.144825$ $a=-9.43737$ $b=-0.612024$	2.12293	−23.1650
$u=-0.18505+1.85309I$ $a=\ \ 1.261960+0.050324I$ $b=\ \ 2.45835+0.07175I$	$-12.15400-6.39485I$	0
$u=-0.18505-1.85309I$ $a=\ \ 1.261960-0.050324I$ $b=\ \ 2.45835-0.07175I$	$-12.15400+6.39485I$	0
$u=\ \ 0.11891+2.10989I$ $a=-0.677747-0.029496I$ $b=-2.28255-0.09598I$	$-9.65893+0.18915I$	0
$u=\ \ 0.11891-2.10989I$ $a=-0.677747+0.029496I$ $b=-2.28255+0.09598I$	$-9.65893-0.18915I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{25}-27u^{24}+\cdots+36u+1)(u^{67}+96u^{66}+\cdots-6593u-961)$
c_2	$(u^{25}+3u^{24}+\cdots+12u+1)(u^{67}-2u^{66}+\cdots+603u-31)$
c_3	$(u^{25}+3u^{24}+\cdots+u-1)(u^{67}-2u^{65}+\cdots+12u+1)$
c_4	$(u^{25}+u^{22}+\cdots-u+3)(u^{67}+u^{66}+\cdots+78u-4)$
c_5	$(u^{25}-3u^{24}+\cdots+12u-1)(u^{67}-2u^{66}+\cdots+603u-31)$
c_6	$(u^{25}+4u^{24}+\cdots+9u+1)(u^{67}-3u^{66}+\cdots+1112592u-190913)$
c_7	$(u^{25}+u^{24}+\cdots-u-1)(u^{67}-4u^{66}+\cdots-152u-19)$
c_8	$(u^{25}-u^{24}+\cdots-10u-7)(u^{67}-21u^{65}+\cdots+3707522u-708772)$
c_9	$(u^{25}+5u^{23}+\cdots+3u-1)(u^{67}+u^{66}+\cdots-7924808u-913579)$
c_{10}	$(u^{25}-11u^{24}+\cdots+3u-1)(u^{67}+10u^{66}+\cdots-24u-1)$
c_{11}	$(u^{25}-4u^{24}+\cdots-3u-1)(u^{67}+u^{66}+\cdots+22u-1)$
c_{12}	$(u^{25}-4u^{24}+\cdots+11u+1)(u^{67}-5u^{66}+\cdots+4917808u-488737)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{25}-57y^{24}+\cdots+2256y-1)$ $\cdot(y^{67}-248y^{66}+\cdots+1205710659y-923521)$
c_2, c_5	$(y^{25}+27y^{24}+\cdots+36y-1)(y^{67}+96y^{66}+\cdots-6593y-961)$
c_3	$(y^{25}-5y^{24}+\cdots+17y-1)(y^{67}-4y^{66}+\cdots+52y-1)$
c_4	$(y^{25}+10y^{23}+\cdots+115y-9)(y^{67}-15y^{66}+\cdots+2428y-16)$
c_6	$(y^{25}+28y^{24}+\cdots+y-1)$ $\cdot(y^{67}+129y^{66}+\cdots-167561891380y-36447773569)$
c_7	$(y^{25}-3y^{24}+\cdots-7y-1)(y^{67}+6y^{66}+\cdots-8740y-361)$
c_8	$(y^{25}-7y^{24}+\cdots-278y-49)$ $\cdot(y^{67}-42y^{66}+\cdots+5030461829868y-502357747984)$
c_9	$(y^{25}+10y^{24}+\cdots+11y-1)$ $\cdot(y^{67}+99y^{66}+\cdots+1331996748366y-834626589241)$
c_{10}	$(y^{25}-3y^{24}+\cdots+7y-1)(y^{67}+18y^{66}+\cdots-86y-1)$
c_{11}	$(y^{25}+4y^{24}+\cdots-7y-1)(y^{67}+5y^{66}+\cdots+12y-1)$
c_{12}	$(y^{25}-52y^{24}+\cdots-21y-1)$ $\cdot(y^{67}-111y^{66}+\cdots+2732023039434y-238863855169)$