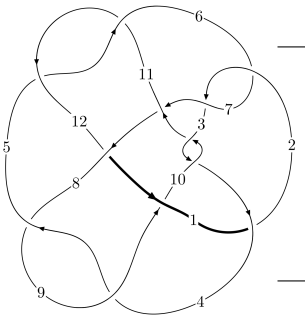
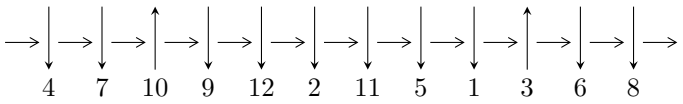
$12a_{1073}$ $(K12a_{1073})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 2.54817 \times 10^{592} u^{140} + 1.63249 \times 10^{593} u^{139} + \cdots + 1.25499 \times 10^{594} b + 3.83199 \times 10^{594}, \\ & - 4.59910 \times 10^{593} u^{140} - 3.23099 \times 10^{594} u^{139} + \cdots + 1.50598 \times 10^{595} a - 1.02194 \times 10^{597}, \\ & u^{141} + 4u^{140} + \cdots + 2832u + 168 \rangle \\ I_2^u = \langle & 6.58267 \times 10^{20} u^{31} + 6.86615 \times 10^{21} u^{30} + \cdots + 2.03894 \times 10^{21} b + 2.89056 \times 10^{23}, \\ & - 9.29799 \times 10^{22} u^{31} - 4.19012 \times 10^{23} u^{30} + \cdots + 1.20297 \times 10^{23} a - 2.06819 \times 10^{25}, \\ & u^{32} - u^{31} + \cdots - 104u + 59 \rangle \end{aligned}$$

$$I_1^v = \langle a,\ b - 1,\ v^3 + 2v + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 176 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. $\boldsymbol{I_1^u = \langle 2.55 \times 10^{592} u^{140} + 1.63 \times 10^{593} u^{139} + \cdots + 1.25 \times 10^{594} b + 3.83 \times 10^{594},\ -4.60 \times 10^{593} u^{140} - 3.23 \times 10^{594} u^{139} + \cdots + 1.51 \times 10^{595} a - 1.02 \times 10^{597},\ u^{141} + 4u^{140} + \cdots + 2832u + 168 \rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0305389u^{140} + 0.214544u^{139} + \cdots + 476.782u + 67.8590 \\ -0.0203043u^{140} - 0.130081u^{139} + \cdots - 86.0127u - 3.05341 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0126430u^{140} + 0.0241027u^{139} + \cdots + 167.192u - 2.57404 \\ 0.0411553u^{140} + 0.137220u^{139} + \cdots - 52.7399u - 4.70944 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00790478u^{140} + 0.100131u^{139} + \cdots + 430.040u + 65.5289 \\ -0.0187936u^{140} - 0.115024u^{139} + \cdots - 61.3348u - 1.37233 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0198734u^{140} + 0.0433603u^{139} + \cdots + 208.509u + 20.4485 \\ -0.0123183u^{140} - 0.108437u^{139} + \cdots - 107.608u - 5.43547 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0102345u^{140} + 0.0844631u^{139} + \cdots + 390.769u + 64.8056 \\ -0.0203043u^{140} - 0.130081u^{139} + \cdots - 86.0127u - 3.05341 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0488240u^{140} - 0.150140u^{139} + \cdots + 351.967u + 29.9572 \\ -0.0878505u^{140} - 0.280169u^{139} + \cdots + 157.323u + 9.17097 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.116715u^{140} - 0.443627u^{139} + \cdots + 54.4349u - 12.8563 \\ 0.00779702u^{140} + 0.0699302u^{139} + \cdots + 64.1007u + 1.77825 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0774632u^{140} - 0.271390u^{139} + \cdots - 30.5227u - 33.3656 \\ 0.00340777u^{140} + 0.0631506u^{139} + \cdots + 85.7404u + 2.52528 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.143156u^{140} - 0.698212u^{139} + \cdots - 254.819u - 13.1150$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{141} - 12u^{140} + \cdots + 763u - 49$
c_2, c_6	$u^{141} - 2u^{140} + \cdots + 45051u + 32979$
c_3, c_{10}	$u^{141} + u^{140} + \cdots + 386164u + 65629$
c_4, c_8	$u^{141} + 4u^{140} + \cdots + 2832u + 168$
c_5, c_{11}	$u^{141} - u^{140} + \cdots + 533427u + 47167$
c_7	$u^{141} + 8u^{140} + \cdots + 47275162u + 6401042$
c_9	$u^{141} + 8u^{140} + \cdots + 26u + 1$
c_{12}	$u^{141} - 2u^{140} + \cdots + 14863691u + 980999$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{141} - 2y^{140} + \cdots - 122941y - 2401$
c_2, c_6	$y^{141} - 84y^{140} + \cdots + 18315150465y - 1087614441$
c_3, c_{10}	$y^{141} + 119y^{140} + \cdots + 200837368090y - 4307165641$
c_4, c_8	$y^{141} + 110y^{140} + \cdots + 8842080y - 28224$
c_5, c_{11}	$y^{141} + 107y^{140} + \cdots - 15637743751y - 2224725889$
c_7	$y^{141} - 40y^{140} + \cdots - 12502874859103792y - 40973338685764$
c_9	$y^{141} - 6y^{140} + \cdots + 136y - 1$
c_{12}	$y^{141} + 58y^{140} + \cdots - 23268885446441y - 962359038001$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.763169+0.633004I$ $a=-1.339640+0.080630I$ $b=\ \ 0.715686+1.075370I$	$-3.45255-4.17755I$	0
$u=-0.763169-0.633004I$ $a=-1.339640-0.080630I$ $b=\ \ 0.715686-1.075370I$	$-3.45255+4.17755I$	0
$u=\ \ 0.155407+1.012010I$ $a=\ \ 0.49435+1.78486I$ $b=-0.497754-0.766992I$	$-1.79602-1.77015I$	0
$u=\ \ 0.155407-1.012010I$ $a=\ \ 0.49435-1.78486I$ $b=-0.497754+0.766992I$	$-1.79602+1.77015I$	0
$u=-0.340769+0.969240I$ $a=-0.50551-2.16701I$ $b=-0.80000+2.24860I$	$-2.47493+8.56476I$	0
$u=-0.340769-0.969240I$ $a=-0.50551+2.16701I$ $b=-0.80000-2.24860I$	$-2.47493-8.56476I$	0
$u=\ \ 0.986469+0.297194I$ $a=-0.143405+0.208271I$ $b=\ \ 0.837739+0.774239I$	$-1.60144-7.36841I$	0
$u=\ \ 0.986469-0.297194I$ $a=-0.143405-0.208271I$ $b=\ \ 0.837739-0.774239I$	$-1.60144+7.36841I$	0
$u=\ \ 0.939371+0.072087I$ $a=-0.063001-0.319054I$ $b=-1.046510+0.355654I$	$-9.05838+7.91895I$	0
$u=\ \ 0.939371-0.072087I$ $a=-0.063001+0.319054I$ $b=-1.046510-0.355654I$	$-9.05838-7.91895I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.843079 + 0.393632I$ $a = 0.564951 + 0.190127I$ $b = 0.664303 - 0.159681I$	$-1.86166 + 1.83381I$	0
$u = 0.843079 - 0.393632I$ $a = 0.564951 - 0.190127I$ $b = 0.664303 + 0.159681I$	$-1.86166 - 1.83381I$	0
$u = 0.996431 + 0.423590I$ $a = -0.100176 - 0.242191I$ $b = -0.546016 - 0.686876I$	$2.74069 - 3.01528I$	0
$u = 0.996431 - 0.423590I$ $a = -0.100176 + 0.242191I$ $b = -0.546016 + 0.686876I$	$2.74069 + 3.01528I$	0
$u = -0.164481 + 1.074710I$ $a = 0.84942 - 1.93739I$ $b = 0.129569 + 0.279132I$	$-2.95677 + 4.09152I$	0
$u = -0.164481 - 1.074710I$ $a = 0.84942 + 1.93739I$ $b = 0.129569 - 0.279132I$	$-2.95677 - 4.09152I$	0
$u = 0.277431 + 0.863792I$ $a = -0.70330 - 1.83929I$ $b = 0.993033 + 0.994671I$	$-6.56670 - 4.32297I$	0
$u = 0.277431 - 0.863792I$ $a = -0.70330 + 1.83929I$ $b = 0.993033 - 0.994671I$	$-6.56670 + 4.32297I$	0
$u = -0.822181 + 0.321499I$ $a = 0.721318 - 0.332401I$ $b = -0.519997 - 0.944704I$	$-1.21432 - 2.33038I$	0
$u = -0.822181 - 0.321499I$ $a = 0.721318 + 0.332401I$ $b = -0.519997 + 0.944704I$	$-1.21432 + 2.33038I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.041884+1.119270I$ $a=-0.180792+0.017170I$ $b=\ \ 1.68313+0.04851I$	$-0.992191+0.266056I$	0
$u=-0.041884-1.119270I$ $a=-0.180792-0.017170I$ $b=\ \ 1.68313-0.04851I$	$-0.992191-0.266056I$	0
$u=-0.410529+1.070460I$ $a=-0.408143+0.787586I$ $b=\ \ 0.803532-0.455460I$	$-1.83641+1.10256I$	0
$u=-0.410529-1.070460I$ $a=-0.408143-0.787586I$ $b=\ \ 0.803532+0.455460I$	$-1.83641-1.10256I$	0
$u=-0.039398+1.150010I$ $a=\ \ 0.46753+2.07817I$ $b=-0.142788-0.773798I$	$-2.16440-2.33593I$	0
$u=-0.039398-1.150010I$ $a=\ \ 0.46753-2.07817I$ $b=-0.142788+0.773798I$	$-2.16440+2.33593I$	0
$u=\ \ 1.144550+0.149559I$ $a=\ \ 0.430020+0.204811I$ $b=-0.256705+0.964339I$	$0.13672+2.12290I$	0
$u=\ \ 1.144550-0.149559I$ $a=\ \ 0.430020-0.204811I$ $b=-0.256705-0.964339I$	$0.13672-2.12290I$	0
$u=-0.834257+0.002736I$ $a=-0.262575+0.153090I$ $b=\ \ 0.874699+0.856528I$	$-7.10130-2.33210I$	0
$u=-0.834257-0.002736I$ $a=-0.262575-0.153090I$ $b=\ \ 0.874699-0.856528I$	$-7.10130+2.33210I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.002645 + 1.178370I$ $a = 0.78053 - 2.25107I$ $b = -1.76800 + 2.30851I$	$-0.26531 - 7.50044I$	0
$u = 0.002645 - 1.178370I$ $a = 0.78053 + 2.25107I$ $b = -1.76800 - 2.30851I$	$-0.26531 + 7.50044I$	0
$u = -1.171170 + 0.248839I$ $a = -0.128236 - 0.164334I$ $b = 0.761366 - 0.817171I$	$-5.1060 + 13.3388I$	0
$u = -1.171170 - 0.248839I$ $a = -0.128236 + 0.164334I$ $b = 0.761366 + 0.817171I$	$-5.1060 - 13.3388I$	0
$u = -0.790003 + 0.110290I$ $a = 0.167515 - 0.456463I$ $b = -1.057430 + 0.177318I$	$-4.77992 + 3.20333I$	0
$u = -0.790003 - 0.110290I$ $a = 0.167515 + 0.456463I$ $b = -1.057430 - 0.177318I$	$-4.77992 - 3.20333I$	0
$u = -1.198270 + 0.099250I$ $a = 0.248775 + 0.144482I$ $b = -0.231409 + 0.617685I$	$-0.667207 + 0.969556I$	0
$u = -1.198270 - 0.099250I$ $a = 0.248775 - 0.144482I$ $b = -0.231409 - 0.617685I$	$-0.667207 - 0.969556I$	0
$u = 0.165118 + 1.197910I$ $a = 0.193142 - 1.214250I$ $b = -0.303338 + 0.861689I$	$3.55356 + 0.06503I$	0
$u = 0.165118 - 1.197910I$ $a = 0.193142 + 1.214250I$ $b = -0.303338 - 0.861689I$	$3.55356 - 0.06503I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.280111 + 1.177070I$ $a = 0.01971 + 1.50168I$ $b = 0.101289 - 0.900632I$	$1.85029 - 4.46678I$	0
$u = 0.280111 - 1.177070I$ $a = 0.01971 - 1.50168I$ $b = 0.101289 + 0.900632I$	$1.85029 + 4.46678I$	0
$u = 0.115170 + 1.209580I$ $a = -0.00940 + 2.86333I$ $b = -0.85445 - 2.86153I$	$4.26570 - 0.47439I$	0
$u = 0.115170 - 1.209580I$ $a = -0.00940 - 2.86333I$ $b = -0.85445 + 2.86153I$	$4.26570 + 0.47439I$	0
$u = -0.776246 + 0.081534I$ $a = 0.444633 + 0.094869I$ $b = 0.352412 - 0.113169I$	$-1.104670 - 0.011032I$	0
$u = -0.776246 - 0.081534I$ $a = 0.444633 - 0.094869I$ $b = 0.352412 + 0.113169I$	$-1.104670 + 0.011032I$	0
$u = 0.437847 + 1.139360I$ $a = -0.20526 + 1.49045I$ $b = -0.530547 - 0.515869I$	$0.57932 - 6.57678I$	0
$u = 0.437847 - 1.139360I$ $a = -0.20526 - 1.49045I$ $b = -0.530547 + 0.515869I$	$0.57932 + 6.57678I$	0
$u = 0.048975 + 1.220130I$ $a = -0.60346 + 1.50138I$ $b = -0.623416 - 1.161700I$	$7.21232 - 0.33115I$	0
$u = 0.048975 - 1.220130I$ $a = -0.60346 - 1.50138I$ $b = -0.623416 + 1.161700I$	$7.21232 + 0.33115I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.767288 + 0.096580I$ $a = -0.632730 - 1.129660I$ $b = 0.664099 - 0.529863I$	$-0.443046 - 0.013493I$	0
$u = 0.767288 - 0.096580I$ $a = -0.632730 + 1.129660I$ $b = 0.664099 + 0.529863I$	$-0.443046 + 0.013493I$	0
$u = 0.223800 + 1.207940I$ $a = -0.84723 - 1.80670I$ $b = 0.532875 + 0.811679I$	$-4.58833 - 0.55821I$	0
$u = 0.223800 - 1.207940I$ $a = -0.84723 + 1.80670I$ $b = 0.532875 - 0.811679I$	$-4.58833 + 0.55821I$	0
$u = -0.391296 + 1.171130I$ $a = 0.23242 + 1.77284I$ $b = 0.81059 - 1.75306I$	$1.52382 + 6.81151I$	0
$u = -0.391296 - 1.171130I$ $a = 0.23242 - 1.77284I$ $b = 0.81059 + 1.75306I$	$1.52382 - 6.81151I$	0
$u = -0.345880 + 1.188710I$ $a = -0.53837 - 1.73904I$ $b = 0.14774 + 1.82262I$	$-2.44838 + 7.03398I$	0
$u = -0.345880 - 1.188710I$ $a = -0.53837 + 1.73904I$ $b = 0.14774 - 1.82262I$	$-2.44838 - 7.03398I$	0
$u = -0.092057 + 1.234850I$ $a = -0.495450 - 1.295560I$ $b = -0.852071 + 0.905712I$	$5.26983 + 5.03199I$	0
$u = -0.092057 - 1.234850I$ $a = -0.495450 + 1.295560I$ $b = -0.852071 - 0.905712I$	$5.26983 - 5.03199I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.455722+0.609100I$ $a=\ \ 1.60614-0.30820I$ $b=\ \ 0.731630-0.135976I$	$-4.22921-1.70726I$	0
$u=-0.455722-0.609100I$ $a=\ \ 1.60614+0.30820I$ $b=\ \ 0.731630+0.135976I$	$-4.22921+1.70726I$	0
$u=\ \ 0.118808+1.242040I$ $a=-0.42103-1.77039I$ $b=\ \ 1.43043+1.74539I$	$7.72459-2.11932I$	0
$u=\ \ 0.118808-1.242040I$ $a=-0.42103+1.77039I$ $b=\ \ 1.43043-1.74539I$	$7.72459+2.11932I$	0
$u=\ \ 0.025646+1.248200I$ $a=-0.486567+1.155090I$ $b=\ \ 1.45279-1.13691I$	$5.40281-4.22150I$	0
$u=\ \ 0.025646-1.248200I$ $a=-0.486567-1.155090I$ $b=\ \ 1.45279+1.13691I$	$5.40281+4.22150I$	0
$u=\ \ 1.046810+0.723879I$ $a=\ \ 0.220629+0.378190I$ $b=\ \ 0.219008+0.326159I$	$-0.137864+1.223120I$	0
$u=\ \ 1.046810-0.723879I$ $a=\ \ 0.220629-0.378190I$ $b=\ \ 0.219008-0.326159I$	$-0.137864-1.223120I$	0
$u=\ \ 0.295324+0.663831I$ $a=\ \ 1.278920+0.064324I$ $b=-1.61600+0.35543I$	$-7.37847+1.50707I$	0
$u=\ \ 0.295324-0.663831I$ $a=\ \ 1.278920-0.064324I$ $b=-1.61600-0.35543I$	$-7.37847-1.50707I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.421778+1.209890I$ $a=\ \ 0.284060+0.880545I$ $b=-0.178646-0.822422I$	$2.06068+4.36652I$	0
$u=-0.421778-1.209890I$ $a=\ \ 0.284060-0.880545I$ $b=-0.178646+0.822422I$	$2.06068-4.36652I$	0
$u=\ \ 0.194052+1.266530I$ $a=\ \ 1.05189+1.10759I$ $b=-2.11133-1.16779I$	$3.44490-3.28202I$	0
$u=\ \ 0.194052-1.266530I$ $a=\ \ 1.05189-1.10759I$ $b=-2.11133+1.16779I$	$3.44490+3.28202I$	0
$u=-0.311207+1.254570I$ $a=\ \ 0.142586-1.392110I$ $b=-0.548700+0.808248I$	$3.01593+3.59185I$	0
$u=-0.311207-1.254570I$ $a=\ \ 0.142586+1.392110I$ $b=-0.548700-0.808248I$	$3.01593-3.59185I$	0
$u=\ \ 0.109630+1.294300I$ $a=\ \ 0.63687-1.97796I$ $b=\ \ 0.25579+1.54253I$	$5.52856-2.71154I$	0
$u=\ \ 0.109630-1.294300I$ $a=\ \ 0.63687+1.97796I$ $b=\ \ 0.25579-1.54253I$	$5.52856+2.71154I$	0
$u=\ \ 0.310577+1.273320I$ $a=-0.423221+0.708684I$ $b=-0.711935-0.835918I$	$4.88401-2.86815I$	0
$u=\ \ 0.310577-1.273320I$ $a=-0.423221-0.708684I$ $b=-0.711935+0.835918I$	$4.88401+2.86815I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.176842+1.303800I$ $a=\ \ 0.50785+1.67290I$ $b=\ \ 0.68002-1.31047I$	$1.91942+10.08570I$	0
$u=-0.176842-1.303800I$ $a=\ \ 0.50785-1.67290I$ $b=\ \ 0.68002+1.31047I$	$1.91942-10.08570I$	0
$u=-1.263450+0.401116I$ $a=-0.0425548+0.0814273I$ $b=-0.576331+0.622987I$	$0.38888+7.14226I$	0
$u=-1.263450-0.401116I$ $a=-0.0425548-0.0814273I$ $b=-0.576331-0.622987I$	$0.38888-7.14226I$	0
$u=\ \ 0.446109+1.260540I$ $a=-0.25071-1.58158I$ $b=\ \ 0.784655+0.745996I$	$-5.34892-12.83940I$	0
$u=\ \ 0.446109-1.260540I$ $a=-0.25071+1.58158I$ $b=\ \ 0.784655-0.745996I$	$-5.34892+12.83940I$	0
$u=-0.391668+1.278850I$ $a=\ \ 0.03320-1.86506I$ $b=-0.85717+1.62715I$	$-3.12917+6.74906I$	0
$u=-0.391668-1.278850I$ $a=\ \ 0.03320+1.86506I$ $b=-0.85717-1.62715I$	$-3.12917-6.74906I$	0
$u=-0.046529+0.649090I$ $a=\ \ 2.50772-0.81100I$ $b=-0.491749+0.120286I$	$-2.51394+0.17757I$	$-6.05618-1.39616I$
$u=-0.046529-0.649090I$ $a=\ \ 2.50772+0.81100I$ $b=-0.491749-0.120286I$	$-2.51394-0.17757I$	$-6.05618+1.39616I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.068820+1.347760I$ $a=-0.246233-1.056400I$ $b=-0.564848+0.954488I$	$4.88843+0.22573I$	0
$u=-0.068820-1.347760I$ $a=-0.246233+1.056400I$ $b=-0.564848-0.954488I$	$4.88843-0.22573I$	0
$u=-0.344255+1.308110I$ $a=-0.53489+1.47515I$ $b=\ \ 0.697664-0.782221I$	$-0.37425+7.27295I$	0
$u=-0.344255-1.308110I$ $a=-0.53489-1.47515I$ $b=\ \ 0.697664+0.782221I$	$-0.37425-7.27295I$	0
$u=-0.645526$ $a=\ \ 0.250346$ $b=\ \ 0.606855$	-0.947565	-9.72750
$u=-0.313729+1.327440I$ $a=\ \ 0.680019+0.142631I$ $b=-0.252065-0.409041I$	$-3.01059+1.85656I$	0
$u=-0.313729-1.327440I$ $a=\ \ 0.680019-0.142631I$ $b=-0.252065+0.409041I$	$-3.01059-1.85656I$	0
$u=\ \ 0.127866+1.386550I$ $a=\ \ 0.474492+0.203800I$ $b=\ \ 0.584920-0.039831I$	$4.92879-3.19640I$	0
$u=\ \ 0.127866-1.386550I$ $a=\ \ 0.474492-0.203800I$ $b=\ \ 0.584920+0.039831I$	$4.92879+3.19640I$	0
$u=\ \ 0.328285+0.461484I$ $a=-0.0630078+0.0210827I$ $b=\ \ 1.128840-0.272090I$	$-3.45580-0.57066I$	$-10.8263+10.0452I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.328285 - 0.461484I$ $a = -0.0630078 - 0.0210827I$ $b = 1.128840 + 0.272090I$	$-3.45580 + 0.57066I$	$-10.8263 - 10.0452I$
$u = 0.414445 + 0.380512I$ $a = 0.278638 + 0.993930I$ $b = 0.197822 - 0.321827I$	$-0.69284 + 1.33224I$	$-6.64121 - 5.72298I$
$u = 0.414445 - 0.380512I$ $a = 0.278638 - 0.993930I$ $b = 0.197822 + 0.321827I$	$-0.69284 - 1.33224I$	$-6.64121 + 5.72298I$
$u = 0.42566 + 1.44158I$ $a = 0.29544 + 1.59931I$ $b = -1.24345 - 1.55299I$	$3.84618 - 12.42980I$	0
$u = 0.42566 - 1.44158I$ $a = 0.29544 - 1.59931I$ $b = -1.24345 + 1.55299I$	$3.84618 + 12.42980I$	0
$u = 0.60268 + 1.38693I$ $a = 0.213078 - 1.243000I$ $b = 0.70769 + 1.53619I$	$4.07731 - 8.44790I$	0
$u = 0.60268 - 1.38693I$ $a = 0.213078 + 1.243000I$ $b = 0.70769 - 1.53619I$	$4.07731 + 8.44790I$	0
$u = 0.43190 + 1.45404I$ $a = -0.128219 - 1.354830I$ $b = 1.09897 + 1.37509I$	$8.48189 - 8.17323I$	0
$u = 0.43190 - 1.45404I$ $a = -0.128219 + 1.354830I$ $b = 1.09897 - 1.37509I$	$8.48189 + 8.17323I$	0
$u = -0.460733 + 0.117371I$ $a = -1.60906 - 0.55964I$ $b = 0.098712 + 0.949838I$	$-5.51191 - 3.66698I$	$-14.0947 + 2.5005I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.460733-0.117371I$ $a=-1.60906+0.55964I$ $b=\ \ 0.098712-0.949838I$	$-5.51191+3.66698I$	$-14.0947-2.5005I$
$u=-0.53461+1.43473I$ $a=\ \ 0.066876+1.198560I$ $b=\ \ 0.66261-1.35591I$	$4.11168+7.07883I$	0
$u=-0.53461-1.43473I$ $a=\ \ 0.066876-1.198560I$ $b=\ \ 0.66261+1.35591I$	$4.11168-7.07883I$	0
$u=-0.51944+1.44253I$ $a=-0.092587-0.962490I$ $b=-0.919807+0.848743I$	$4.12488+5.52323I$	0
$u=-0.51944-1.44253I$ $a=-0.092587+0.962490I$ $b=-0.919807-0.848743I$	$4.12488-5.52323I$	0
$u=\ \ 0.47563+1.45904I$ $a=-0.033883+0.843184I$ $b=-0.974844-0.950420I$	$4.99392-3.57481I$	0
$u=\ \ 0.47563-1.45904I$ $a=-0.033883-0.843184I$ $b=-0.974844+0.950420I$	$4.99392+3.57481I$	0
$u=-0.49677+1.45946I$ $a=\ \ 0.18087-1.47841I$ $b=-1.21370+1.46423I$	$0.2288+19.1896I$	0
$u=-0.49677-1.45946I$ $a=\ \ 0.18087+1.47841I$ $b=-1.21370-1.46423I$	$0.2288-19.1896I$	0
$u=\ \ 0.427090+0.104035I$ $a=-0.352732-1.248570I$ $b=-1.329230+0.275193I$	$-7.97418-2.09016I$	$-17.1983+4.1287I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.427090 - 0.104035I$ $a = -0.352732 + 1.248570I$ $b = -1.329230 - 0.275193I$	$-7.97418 + 2.09016I$	$-17.1983 - 4.1287I$
$u = -0.49606 + 1.48019I$ $a = -0.080573 + 1.269130I$ $b = 1.08654 - 1.23612I$	$6.0966 + 13.1880I$	0
$u = -0.49606 - 1.48019I$ $a = -0.080573 - 1.269130I$ $b = 1.08654 + 1.23612I$	$6.0966 - 13.1880I$	0
$u = -0.308733 + 0.265925I$ $a = -2.81762 + 0.08446I$ $b = 0.05872 + 1.43909I$	$-2.84210 + 8.07603I$	$-9.89030 - 5.80751I$
$u = -0.308733 - 0.265925I$ $a = -2.81762 - 0.08446I$ $b = 0.05872 - 1.43909I$	$-2.84210 - 8.07603I$	$-9.89030 + 5.80751I$
$u = 0.337030 + 0.134594I$ $a = -1.89464 - 0.70426I$ $b = 0.24122 - 1.53038I$	$1.07758 - 1.14467I$	$-12.8080 + 6.3883I$
$u = 0.337030 - 0.134594I$ $a = -1.89464 + 0.70426I$ $b = 0.24122 + 1.53038I$	$1.07758 + 1.14467I$	$-12.8080 - 6.3883I$
$u = -0.45026 + 1.58914I$ $a = 0.131315 - 0.889361I$ $b = -0.793852 + 1.046450I$	$5.79316 + 1.25135I$	0
$u = -0.45026 - 1.58914I$ $a = 0.131315 + 0.889361I$ $b = -0.793852 - 1.046450I$	$5.79316 - 1.25135I$	0
$u = 0.57108 + 1.55828I$ $a = 0.056731 + 0.818240I$ $b = -0.831959 - 1.014710I$	$6.56944 - 5.57697I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.57108 - 1.55828I$ $a = 0.056731 - 0.818240I$ $b = -0.831959 + 1.014710I$	$6.56944 + 5.57697I$	0
$u = -0.01393 + 1.69028I$ $a = -0.805814 + 0.194122I$ $b = 1.44212 - 0.26395I$	$-1.77623 - 3.16930I$	0
$u = -0.01393 - 1.69028I$ $a = -0.805814 - 0.194122I$ $b = 1.44212 + 0.26395I$	$-1.77623 + 3.16930I$	0
$u = 0.55784 + 1.62456I$ $a = -0.304422 - 0.156703I$ $b = 0.721886 - 0.025192I$	$-4.09530 + 2.65625I$	0
$u = 0.55784 - 1.62456I$ $a = -0.304422 + 0.156703I$ $b = 0.721886 + 0.025192I$	$-4.09530 - 2.65625I$	0
$u = 0.266007 + 0.065605I$ $a = -0.24391 - 3.42980I$ $b = -0.370617 - 0.954028I$	$3.82317 - 0.61322I$	$-0.60379 + 2.61723I$
$u = 0.266007 - 0.065605I$ $a = -0.24391 + 3.42980I$ $b = -0.370617 + 0.954028I$	$3.82317 + 0.61322I$	$-0.60379 - 2.61723I$
$u = -1.23690 + 1.22733I$ $a = 0.199304 - 0.140853I$ $b = 0.129031 - 0.412552I$	$-2.48998 - 5.77455I$	0
$u = -1.23690 - 1.22733I$ $a = 0.199304 + 0.140853I$ $b = 0.129031 + 0.412552I$	$-2.48998 + 5.77455I$	0
$u = -0.0803798 + 0.0128570I$ $a = 3.2337 + 14.4075I$ $b = -0.169883 + 0.813698I$	$1.59518 - 4.15000I$	$-4.24825 + 2.12593I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.0803798-0.0128570I$		
$a=\ \ 3.2337-14.4075I$	$1.59518+4.15000I$	$-4.24825-2.12593I$
$b=-0.169883-0.813698I$		

II. $\boldsymbol{I_2^u = \langle 6.58 \times 10^{20} u^{31} + 6.87 \times 10^{21} u^{30} + \cdots + 2.04 \times 10^{21} b + 2.89 \times 10^{23},\ -9.30 \times 10^{22} u^{31} - 4.19 \times 10^{23} u^{30} + \cdots + 1.20 \times 10^{23} a - 2.07 \times 10^{25},\ u^{32} - u^{31} + \cdots - 104u + 59 \rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.772916u^{31} + 3.48314u^{30} + \cdots - 246.523u + 171.923 \\ -0.322848u^{31} - 3.36751u^{30} + \cdots + 213.078u - 141.768 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.09040u^{31} + 4.92530u^{30} + \cdots - 351.382u + 192.672 \\ 1.44406u^{31} - 2.11542u^{30} + \cdots + 137.621u - 40.6517 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.332545u^{31} + 1.26573u^{30} + \cdots - 107.425u + 70.6271 \\ -0.738226u^{31} - 1.62655u^{30} + \cdots + 101.748u - 86.2548 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 5.82207u^{31} - 5.85860u^{30} + \cdots + 354.324u - 65.0117 \\ -1.52733u^{31} - 0.673710u^{30} + \cdots + 79.7183u - 83.1063 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.450069u^{31} + 0.115624u^{30} + \cdots - 33.4443u + 30.1556 \\ -0.322848u^{31} - 3.36751u^{30} + \cdots + 213.078u - 141.768 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.02011u^{31} + 2.94767u^{30} + \cdots - 210.385u + 65.8944 \\ 1.85323u^{31} - 0.889914u^{30} + \cdots + 38.0087u + 22.9748 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -3.88876u^{31} + 1.81980u^{30} + \cdots - 110.509u - 48.7052 \\ -0.0435544u^{31} + 0.449278u^{30} + \cdots - 24.6724u + 10.2843 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2.64728u^{31} + 3.61718u^{30} + \cdots - 263.239u + 81.5249 \\ -0.460531u^{31} + 0.444958u^{30} + \cdots - 30.1986u + 2.92724 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{436061795206084608088 5}{203893942406329136809 7} u^{31} + \frac{107144281493154805731 1}{203893942406329136809 7} u^{30} + \cdots - \frac{752267658691002358226 35}{203893942406329136809 7} u - \frac{962338386365332700123 64}{203893942406329136809 7}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{32} - 3u^{31} + \cdots + 10u + 1$
c_2	$u^{32} + 2u^{31} + \cdots + 3u + 1$
c_3	$u^{32} + 15u^{30} + \cdots - 15u + 1$
c_4	$u^{32} + u^{31} + \cdots + 104u + 59$
c_5	$u^{32} + 13u^{30} + \cdots + 24u + 11$
c_6	$u^{32} - 2u^{31} + \cdots - 3u + 1$
c_7	$u^{32} - 2u^{31} + \cdots - 2u + 1$
c_8	$u^{32} - u^{31} + \cdots - 104u + 59$
c_9	$u^{32} + 2u^{31} + \cdots + 6u + 1$
c_{10}	$u^{32} + 15u^{30} + \cdots + 15u + 1$
c_{11}	$u^{32} + 13u^{30} + \cdots - 24u + 11$
c_{12}	$u^{32} - 2u^{31} + \cdots + 91u + 11$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{32} - 11y^{31} + \cdots - 36y + 1$
c_2, c_6	$y^{32} - 14y^{31} + \cdots - 23y + 1$
c_3, c_{10}	$y^{32} + 30y^{31} + \cdots - 63y + 1$
c_4, c_8	$y^{32} + 29y^{31} + \cdots + 55854y + 3481$
c_5, c_{11}	$y^{32} + 26y^{31} + \cdots + 854y + 121$
c_7	$y^{32} + 2y^{31} + \cdots + 34y + 1$
c_9	$y^{32} + 4y^{31} + \cdots + 2y + 1$
c_{12}	$y^{32} + 32y^{31} + \cdots - 2297y + 121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.362577 + 0.964026I$ $a = 0.748470 - 0.603980I$ $b = 0.346090 + 0.007985I$	$-3.45564 + 2.24438I$	$-10.21333 - 4.38896I$
$u = 0.362577 - 0.964026I$ $a = 0.748470 + 0.603980I$ $b = 0.346090 - 0.007985I$	$-3.45564 - 2.24438I$	$-10.21333 + 4.38896I$
$u = -1.001140 + 0.326605I$ $a = 0.089441 - 0.312551I$ $b = 0.441919 - 0.010123I$	$-1.64932 - 0.57277I$	$-15.8069 + 2.6042I$
$u = -1.001140 - 0.326605I$ $a = 0.089441 + 0.312551I$ $b = 0.441919 + 0.010123I$	$-1.64932 + 0.57277I$	$-15.8069 - 2.6042I$
$u = 0.112316 + 1.103330I$ $a = 0.65062 + 2.11417I$ $b = 0.215633 - 0.782136I$	$-2.60539 - 3.77746I$	$-4.44880 + 0.99726I$
$u = 0.112316 - 1.103330I$ $a = 0.65062 - 2.11417I$ $b = 0.215633 + 0.782136I$	$-2.60539 + 3.77746I$	$-4.44880 - 0.99726I$
$u = -0.285330 + 1.078980I$ $a = 0.98045 + 2.58949I$ $b = 0.10799 - 2.53725I$	$-1.60249 + 9.07145I$	$-6.02655 - 10.36968I$
$u = -0.285330 - 1.078980I$ $a = 0.98045 - 2.58949I$ $b = 0.10799 + 2.53725I$	$-1.60249 - 9.07145I$	$-6.02655 + 10.36968I$
$u = 1.182150 + 0.145591I$ $a = 0.362758 + 0.211827I$ $b = -0.273043 + 0.840491I$	$1.19666 + 1.71799I$	$-3.40196 - 3.14843I$
$u = 1.182150 - 0.145591I$ $a = 0.362758 - 0.211827I$ $b = -0.273043 - 0.840491I$	$1.19666 - 1.71799I$	$-3.40196 + 3.14843I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.074667 + 1.191350I$ $a = 0.02224 - 2.67498I$ $b = 0.95555 + 2.46929I$	$4.15095 - 1.45690I$	$-6.06391 + 3.90496I$
$u = 0.074667 - 1.191350I$ $a = 0.02224 + 2.67498I$ $b = 0.95555 - 2.46929I$	$4.15095 + 1.45690I$	$-6.06391 - 3.90496I$
$u = -0.461743 + 1.100780I$ $a = -0.65437 - 1.25612I$ $b = -0.391036 + 1.157380I$	$2.12590 + 5.90675I$	$-4.41809 - 5.95745I$
$u = -0.461743 - 1.100780I$ $a = -0.65437 + 1.25612I$ $b = -0.391036 - 1.157380I$	$2.12590 - 5.90675I$	$-4.41809 + 5.95745I$
$u = -0.381182 + 1.202170I$ $a = 0.007178 - 1.285940I$ $b = -0.151030 + 0.745397I$	$1.22735 + 5.15944I$	$-10.65142 - 6.32446I$
$u = -0.381182 - 1.202170I$ $a = 0.007178 + 1.285940I$ $b = -0.151030 - 0.745397I$	$1.22735 - 5.15944I$	$-10.65142 + 6.32446I$
$u = 0.142714 + 1.275780I$ $a = -0.38126 + 1.60828I$ $b = -0.57553 - 1.42891I$	$6.62274 - 1.71689I$	$-2.06271 + 1.18758I$
$u = 0.142714 - 1.275780I$ $a = -0.38126 - 1.60828I$ $b = -0.57553 + 1.42891I$	$6.62274 + 1.71689I$	$-2.06271 - 1.18758I$
$u = 0.154332 + 1.329780I$ $a = -0.135624 + 0.304101I$ $b = -0.940652 - 0.367938I$	$6.39432 - 2.82994I$	$-0.17514 + 2.86968I$
$u = 0.154332 - 1.329780I$ $a = -0.135624 - 0.304101I$ $b = -0.940652 + 0.367938I$	$6.39432 + 2.82994I$	$-0.17514 - 2.86968I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.875864+1.016080I$ $a=\ 0.354410+0.314481I$ $b=\ 0.181318-0.990508I$	$-2.05254-5.40722I$	$-6.25580+2.37204I$
$u=-0.875864-1.016080I$ $a=\ 0.354410-0.314481I$ $b=\ 0.181318+0.990508I$	$-2.05254+5.40722I$	$-6.25580-2.37204I$
$u=-0.089933+0.626357I$ $a=\ 0.948435+0.750652I$ $b=-1.57516-0.10493I$	$-7.01308-2.03138I$	$-7.61477+5.15095I$
$u=-0.089933-0.626357I$ $a=\ 0.948435-0.750652I$ $b=-1.57516+0.10493I$	$-7.01308+2.03138I$	$-7.61477-5.15095I$
$u=\ 0.10860+1.49383I$ $a=-0.544144-0.265243I$ $b=\ 0.776324-0.008574I$	$-3.90622+2.22707I$	$-14.6705+2.6483I$
$u=\ 0.10860-1.49383I$ $a=-0.544144+0.265243I$ $b=\ 0.776324+0.008574I$	$-3.90622-2.22707I$	$-14.6705-2.6483I$
$u=\ 0.306065+0.379215I$ $a=\ 1.63844+0.22036I$ $b=-0.005413+1.288400I$	$1.62896+0.35162I$	$-5.47099+0.61470I$
$u=\ 0.306065-0.379215I$ $a=\ 1.63844-0.22036I$ $b=-0.005413-1.288400I$	$1.62896-0.35162I$	$-5.47099-0.61470I$
$u=\ 0.57465+1.42710I$ $a=\ 0.086948-1.193340I$ $b=\ 0.77214+1.39851I$	$5.39835-8.08405I$	$-3.41656+6.42031I$
$u=\ 0.57465-1.42710I$ $a=\ 0.086948+1.193340I$ $b=\ 0.77214-1.39851I$	$5.39835+8.08405I$	$-3.41656-6.42031I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.57712 + 1.52641I$		
$a = -0.012970 + 0.740923I$	$5.05400 - 4.18301I$	$-8.00000 + 8.98369I$
$b = -0.885111 - 0.845760I$		
$u = \quad 0.57712 - 1.52641I$		
$a = -0.012970 - 0.740923I$	$5.05400 + 4.18301I$	$-8.00000 - 8.98369I$
$b = -0.885111 + 0.845760I$		

III. $I_1^v = \langle a,\ b-1,\ v^3+2v+1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -v^2 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2v \\ v \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2v \\ v \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2v^2+1 \\ v^2+1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} v^2+2v \\ v-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3v^2 - v - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}, c_{11}	$u^3 + 2u - 1$
c_2, c_9	$(u-1)^3$
c_3, c_5	$u^3 + 2u + 1$
c_4, c_8	u^3
c_6, c_{12}	$(u+1)^3$
c_7	$u^3 + u^2 - u - 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_{10}, c_{11}	$y^3 + 4y^2 + 4y - 1$
c_2, c_6, c_9 c_{12}	$(y-1)^3$
c_4, c_8	y^3
c_7	$y^3 - 3y^2 + 5y - 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 0.22670 + 1.46771I$ $a = 0$ $b = 1.00000$	-3.28987	$-16.5351 + 0.5287I$
$v = 0.22670 - 1.46771I$ $a = 0$ $b = 1.00000$	-3.28987	$-16.5351 - 0.5287I$
$v = -0.453398$ $a = 0$ $b = 1.00000$	-3.28987	-8.92990

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3+2u-1)(u^{32}-3u^{31}+\cdots+10u+1)$ $\cdot(u^{141}-12u^{140}+\cdots+763u-49)$
c_2	$((u-1)^3)(u^{32}+2u^{31}+\cdots+3u+1)$ $\cdot(u^{141}-2u^{140}+\cdots+45051u+32979)$
c_3	$(u^3+2u+1)(u^{32}+15u^{30}+\cdots-15u+1)$ $\cdot(u^{141}+u^{140}+\cdots+386164u+65629)$
c_4	$u^3(u^{32}+u^{31}+\cdots+104u+59)(u^{141}+4u^{140}+\cdots+2832u+168)$
c_5	$(u^3+2u+1)(u^{32}+13u^{30}+\cdots+24u+11)$ $\cdot(u^{141}-u^{140}+\cdots+533427u+47167)$
c_6	$((u+1)^3)(u^{32}-2u^{31}+\cdots-3u+1)$ $\cdot(u^{141}-2u^{140}+\cdots+45051u+32979)$
c_7	$(u^3+u^2-u-2)(u^{32}-2u^{31}+\cdots-2u+1)$ $\cdot(u^{141}+8u^{140}+\cdots+47275162u+6401042)$
c_8	$u^3(u^{32}-u^{31}+\cdots-104u+59)(u^{141}+4u^{140}+\cdots+2832u+168)$
c_9	$((u-1)^3)(u^{32}+2u^{31}+\cdots+6u+1)(u^{141}+8u^{140}+\cdots+26u+1)$
c_{10}	$(u^3+2u-1)(u^{32}+15u^{30}+\cdots+15u+1)$ $\cdot(u^{141}+u^{140}+\cdots+386164u+65629)$
c_{11}	$(u^3+2u-1)(u^{32}+13u^{30}+\cdots-24u+11)$ $\cdot(u^{141}-u^{140}+\cdots+533427u+47167)$
c_{12}	$((u+1)^3)(u^{32}-2u^{31}+\cdots+91u+11)$ $\cdot(u^{141}-2u^{140}+\cdots+14863691u+980999)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^3+4y^2+4y-1)(y^{32}-11y^{31}+\cdots-36y+1)$ $\cdot(y^{141}-2y^{140}+\cdots-122941y-2401)$
c_2, c_6	$((y-1)^3)(y^{32}-14y^{31}+\cdots-23y+1)$ $\cdot(y^{141}-84y^{140}+\cdots+18315150465y-1087614441)$
c_3, c_{10}	$(y^3+4y^2+4y-1)(y^{32}+30y^{31}+\cdots-63y+1)$ $\cdot(y^{141}+119y^{140}+\cdots+200837368090y-4307165641)$
c_4, c_8	$y^3(y^{32}+29y^{31}+\cdots+55854y+3481)$ $\cdot(y^{141}+110y^{140}+\cdots+8842080y-28224)$
c_5, c_{11}	$(y^3+4y^2+4y-1)(y^{32}+26y^{31}+\cdots+854y+121)$ $\cdot(y^{141}+107y^{140}+\cdots-15637743751y-2224725889)$
c_7	$(y^3-3y^2+5y-4)(y^{32}+2y^{31}+\cdots+34y+1)$ $\cdot(y^{141}-40y^{140}+\cdots-12502874859103792y-40973338685764)$
c_9	$((y-1)^3)(y^{32}+4y^{31}+\cdots+2y+1)(y^{141}-6y^{140}+\cdots+136y-1)$
c_{12}	$((y-1)^3)(y^{32}+32y^{31}+\cdots-2297y+121)$ $\cdot(y^{141}+58y^{140}+\cdots-23268885446441y-962359038001)$