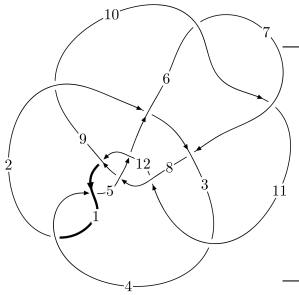
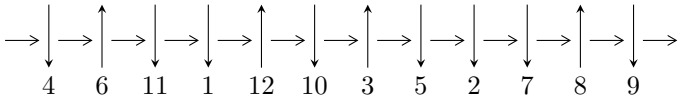
$12a_{0994}$ $(K12a_{0994})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.33817 \times 10^{1959} u^{183} - 1.96405 \times 10^{1958} u^{182} + \cdots + 2.02336 \times 10^{1961} b + 2.47768 \times 10^{1961},$$
$$- 8.13478 \times 10^{1960} u^{183} - 1.70818 \times 10^{1961} u^{182} + \cdots + 2.02336 \times 10^{1961} a + 5.65089 \times 10^{1961},$$
$$u^{184} + 2u^{183} + \cdots - 32u - 8 \rangle$$
$$I_2^u = \langle -4.93935 \times 10^{75} u^{40} - 8.59978 \times 10^{75} u^{39} + \cdots + 4.56856 \times 10^{76} b + 4.79524 \times 10^{76},$$
$$- 3.27638 \times 10^{75} u^{40} - 7.74862 \times 10^{75} u^{39} + \cdots + 4.56856 \times 10^{76} a - 3.80076 \times 10^{76},\ u^{41} + u^{40} + \cdots - 4u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 225 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. $\boldsymbol{I_1^u = \langle 1.34 \times 10^{1959} u^{183} - 1.96 \times 10^{1958} u^{182} + \cdots + 2.02 \times 10^{1961} b + 2.48 \times 10^{1961},\ -8.13 \times 10^{1960} u^{183} - 1.71 \times 10^{1961} u^{182} + \cdots + 2.02 \times 10^{1961} a + 5.65 \times 10^{1961},\ u^{184} + 2u^{183} + \cdots - 32u - 8 \rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.402044u^{183} + 0.844233u^{182} + \cdots - 58.9819u - 2.79283 \\ -0.00661362u^{183} + 0.000970690u^{182} + \cdots - 10.3979u - 1.22454 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.408658u^{183} + 0.843262u^{182} + \cdots - 48.5839u - 1.56829 \\ -0.00661362u^{183} + 0.000970690u^{182} + \cdots - 10.3979u - 1.22454 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.909896u^{183} + 1.64149u^{182} + \cdots + 37.2159u + 22.6886 \\ 0.0281559u^{183} + 0.0967861u^{182} + \cdots - 29.2844u - 4.80104 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.376358u^{183} + 0.787522u^{182} + \cdots - 54.8823u - 2.58526 \\ -0.00972317u^{183} - 0.00502116u^{182} + \cdots - 10.4230u - 1.29541 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.606016u^{183} - 1.21272u^{182} + \cdots + 43.5390u - 6.41960 \\ -0.00588665u^{183} - 0.0406161u^{182} + \cdots + 25.4824u + 3.66070 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.679492u^{183} + 1.20486u^{182} + \cdots + 85.5928u + 29.0130 \\ 0.0772370u^{183} + 0.214338u^{182} + \cdots - 56.0102u - 7.17148 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.691163u^{183} + 1.45581u^{182} + \cdots - 107.276u - 9.74903 \\ -0.0285364u^{183} - 0.0493336u^{182} + \cdots - 1.23104u - 1.31987 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.240499u^{183} + 0.501494u^{182} + \cdots - 91.1375u - 10.7023 \\ -0.134023u^{183} - 0.272513u^{182} + \cdots + 10.9558u - 1.47174 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.196908u^{183} - 0.429208u^{182} + \cdots + 84.6171u + 10.1386 \\ 0.106995u^{183} + 0.213012u^{182} + \cdots - 0.961589u + 1.44937 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.577315u^{183} - 1.24671u^{182} + \cdots + 169.482u + 12.5623$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{184} + 9u^{183} + \cdots + 7757548u + 603055$
c_2	$u^{184} - 5u^{183} + \cdots - 76590u - 11783$
c_3	$u^{184} - 2u^{183} + \cdots - 56849u - 15319$
c_5	$u^{184} + 6u^{183} + \cdots + 50u + 1$
c_6, c_{10}	$u^{184} - u^{183} + \cdots + 4833u + 181$
c_7	$u^{184} - 2u^{183} + \cdots + 32u - 8$
c_8	$u^{184} + 10u^{183} + \cdots + 1097072u + 93376$
c_9	$u^{184} - 3u^{183} + \cdots + 65011712u - 164626432$
c_{11}	$u^{184} + 3u^{183} + \cdots + 2982702u - 149351$
c_{12}	$u^{184} + 8u^{183} + \cdots + 5u - 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{184} + 133y^{183} + \cdots + 18491955281616y + 363675333025$
c_2	$y^{184} + 45y^{183} + \cdots - 4030990812y + 138839089$
c_3	$y^{184} - 14y^{183} + \cdots - 14728626387y + 234671761$
c_5	$y^{184} + 10y^{183} + \cdots + 8y + 1$
c_6, c_{10}	$y^{184} - 135y^{183} + \cdots - 656145y + 32761$
c_7	$y^{184} + 16y^{183} + \cdots + 5856y + 64$
c_8	$y^{184} + 60y^{183} + \cdots + 215273876736y + 8719077376$
c_9	$y^{184} - 59y^{183} + \cdots - 2337403390977376256y + 27101862113050624$
c_{11}	$y^{184} - 57y^{183} + \cdots - 4254754725390y + 22305721201$
c_{12}	$y^{184} + 36y^{183} + \cdots + 8655y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.398532+0.916383I$ $a=\ 0.785014-0.120928I$ $b=\ 0.557623+0.673511I$	$-0.23680-1.56240I$	0
$u=-0.398532-0.916383I$ $a=\ 0.785014+0.120928I$ $b=\ 0.557623-0.673511I$	$-0.23680+1.56240I$	0
$u=\ 0.897408+0.459546I$ $a=-0.627805+0.309171I$ $b=-0.412591-0.769997I$	$5.82894+1.42303I$	0
$u=\ 0.897408-0.459546I$ $a=-0.627805-0.309171I$ $b=-0.412591+0.769997I$	$5.82894-1.42303I$	0
$u=\ 0.298894+0.984405I$ $a=\ 1.031340+0.101557I$ $b=\ 1.31351-0.60603I$	$-0.946518+0.944802I$	0
$u=\ 0.298894-0.984405I$ $a=\ 1.031340-0.101557I$ $b=\ 1.31351+0.60603I$	$-0.946518-0.944802I$	0
$u=\ 0.849668+0.452894I$ $a=-0.139637-0.057718I$ $b=-0.166218+1.219360I$	$6.01977+6.06907I$	0
$u=\ 0.849668-0.452894I$ $a=-0.139637+0.057718I$ $b=-0.166218-1.219360I$	$6.01977-6.06907I$	0
$u=\ 0.830292+0.634652I$ $a=-0.281349+0.197584I$ $b=\ 0.035685-0.891003I$	$2.23362+4.89726I$	0
$u=\ 0.830292-0.634652I$ $a=-0.281349-0.197584I$ $b=\ 0.035685+0.891003I$	$2.23362-4.89726I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.010930+0.330351I$ $a=\ \ 0.126041+0.134588I$ $b=-0.184614-0.742315I$	$3.28588-0.37617I$	0
$u=-1.010930-0.330351I$ $a=\ \ 0.126041-0.134588I$ $b=-0.184614+0.742315I$	$3.28588+0.37617I$	0
$u=\ \ 0.337034+1.011380I$ $a=\ \ 2.40765+1.44406I$ $b=\ \ 1.154390+0.008693I$	$-4.48766+3.74982I$	0
$u=\ \ 0.337034-1.011380I$ $a=\ \ 2.40765-1.44406I$ $b=\ \ 1.154390-0.008693I$	$-4.48766-3.74982I$	0
$u=\ \ 0.832593+0.666617I$ $a=-0.056383-0.210245I$ $b=\ \ 0.051038-1.161020I$	$2.00870+6.75233I$	0
$u=\ \ 0.832593-0.666617I$ $a=-0.056383+0.210245I$ $b=\ \ 0.051038+1.161020I$	$2.00870-6.75233I$	0
$u=\ \ 0.516405+0.937733I$ $a=-1.63067-1.25127I$ $b=-1.194970+0.110539I$	$-4.57566+3.11768I$	0
$u=\ \ 0.516405-0.937733I$ $a=-1.63067+1.25127I$ $b=-1.194970-0.110539I$	$-4.57566-3.11768I$	0
$u=-0.051085+1.070130I$ $a=\ \ 1.131240-0.042258I$ $b=\ \ 1.47863+0.29226I$	$-1.117440-0.382928I$	0
$u=-0.051085-1.070130I$ $a=\ \ 1.131240+0.042258I$ $b=\ \ 1.47863-0.29226I$	$-1.117440+0.382928I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.703015 + 0.605177I$ $a = -1.47279 - 0.06577I$ $b = -1.51548 + 0.17544I$	$0.08517 + 2.02897I$	0
$u = \quad 0.703015 - 0.605177I$ $a = -1.47279 + 0.06577I$ $b = -1.51548 - 0.17544I$	$0.08517 - 2.02897I$	0
$u = -0.266883 + 1.041840I$ $a = -1.165600 - 0.427148I$ $b = -0.008341 - 0.191902I$	$3.28348 + 9.92691I$	0
$u = -0.266883 - 1.041840I$ $a = -1.165600 + 0.427148I$ $b = -0.008341 + 0.191902I$	$3.28348 - 9.92691I$	0
$u = -1.047360 + 0.301410I$ $a = \quad 0.555725 + 0.754541I$ $b = -1.027740 - 0.130696I$	$2.71365 - 3.62929I$	0
$u = -1.047360 - 0.301410I$ $a = \quad 0.555725 - 0.754541I$ $b = -1.027740 + 0.130696I$	$2.71365 + 3.62929I$	0
$u = \quad 0.605933 + 0.675997I$ $a = \quad 0.668612 - 0.169770I$ $b = \quad 0.130739 - 0.967364I$	$0.27700 + 2.24476I$	0
$u = \quad 0.605933 - 0.675997I$ $a = \quad 0.668612 + 0.169770I$ $b = \quad 0.130739 + 0.967364I$	$0.27700 - 2.24476I$	0
$u = \quad 0.196547 + 1.085000I$ $a = -0.631443 + 0.349993I$ $b = \quad 0.110774 + 0.103986I$	$-1.66775 - 4.06654I$	0
$u = \quad 0.196547 - 1.085000I$ $a = -0.631443 - 0.349993I$ $b = \quad 0.110774 - 0.103986I$	$-1.66775 + 4.06654I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.891760 + 0.075608I$ $a = -1.31320 - 0.63702I$ $b = 0.582846 + 0.482472I$	$3.46128 + 7.68118I$	0
$u = 0.891760 - 0.075608I$ $a = -1.31320 + 0.63702I$ $b = 0.582846 - 0.482472I$	$3.46128 - 7.68118I$	0
$u = -0.886297 + 0.000804I$ $a = -1.026060 - 0.462780I$ $b = 0.201417 + 0.588623I$	$0.01678 + 2.78559I$	0
$u = -0.886297 - 0.000804I$ $a = -1.026060 + 0.462780I$ $b = 0.201417 - 0.588623I$	$0.01678 - 2.78559I$	0
$u = -0.121764 + 0.876997I$ $a = 1.51246 - 0.09532I$ $b = 1.37882 + 0.73101I$	$-2.36077 - 4.99704I$	0
$u = -0.121764 - 0.876997I$ $a = 1.51246 + 0.09532I$ $b = 1.37882 - 0.73101I$	$-2.36077 + 4.99704I$	0
$u = -0.778597 + 0.806294I$ $a = 0.062158 - 0.127750I$ $b = -0.019709 + 1.204560I$	$4.44786 - 5.71233I$	0
$u = -0.778597 - 0.806294I$ $a = 0.062158 + 0.127750I$ $b = -0.019709 - 1.204560I$	$4.44786 + 5.71233I$	0
$u = 0.015540 + 1.122230I$ $a = 0.858551 - 0.531898I$ $b = 0.476538 - 0.028187I$	$-0.26773 - 1.84738I$	0
$u = 0.015540 - 1.122230I$ $a = 0.858551 + 0.531898I$ $b = 0.476538 + 0.028187I$	$-0.26773 + 1.84738I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.545110+0.682495I$ $a=\ \ 1.31688-2.91427I$ $b=\ \ 1.169560+0.098818I$	$0.06234-10.27370I$	0
$u=-0.545110-0.682495I$ $a=\ \ 1.31688+2.91427I$ $b=\ \ 1.169560-0.098818I$	$0.06234+10.27370I$	0
$u=-0.805429+0.337764I$ $a=\ \ 0.712046+0.290955I$ $b=-0.168680+0.467849I$	$1.49078-2.37157I$	0
$u=-0.805429-0.337764I$ $a=\ \ 0.712046-0.290955I$ $b=-0.168680-0.467849I$	$1.49078+2.37157I$	0
$u=\ \ 0.259003+1.098530I$ $a=-2.44638-0.26179I$ $b=-1.204840+0.097214I$	$-4.81813+3.54092I$	0
$u=\ \ 0.259003-1.098530I$ $a=-2.44638+0.26179I$ $b=-1.204840-0.097214I$	$-4.81813-3.54092I$	0
$u=-0.904767+0.680947I$ $a=\ \ 0.152537+0.064743I$ $b=\ \ 0.126779+0.899993I$	$0.53205-3.40253I$	0
$u=-0.904767-0.680947I$ $a=\ \ 0.152537-0.064743I$ $b=\ \ 0.126779-0.899993I$	$0.53205+3.40253I$	0
$u=-0.737049+0.866160I$ $a=-1.62236+1.04918I$ $b=-1.33585-0.48952I$	$-4.13558-7.41052I$	0
$u=-0.737049-0.866160I$ $a=-1.62236-1.04918I$ $b=-1.33585+0.48952I$	$-4.13558+7.41052I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.861917 + 0.020483I$ $a = 0.507938 - 1.159490I$ $b = -0.855309 + 0.617488I$	$4.17495 + 2.83509I$	0
$u = 0.861917 - 0.020483I$ $a = 0.507938 + 1.159490I$ $b = -0.855309 - 0.617488I$	$4.17495 - 2.83509I$	0
$u = 0.698010 + 0.914119I$ $a = 1.25843 + 0.66159I$ $b = 1.40459 - 0.52910I$	$-7.29172 + 4.34278I$	0
$u = 0.698010 - 0.914119I$ $a = 1.25843 - 0.66159I$ $b = 1.40459 + 0.52910I$	$-7.29172 - 4.34278I$	0
$u = 1.097490 + 0.346972I$ $a = 0.598985 - 0.604483I$ $b = -1.035560 - 0.088161I$	$2.33722 + 3.76651I$	0
$u = 1.097490 - 0.346972I$ $a = 0.598985 + 0.604483I$ $b = -1.035560 + 0.088161I$	$2.33722 - 3.76651I$	0
$u = 0.624752 + 0.565897I$ $a = 0.002377 + 0.640388I$ $b = 0.390184 - 0.996069I$	$2.44954 + 5.22338I$	0
$u = 0.624752 - 0.565897I$ $a = 0.002377 - 0.640388I$ $b = 0.390184 + 0.996069I$	$2.44954 - 5.22338I$	0
$u = 0.531859 + 0.638000I$ $a = 1.294630 + 0.194096I$ $b = 1.005580 + 0.318817I$	$-1.82460 - 0.71951I$	0
$u = 0.531859 - 0.638000I$ $a = 1.294630 - 0.194096I$ $b = 1.005580 - 0.318817I$	$-1.82460 + 0.71951I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.959372 + 0.723490I$ $a = -0.0676472 - 0.0413248I$ $b = -0.195703 + 1.013110I$	$0.45272 + 9.53996I$	0
$u = \quad 0.959372 - 0.723490I$ $a = -0.0676472 + 0.0413248I$ $b = -0.195703 - 1.013110I$	$0.45272 - 9.53996I$	0
$u = -0.916503 + 0.785644I$ $a = -0.0628267 - 0.0420404I$ $b = -0.071475 - 1.172600I$	$4.7169 - 15.4581I$	0
$u = -0.916503 - 0.785644I$ $a = -0.0628267 + 0.0420404I$ $b = -0.071475 + 1.172600I$	$4.7169 + 15.4581I$	0
$u = -0.736525 + 0.290416I$ $a = -0.421797 + 0.600174I$ $b = -0.898959 - 0.836872I$	$3.76757 - 1.23872I$	0
$u = -0.736525 - 0.290416I$ $a = -0.421797 - 0.600174I$ $b = -0.898959 + 0.836872I$	$3.76757 + 1.23872I$	0
$u = \quad 0.988218 + 0.703700I$ $a = \quad 0.049491 + 0.274129I$ $b = -0.299874 - 0.751364I$	$6.05067 + 2.52150I$	0
$u = \quad 0.988218 - 0.703700I$ $a = \quad 0.049491 - 0.274129I$ $b = -0.299874 + 0.751364I$	$6.05067 - 2.52150I$	0
$u = -0.710072 + 0.338872I$ $a = -0.34431 - 1.55143I$ $b = \quad 0.858017 + 0.661826I$	$3.19911 - 1.53491I$	0
$u = -0.710072 - 0.338872I$ $a = -0.34431 + 1.55143I$ $b = \quad 0.858017 - 0.661826I$	$3.19911 + 1.53491I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.715928+0.323788I$		
$a=$	$1.290550-0.327397I$	$-1.68974-0.10640I$	0
$b=$	$0.285313+0.035210I$		
$u=$	$0.715928-0.323788I$		
$a=$	$1.290550+0.327397I$	$-1.68974+0.10640I$	0
$b=$	$0.285313-0.035210I$		
$u=$	$-0.228365+0.750562I$		
$a=$	$0.606237-0.352290I$	$-0.42340-1.47933I$	0
$b=$	$0.117797+0.502561I$		
$u=$	$-0.228365-0.750562I$		
$a=$	$0.606237+0.352290I$	$-0.42340+1.47933I$	0
$b=$	$0.117797-0.502561I$		
$u=$	$1.128320+0.512050I$		
$a=$	$0.118242+0.101302I$	$7.78773-3.98271I$	0
$b=$	$0.232243+0.826070I$		
$u=$	$1.128320-0.512050I$		
$a=$	$0.118242-0.101302I$	$7.78773+3.98271I$	0
$b=$	$0.232243-0.826070I$		
$u=$	$-0.476060+0.593147I$		
$a=$	$-0.246447+1.375760I$	$3.35745-3.14179I$	0
$b=$	$0.346921+0.064092I$		
$u=$	$-0.476060-0.593147I$		
$a=$	$-0.246447-1.375760I$	$3.35745+3.14179I$	0
$b=$	$0.346921-0.064092I$		
$u=$	$-0.966318+0.784257I$		
$a=$	$-0.538912+0.161230I$	$6.22020-6.70986I$	0
$b=$	$-0.453512+0.842526I$		
$u=$	$-0.966318-0.784257I$		
$a=$	$-0.538912-0.161230I$	$6.22020+6.70986I$	0
$b=$	$-0.453512-0.842526I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.046650+0.747661I$ $a=-0.293826-0.026967I$ $b=-0.189595+1.242260I$	$-0.06652-5.81035I$	0
$u=-0.046650-0.747661I$ $a=-0.293826+0.026967I$ $b=-0.189595-1.242260I$	$-0.06652+5.81035I$	0
$u=\ \ 0.790585+0.984324I$ $a=-1.31999-0.85520I$ $b=-1.304400+0.411082I$	$-4.71008+5.42330I$	0
$u=\ \ 0.790585-0.984324I$ $a=-1.31999+0.85520I$ $b=-1.304400-0.411082I$	$-4.71008-5.42330I$	0
$u=\ \ 0.731525$ $a=\ \ 0.633100$ $b=\ \ 1.30029$	-2.25377	0
$u=-0.646477+0.310260I$ $a=-1.264220+0.195739I$ $b=-1.64023-0.48319I$	$1.59071-8.36716I$	0
$u=-0.646477-0.310260I$ $a=-1.264220-0.195739I$ $b=-1.64023+0.48319I$	$1.59071+8.36716I$	0
$u=\ \ 0.059506+0.695828I$ $a=-2.75378+0.92260I$ $b=-1.146140+0.247401I$	$-1.36546+5.27197I$	0
$u=\ \ 0.059506-0.695828I$ $a=-2.75378-0.92260I$ $b=-1.146140-0.247401I$	$-1.36546-5.27197I$	0
$u=-0.470447+0.514755I$ $a=\ \ 1.50924+0.14994I$ $b=\ \ 0.159231-0.500270I$	$2.00104+3.64552I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.470447-0.514755I$ $a=\ 1.50924-0.14994I$ $b=\ 0.159231+0.500270I$	$2.00104-3.64552I$	0
$u=-0.592162+1.161530I$ $a=-1.38060+0.33366I$ $b=-1.40147-0.47924I$	$-7.72751-7.65487I$	0
$u=-0.592162-1.161530I$ $a=-1.38060-0.33366I$ $b=-1.40147+0.47924I$	$-7.72751+7.65487I$	0
$u=-0.688075+1.118340I$ $a=\ 0.566015+0.029076I$ $b=\ 0.289407+0.217624I$	$-0.73504-2.34558I$	0
$u=-0.688075-1.118340I$ $a=\ 0.566015-0.029076I$ $b=\ 0.289407-0.217624I$	$-0.73504+2.34558I$	0
$u=\ 0.049071+0.669034I$ $a=\ 1.93072-0.23507I$ $b=\ 1.55883-0.55179I$	$-3.46968+4.30379I$	$-96.2091+0.I$
$u=\ 0.049071-0.669034I$ $a=\ 1.93072+0.23507I$ $b=\ 1.55883+0.55179I$	$-3.46968-4.30379I$	$-96.2091+0.I$
$u=-0.981342+0.907823I$ $a=-1.41173+0.97590I$ $b=-1.113270-0.394068I$	$3.54599-6.76733I$	0
$u=-0.981342-0.907823I$ $a=-1.41173-0.97590I$ $b=-1.113270+0.394068I$	$3.54599+6.76733I$	0
$u=-0.733268+1.163820I$ $a=\ 1.162370-0.534365I$ $b=\ 1.40557+0.40488I$	$-5.52480+0.42426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.733268-1.163820I$ $a=\ 1.162370+0.534365I$ $b=\ 1.40557-0.40488I$	$-5.52480-0.42426I$	0
$u=-1.148660+0.802136I$ $a=\ 0.091082+0.138647I$ $b=\ 0.025781-0.517437I$	$5.10316-3.12038I$	0
$u=-1.148660-0.802136I$ $a=\ 0.091082-0.138647I$ $b=\ 0.025781+0.517437I$	$5.10316+3.12038I$	0
$u=\ 0.629273+1.261350I$ $a=-1.223420-0.355305I$ $b=-1.38288+0.58527I$	$-4.10980+12.24850I$	0
$u=\ 0.629273-1.261350I$ $a=-1.223420+0.355305I$ $b=-1.38288-0.58527I$	$-4.10980-12.24850I$	0
$u=-1.12153+0.92223I$ $a=\ 1.235000-0.566340I$ $b=\ 1.42495+0.53827I$	$1.10386-12.16520I$	0
$u=-1.12153-0.92223I$ $a=\ 1.235000+0.566340I$ $b=\ 1.42495-0.53827I$	$1.10386+12.16520I$	0
$u=-0.531692+0.085783I$ $a=\ 0.49171-2.60528I$ $b=-0.708372+0.478274I$	$4.54855+1.73005I$	$4.78882-2.62703I$
$u=-0.531692-0.085783I$ $a=\ 0.49171+2.60528I$ $b=-0.708372-0.478274I$	$4.54855-1.73005I$	$4.78882+2.62703I$
$u=\ 0.398516+0.308197I$ $a=\ 0.80528-2.49181I$ $b=-1.207780-0.005106I$	$-5.78802+0.12125I$	$-16.5390+0.3283I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.398516 - 0.308197I$ $a = 0.80528 + 2.49181I$ $b = -1.207780 + 0.005106I$	$-5.78802 - 0.12125I$	$-16.5390 - 0.3283I$
$u = 0.147904 + 0.474281I$ $a = 1.16644 + 2.37382I$ $b = -0.399341 - 0.175224I$	$4.15868 + 1.90596I$	$1.42501 + 0.I$
$u = 0.147904 - 0.474281I$ $a = 1.16644 - 2.37382I$ $b = -0.399341 + 0.175224I$	$4.15868 - 1.90596I$	$1.42501 + 0.I$
$u = 0.377553 + 0.314072I$ $a = -2.94383 - 0.75910I$ $b = -1.007100 + 0.214256I$	$0.73945 + 3.04980I$	$0. - 5.16156I$
$u = 0.377553 - 0.314072I$ $a = -2.94383 + 0.75910I$ $b = -1.007100 - 0.214256I$	$0.73945 - 3.04980I$	$0. + 5.16156I$
$u = 0.053276 + 0.483980I$ $a = -0.257790 - 0.218325I$ $b = 0.137027 - 1.281550I$	$-2.73363 + 1.91671I$	$-20.2242 - 3.0082I$
$u = 0.053276 - 0.483980I$ $a = -0.257790 + 0.218325I$ $b = 0.137027 + 1.281550I$	$-2.73363 - 1.91671I$	$-20.2242 + 3.0082I$
$u = 0.094118 + 0.471999I$ $a = -1.217070 + 0.279943I$ $b = -1.74847 - 0.65148I$	$0.27100 + 8.44556I$	$-19.5621 - 14.1545I$
$u = 0.094118 - 0.471999I$ $a = -1.217070 - 0.279943I$ $b = -1.74847 + 0.65148I$	$0.27100 - 8.44556I$	$-19.5621 + 14.1545I$
$u = 0.00801 + 1.51976I$ $a = -1.45105 + 0.25506I$ $b = -1.255850 + 0.208162I$	$-1.13864 + 4.96027I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.00801 - 1.51976I$ $a = -1.45105 - 0.25506I$ $b = -1.255850 - 0.208162I$	$-1.13864 - 4.96027I$	0
$u = -0.298262 + 0.357644I$ $a = -4.19303 - 1.58237I$ $b = -0.792051 - 0.102220I$	$3.11103 - 4.69436I$	$-5.21595 + 5.30224I$
$u = -0.298262 - 0.357644I$ $a = -4.19303 + 1.58237I$ $b = -0.792051 + 0.102220I$	$3.11103 + 4.69436I$	$-5.21595 - 5.30224I$
$u = -1.03298 + 1.13785I$ $a = 1.43947 - 0.34908I$ $b = 1.143670 + 0.437671I$	$4.97773 - 0.60029I$	0
$u = -1.03298 - 1.13785I$ $a = 1.43947 + 0.34908I$ $b = 1.143670 - 0.437671I$	$4.97773 + 0.60029I$	0
$u = -1.22549 + 0.98099I$ $a = -0.898985 + 0.515775I$ $b = -1.064590 - 0.391299I$	$3.81401 - 5.72754I$	0
$u = -1.22549 - 0.98099I$ $a = -0.898985 - 0.515775I$ $b = -1.064590 + 0.391299I$	$3.81401 + 5.72754I$	0
$u = 1.01546 + 1.20413I$ $a = -1.45789 - 0.48519I$ $b = -1.34904 + 0.43718I$	$-4.03711 + 8.23025I$	0
$u = 1.01546 - 1.20413I$ $a = -1.45789 + 0.48519I$ $b = -1.34904 - 0.43718I$	$-4.03711 - 8.23025I$	0
$u = -0.369648 + 0.146048I$ $a = 2.95066 + 0.97947I$ $b = -1.181070 - 0.213454I$	$-1.71531 - 6.19808I$	$-9.00109 + 7.27542I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.369648-0.146048I$ $a=\ \ 2.95066-0.97947I$ $b=-1.181070+0.213454I$	$-1.71531+6.19808I$	$-9.00109-7.27542I$
$u=\ \ 1.22543+1.03518I$ $a=\ \ 1.250200+0.431573I$ $b=\ \ 1.37954-0.38480I$	$-1.68526+4.60229I$	0
$u=\ \ 1.22543-1.03518I$ $a=\ \ 1.250200-0.431573I$ $b=\ \ 1.37954+0.38480I$	$-1.68526-4.60229I$	0
$u=-0.217123+0.330154I$ $a=-1.019880-0.390073I$ $b=-1.31613+1.06000I$	$-2.19273-3.05751I$	$-10.5408+24.4770I$
$u=-0.217123-0.330154I$ $a=-1.019880+0.390073I$ $b=-1.31613-1.06000I$	$-2.19273+3.05751I$	$-10.5408-24.4770I$
$u=\ \ 0.178503+0.347519I$ $a=\ \ 1.07461+1.05097I$ $b=\ \ 1.57364-0.42670I$	$-2.81268-0.22075I$	$-18.4201+3.5446I$
$u=\ \ 0.178503-0.347519I$ $a=\ \ 1.07461-1.05097I$ $b=\ \ 1.57364+0.42670I$	$-2.81268+0.22075I$	$-18.4201-3.5446I$
$u=-1.05356+1.21920I$ $a=-1.36779+0.38066I$ $b=-1.38568-0.53238I$	$-2.50308-12.65450I$	0
$u=-1.05356-1.21920I$ $a=-1.36779-0.38066I$ $b=-1.38568+0.53238I$	$-2.50308+12.65450I$	0
$u=\ \ 1.15263+1.13792I$ $a=-1.168360-0.583549I$ $b=-1.37659+0.55661I$	$0.14197+11.81930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.15263 - 1.13792I$ $a = -1.168360 + 0.583549I$ $b = -1.37659 - 0.55661I$	$0.14197 - 11.81930I$	0
$u = -0.070495 + 0.345746I$ $a = 1.67161 - 0.96899I$ $b = 1.41468 + 0.79743I$	$-1.99275 - 2.52884I$	$-15.4949 + 7.6108I$
$u = -0.070495 - 0.345746I$ $a = 1.67161 + 0.96899I$ $b = 1.41468 - 0.79743I$	$-1.99275 + 2.52884I$	$-15.4949 - 7.6108I$
$u = 1.51051 + 0.68153I$ $a = 0.599385 + 0.692711I$ $b = 1.107420 - 0.132607I$	$1.21055 + 4.24992I$	0
$u = 1.51051 - 0.68153I$ $a = 0.599385 - 0.692711I$ $b = 1.107420 + 0.132607I$	$1.21055 - 4.24992I$	0
$u = 1.16622 + 1.19334I$ $a = 1.298010 + 0.511260I$ $b = 1.39848 - 0.53802I$	$0.1138 + 21.4313I$	0
$u = 1.16622 - 1.19334I$ $a = 1.298010 - 0.511260I$ $b = 1.39848 + 0.53802I$	$0.1138 - 21.4313I$	0
$u = -1.18201 + 1.21323I$ $a = -1.143320 + 0.450903I$ $b = -1.334240 - 0.454384I$	$-2.08368 - 9.78794I$	0
$u = -1.18201 - 1.21323I$ $a = -1.143320 - 0.450903I$ $b = -1.334240 + 0.454384I$	$-2.08368 + 9.78794I$	0
$u = -1.20924 + 1.20413I$ $a = 1.297040 - 0.480980I$ $b = 1.39635 + 0.45442I$	$-4.5024 - 14.7407I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.20924-1.20413I$ $a=\ 1.297040+0.480980I$ $b=\ 1.39635-0.45442I$	$-4.5024+14.7407I$	0
$u=\ 0.177690+0.218337I$ $a=\ 7.62987+1.10018I$ $b=\ 1.172300-0.214432I$	$-2.88564+5.88216I$	$-6.92313-8.93041I$
$u=\ 0.177690-0.218337I$ $a=\ 7.62987-1.10018I$ $b=\ 1.172300+0.214432I$	$-2.88564-5.88216I$	$-6.92313+8.93041I$
$u=-0.264026+0.065315I$ $a=\ 5.11648-9.38901I$ $b=\ 0.957893+0.251534I$	$2.53885-10.85040I$	$3.58488+13.38710I$
$u=-0.264026-0.065315I$ $a=\ 5.11648+9.38901I$ $b=\ 0.957893-0.251534I$	$2.53885+10.85040I$	$3.58488-13.38710I$
$u=\ 1.74524+0.03969I$ $a=-0.653256-0.018361I$ $b=-1.295340-0.102178I$	$-4.79339+0.59380I$	0
$u=\ 1.74524-0.03969I$ $a=-0.653256+0.018361I$ $b=-1.295340+0.102178I$	$-4.79339-0.59380I$	0
$u=\ 0.008492+0.224993I$ $a=-5.53724-0.00196I$ $b=\ 0.715887+0.443141I$	$3.53106-3.18395I$	$0.25692+2.63746I$
$u=\ 0.008492-0.224993I$ $a=-5.53724+0.00196I$ $b=\ 0.715887-0.443141I$	$3.53106+3.18395I$	$0.25692-2.63746I$
$u=\ 0.066309+0.211262I$ $a=-0.25708+3.84504I$ $b=\ 1.379470-0.206777I$	$-2.18384-0.63768I$	$-9.10775+0.22843I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.066309 - 0.211262I$ $a = -0.25708 - 3.84504I$ $b = 1.379470 + 0.206777I$	$-2.18384 + 0.63768I$	$-9.10775 - 0.22843I$
$u = 1.03687 + 1.54848I$ $a = -1.178040 - 0.220589I$ $b = -1.030780 + 0.438901I$	$4.38725 + 11.41990I$	0
$u = 1.03687 - 1.54848I$ $a = -1.178040 + 0.220589I$ $b = -1.030780 - 0.438901I$	$4.38725 - 11.41990I$	0
$u = 1.22596 + 1.48274I$ $a = 1.42953 + 0.41755I$ $b = 1.278760 - 0.252241I$	$1.16949 + 6.06490I$	0
$u = 1.22596 - 1.48274I$ $a = 1.42953 - 0.41755I$ $b = 1.278760 + 0.252241I$	$1.16949 - 6.06490I$	0
$u = -1.63354 + 1.07938I$ $a = -0.898686 + 0.278670I$ $b = -1.270310 - 0.148615I$	$-2.99355 - 8.22620I$	0
$u = -1.63354 - 1.07938I$ $a = -0.898686 - 0.278670I$ $b = -1.270310 + 0.148615I$	$-2.99355 + 8.22620I$	0
$u = -1.04576 + 1.75185I$ $a = 1.148820 - 0.475658I$ $b = 1.087750 - 0.103665I$	$-1.93555 + 2.93779I$	0
$u = -1.04576 - 1.75185I$ $a = 1.148820 + 0.475658I$ $b = 1.087750 + 0.103665I$	$-1.93555 - 2.93779I$	0
$u = 1.51753 + 1.56254I$ $a = 0.841280 + 0.194857I$ $b = 1.164360 + 0.117036I$	$0.00865 - 2.52837I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.51753 - 1.56254I$ $a = 0.841280 - 0.194857I$ $b = 1.164360 - 0.117036I$	$0.00865 + 2.52837I$	0
$u = -0.79362 + 2.04781I$ $a = -1.206080 + 0.214141I$ $b = -1.209330 + 0.044922I$	$-5.45377 + 4.64331I$	0
$u = -0.79362 - 2.04781I$ $a = -1.206080 - 0.214141I$ $b = -1.209330 - 0.044922I$	$-5.45377 - 4.64331I$	0
$u = 1.89112 + 1.25222I$ $a = 1.058190 + 0.207480I$ $b = 1.156340 - 0.011593I$	$-2.31937 + 1.36900I$	0
$u = 1.89112 - 1.25222I$ $a = 1.058190 - 0.207480I$ $b = 1.156340 + 0.011593I$	$-2.31937 - 1.36900I$	0
$u = 1.47436 + 1.74351I$ $a = -0.978374 - 0.249711I$ $b = -1.164550 - 0.178909I$	$0.05506 - 11.71980I$	0
$u = 1.47436 - 1.74351I$ $a = -0.978374 + 0.249711I$ $b = -1.164550 + 0.178909I$	$0.05506 + 11.71980I$	0
$u = -2.36198 + 0.15908I$ $a = 0.807230 + 0.149897I$ $b = 0.967379 + 0.182596I$	$-1.23950 - 2.39532I$	0
$u = -2.36198 - 0.15908I$ $a = 0.807230 - 0.149897I$ $b = 0.967379 - 0.182596I$	$-1.23950 + 2.39532I$	0
$u = -2.38507$ $a = 0.647735$ $b = 1.09123$	-3.38655	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.75435+2.41208I$ $a=\quad 1.060670-0.170048I$ $b=\quad 1.078160+0.094752I$	$-2.74397-0.52612I$	0
$u=-0.75435-2.41208I$ $a=\quad 1.060670+0.170048I$ $b=\quad 1.078160-0.094752I$	$-2.74397+0.52612I$	0
$u=-0.95331+2.37952I$ $a=\quad 1.252490+0.072367I$ $b=\quad 0.846382-0.116730I$	$1.83541+2.98136I$	0
$u=-0.95331-2.37952I$ $a=\quad 1.252490-0.072367I$ $b=\quad 0.846382+0.116730I$	$1.83541-2.98136I$	0

II.

$\boldsymbol{I_2^u = \langle -4.94\times 10^{75}u^{40} - 8.60\times 10^{75}u^{39} + \cdots + 4.57\times 10^{76}b + 4.80\times 10^{76},\ -3.28\times 10^{75}u^{40} - 7.75\times 10^{75}u^{39} + \cdots + 4.57\times 10^{76}a - 3.80\times 10^{76},\ u^{41} + u^{40} + \cdots - 4u + 1\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0717158u^{40} + 0.169608u^{39} + \cdots + 0.456199u + 0.831938 \\ 0.108116u^{40} + 0.188238u^{39} + \cdots - 1.39819u - 1.04962 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0364003u^{40} - 0.0186307u^{39} + \cdots + 1.85439u + 1.88156 \\ 0.108116u^{40} + 0.188238u^{39} + \cdots - 1.39819u - 1.04962 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0470201u^{40} - 0.163427u^{39} + \cdots - 4.26511u + 0.0958622 \\ -0.123535u^{40} - 0.0552244u^{39} + \cdots + 2.02837u + 0.369993 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0663998u^{40} + 0.198458u^{39} + \cdots + 0.563678u + 0.814168 \\ 0.0968310u^{40} + 0.194756u^{39} + \cdots - 1.75255u - 0.935328 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.146299u^{40} + 0.136353u^{39} + \cdots + 2.52294u + 1.86089 \\ 0.516292u^{40} + 0.629881u^{39} + \cdots - 0.261791u - 1.64746 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.259722u^{40} - 0.448118u^{39} + \cdots - 5.52873u + 0.442122 \\ -0.0809381u^{40} - 0.0116675u^{39} + \cdots + 2.30538u + 0.665647 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.256809u^{40} + 0.225752u^{39} + \cdots + 0.311912u - 1.57195 \\ -0.425659u^{40} - 0.498224u^{39} + \cdots - 2.23020u + 1.85234 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.310500u^{40} + 0.390060u^{39} + \cdots + 2.49670u + 0.134544 \\ -0.217881u^{40} - 0.357757u^{39} + \cdots - 1.00603u - 0.677160 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.489503u^{40} - 0.697005u^{39} + \cdots - 0.607547u + 1.09802 \\ 0.740415u^{40} + 0.878401u^{39} + \cdots + 3.76816u - 1.40627 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0.495461u^{40} + 0.975948u^{39} + \cdots + 15.1412u - 5.56989$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{41} - 10u^{40} + \cdots + 14u - 1$
c_2	$u^{41} + 2u^{40} + \cdots + 2u - 1$
c_3	$u^{41} + u^{40} + \cdots - u + 1$
c_4	$u^{41} + 10u^{40} + \cdots + 14u + 1$
c_5	$u^{41} + 3u^{40} + \cdots - 14u + 1$
c_6	$u^{41} + 2u^{40} + \cdots + 45u - 11$
c_7	$u^{41} + u^{40} + \cdots - 4u + 1$
c_8	$u^{41} + 3u^{40} + \cdots + 14u + 1$
c_9	$u^{41} - 9u^{39} + \cdots + 7u + 1$
c_{10}	$u^{41} - 2u^{40} + \cdots + 45u + 11$
c_{11}	$u^{41} + 4u^{40} + \cdots + 2u - 1$
c_{12}	$u^{41} + 3u^{40} + \cdots - 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{41} + 38y^{40} + \cdots - 16y - 1$
c_2	$y^{41} + 26y^{40} + \cdots - 20y - 1$
c_3	$y^{41} + 3y^{40} + \cdots + 11y - 1$
c_5	$y^{41} + 7y^{40} + \cdots - 56y - 1$
c_6, c_{10}	$y^{41} - 34y^{40} + \cdots + 1497y - 121$
c_7	$y^{41} + 9y^{40} + \cdots - 8y - 1$
c_8	$y^{41} + 25y^{40} + \cdots + 48y - 1$
c_9	$y^{41} - 18y^{40} + \cdots - 27y - 1$
c_{11}	$y^{41} - 4y^{40} + \cdots + 42y - 1$
c_{12}	$y^{41} + 25y^{40} + \cdots + 13y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.041258+1.019550I$ $a=\ \ 1.144080-0.201700I$ $b=\ \ 1.124620+0.373404I$	$-2.40163-0.68139I$	$-12.54799-1.49906I$
$u=-0.041258-1.019550I$ $a=\ \ 1.144080+0.201700I$ $b=\ \ 1.124620-0.373404I$	$-2.40163+0.68139I$	$-12.54799+1.49906I$
$u=\ \ 0.815160+0.505936I$ $a=-0.275784+1.201180I$ $b=\ \ 0.571605-0.333916I$	$4.12374+3.16963I$	$2.93313-5.34804I$
$u=\ \ 0.815160-0.505936I$ $a=-0.275784-1.201180I$ $b=\ \ 0.571605+0.333916I$	$4.12374-3.16963I$	$2.93313+5.34804I$
$u=-0.608989+0.740596I$ $a=\ \ 1.104780-0.263302I$ $b=\ \ 1.399700+0.135085I$	$-2.35096-0.78729I$	$-7.63745+5.79750I$
$u=-0.608989-0.740596I$ $a=\ \ 1.104780+0.263302I$ $b=\ \ 1.399700-0.135085I$	$-2.35096+0.78729I$	$-7.63745-5.79750I$
$u=-0.704922+0.646759I$ $a=-0.0842026-0.0754334I$ $b=\ \ 0.086800+1.199580I$	$3.12635-5.78398I$	$0.15308+10.20170I$
$u=-0.704922-0.646759I$ $a=-0.0842026+0.0754334I$ $b=\ \ 0.086800-1.199580I$	$3.12635+5.78398I$	$0.15308-10.20170I$
$u=-0.031828+0.928039I$ $a=-3.17670-0.17901I$ $b=-0.976724+0.183740I$	$1.88969+10.57570I$	$-6.95794-7.96146I$
$u=-0.031828-0.928039I$ $a=-3.17670+0.17901I$ $b=-0.976724-0.183740I$	$1.88969-10.57570I$	$-6.95794+7.96146I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.709890 + 0.829449I$ $a = 0.534455 - 0.153493I$ $b = 0.427211 - 0.578382I$	$-1.00155 + 2.47962I$	$-14.1477 - 6.4071I$
$u = 0.709890 - 0.829449I$ $a = 0.534455 + 0.153493I$ $b = 0.427211 + 0.578382I$	$-1.00155 - 2.47962I$	$-14.1477 + 6.4071I$
$u = -0.799004 + 0.212922I$ $a = 0.19520 + 1.55834I$ $b = -0.632245 - 0.575686I$	$4.28037 - 4.42390I$	$3.92795 + 6.81743I$
$u = -0.799004 - 0.212922I$ $a = 0.19520 - 1.55834I$ $b = -0.632245 + 0.575686I$	$4.28037 + 4.42390I$	$3.92795 - 6.81743I$
$u = 0.093295 + 1.174190I$ $a = 1.57290 + 0.25942I$ $b = 1.198680 + 0.353098I$	$-1.35706 - 4.15000I$	$-5.13893 + 2.03456I$
$u = 0.093295 - 1.174190I$ $a = 1.57290 - 0.25942I$ $b = 1.198680 - 0.353098I$	$-1.35706 + 4.15000I$	$-5.13893 - 2.03456I$
$u = -0.687580 + 0.981326I$ $a = -1.64669 + 0.77300I$ $b = -1.318870 - 0.432555I$	$-5.53190 - 6.58071I$	$-10.73352 + 6.06651I$
$u = -0.687580 - 0.981326I$ $a = -1.64669 - 0.77300I$ $b = -1.318870 + 0.432555I$	$-5.53190 + 6.58071I$	$-10.73352 - 6.06651I$
$u = -0.743572 + 0.185953I$ $a = -1.92216 - 0.27640I$ $b = 0.501031 + 0.290579I$	$4.01203 - 4.59975I$	$4.41694 + 5.13211I$
$u = -0.743572 - 0.185953I$ $a = -1.92216 + 0.27640I$ $b = 0.501031 - 0.290579I$	$4.01203 + 4.59975I$	$4.41694 - 5.13211I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.014970 + 0.790033I$ $a = -0.098327 + 0.295228I$ $b = -0.083858 - 0.526146I$	$4.72387 + 3.16585I$	$-3.60207 - 7.37563I$
$u = 1.014970 - 0.790033I$ $a = -0.098327 - 0.295228I$ $b = -0.083858 + 0.526146I$	$4.72387 - 3.16585I$	$-3.60207 + 7.37563I$
$u = 0.655109 + 0.129086I$ $a = 0.229546 - 1.343570I$ $b = -0.941198 + 0.743768I$	$3.08053 + 0.79726I$	$-4.27735 + 5.40528I$
$u = 0.655109 - 0.129086I$ $a = 0.229546 + 1.343570I$ $b = -0.941198 - 0.743768I$	$3.08053 - 0.79726I$	$-4.27735 - 5.40528I$
$u = 0.148754 + 0.634999I$ $a = 1.94193 + 0.20434I$ $b = 1.51818 - 0.67745I$	$-3.40806 + 4.64070I$	$-9.7544 - 15.7914I$
$u = 0.148754 - 0.634999I$ $a = 1.94193 - 0.20434I$ $b = 1.51818 + 0.67745I$	$-3.40806 - 4.64070I$	$-9.7544 + 15.7914I$
$u = 0.029493 + 1.348020I$ $a = -2.25856 - 0.00440I$ $b = -1.157660 - 0.078069I$	$-4.10025 - 4.71036I$	$-7.75850 + 9.34606I$
$u = 0.029493 - 1.348020I$ $a = -2.25856 + 0.00440I$ $b = -1.157660 + 0.078069I$	$-4.10025 + 4.71036I$	$-7.75850 - 9.34606I$
$u = 1.53033 + 0.29132I$ $a = 0.742446 - 0.175874I$ $b = 0.938313 - 0.314195I$	$-1.11164 + 2.39007I$	0
$u = 1.53033 - 0.29132I$ $a = 0.742446 + 0.175874I$ $b = 0.938313 + 0.314195I$	$-1.11164 - 2.39007I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.08315 + 1.14447I$ $a = -1.214600 - 0.432897I$ $b = -1.39467 + 0.53243I$	$-1.50198 + 11.75280I$	0
$u = 1.08315 - 1.14447I$ $a = -1.214600 + 0.432897I$ $b = -1.39467 - 0.53243I$	$-1.50198 - 11.75280I$	0
$u = -0.062527 + 0.364739I$ $a = 0.689090 - 0.298154I$ $b = -0.916261 - 0.771726I$	$-2.19115 + 2.72532I$	$-8.63729 + 1.10579I$
$u = -0.062527 - 0.364739I$ $a = 0.689090 + 0.298154I$ $b = -0.916261 + 0.771726I$	$-2.19115 - 2.72532I$	$-8.63729 - 1.10579I$
$u = 0.242537 + 0.182495I$ $a = 0.899656 + 0.583591I$ $b = -1.54093 + 0.18085I$	$0.70668 - 8.39346I$	$-1.63861 + 8.78700I$
$u = 0.242537 - 0.182495I$ $a = 0.899656 - 0.583591I$ $b = -1.54093 - 0.18085I$	$0.70668 + 8.39346I$	$-1.63861 - 8.78700I$
$u = -1.71748$ $a = 0.631169$ $b = 1.27817$	-4.46938	0
$u = -1.15523 + 1.45907I$ $a = -1.45812 + 0.45985I$ $b = -1.262810 - 0.250233I$	$1.04059 - 6.13087I$	0
$u = -1.15523 - 1.45907I$ $a = -1.45812 - 0.45985I$ $b = -1.262810 + 0.250233I$	$1.04059 + 6.13087I$	0
$u = -1.12905 + 2.13820I$ $a = 1.265490 + 0.053994I$ $b = 0.820001 - 0.104445I$	$1.85195 + 2.95947I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.12905-2.13820I$		
$a=\quad 1.265490-0.053994I$	$1.85195-2.95947I$	0
$b=\quad 0.820001+0.104445I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{41}-10u^{40}+\cdots+14u-1)$ $\cdot(u^{184}+9u^{183}+\cdots+7757548u+603055)$
c_2	$(u^{41}+2u^{40}+\cdots+2u-1)(u^{184}-5u^{183}+\cdots-76590u-11783)$
c_3	$(u^{41}+u^{40}+\cdots-u+1)(u^{184}-2u^{183}+\cdots-56849u-15319)$
c_4	$(u^{41}+10u^{40}+\cdots+14u+1)$ $\cdot(u^{184}+9u^{183}+\cdots+7757548u+603055)$
c_5	$(u^{41}+3u^{40}+\cdots-14u+1)(u^{184}+6u^{183}+\cdots+50u+1)$
c_6	$(u^{41}+2u^{40}+\cdots+45u-11)(u^{184}-u^{183}+\cdots+4833u+181)$
c_7	$(u^{41}+u^{40}+\cdots-4u+1)(u^{184}-2u^{183}+\cdots+32u-8)$
c_8	$(u^{41}+3u^{40}+\cdots+14u+1)(u^{184}+10u^{183}+\cdots+1097072u+93376)$
c_9	$(u^{41}-9u^{39}+\cdots+7u+1)$ $\cdot(u^{184}-3u^{183}+\cdots+65011712u-164626432)$
c_{10}	$(u^{41}-2u^{40}+\cdots+45u+11)(u^{184}-u^{183}+\cdots+4833u+181)$
c_{11}	$(u^{41}+4u^{40}+\cdots+2u-1)(u^{184}+3u^{183}+\cdots+2982702u-149351)$
c_{12}	$(u^{41}+3u^{40}+\cdots-3u-1)(u^{184}+8u^{183}+\cdots+5u-7)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{41} + 38y^{40} + \cdots - 16y - 1)$ $\cdot (y^{184} + 133y^{183} + \cdots + 18491955281616y + 363675333025)$
c_2	$(y^{41} + 26y^{40} + \cdots - 20y - 1)$ $\cdot (y^{184} + 45y^{183} + \cdots - 4030990812y + 138839089)$
c_3	$(y^{41} + 3y^{40} + \cdots + 11y - 1)$ $\cdot (y^{184} - 14y^{183} + \cdots - 14728626387y + 234671761)$
c_5	$(y^{41} + 7y^{40} + \cdots - 56y - 1)(y^{184} + 10y^{183} + \cdots + 8y + 1)$
c_6, c_{10}	$(y^{41} - 34y^{40} + \cdots + 1497y - 121)$ $\cdot (y^{184} - 135y^{183} + \cdots - 656145y + 32761)$
c_7	$(y^{41} + 9y^{40} + \cdots - 8y - 1)(y^{184} + 16y^{183} + \cdots + 5856y + 64)$
c_8	$(y^{41} + 25y^{40} + \cdots + 48y - 1)$ $\cdot (y^{184} + 60y^{183} + \cdots + 215273876736y + 8719077376)$
c_9	$(y^{41} - 18y^{40} + \cdots - 27y - 1)$ $\cdot (y^{184} - 59y^{183} + \cdots - 2337403390977376256y + 27101862113050624)$
c_{11}	$(y^{41} - 4y^{40} + \cdots + 42y - 1)$ $\cdot (y^{184} - 57y^{183} + \cdots - 4254754725390y + 22305721201)$
c_{12}	$(y^{41} + 25y^{40} + \cdots + 13y - 1)(y^{184} + 36y^{183} + \cdots + 8655y + 49)$