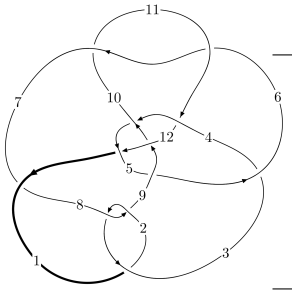
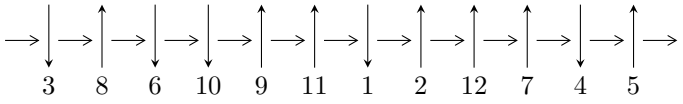
$12a_{0696}$ $(K12a_{0696})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.41962 \times 10^{338} u^{180} - 1.20195 \times 10^{338} u^{179} + \cdots + 7.13962 \times 10^{336} b + 2.76018 \times 10^{338},$$
$$5.24278 \times 10^{338} u^{180} - 3.50383 \times 10^{337} u^{179} + \cdots + 7.13962 \times 10^{336} a - 1.16139 \times 10^{339},\ u^{181} + 46 u^{179} + \cdots \rangle$$
$$I_2^u = \langle 216 u^{42} - 709 u^{41} + \cdots + 131 b + 943,\ 347 u^{42} - 1233 u^{41} + \cdots + 131 a + 2253,\ u^{43} - u^{42} + \cdots - 7 u^2 - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 224 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. $\boldsymbol{I_1^u = \langle 1.42 \times 10^{338} u^{180} - 1.20 \times 10^{338} u^{179} + \cdots + 7.14 \times 10^{336} b + 2.76 \times 10^{338},\ 5.24 \times 10^{338} u^{180} - 3.50 \times 10^{337} u^{179} + \cdots + 7.14 \times 10^{336} a - 1.16 \times 10^{339},\ u^{181} + 46 u^{179} + \cdots - u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -73.4323u^{180} + 4.90759u^{179} + \cdots + 95.1602u + 162.668 \\ -19.8838u^{180} + 16.8349u^{179} + \cdots + 143.589u - 38.6601 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -90.3427u^{180} + 13.4742u^{179} + \cdots + 160.636u + 174.596 \\ -36.7942u^{180} + 25.4015u^{179} + \cdots + 209.065u - 26.7327 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - u^5 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.767022u^{180} + 10.6814u^{179} + \cdots + 5.72652u - 29.1072 \\ 36.0408u^{180} - 10.4422u^{179} + \cdots - 136.012u - 31.3735 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -37.3943u^{180} + 24.9354u^{179} + \cdots + 178.969u - 20.9297 \\ 51.2108u^{180} - 3.90059u^{179} + \cdots - 73.6166u - 109.969 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 22.7530u^{180} + 7.33973u^{179} + \cdots - 20.3207u - 74.9072 \\ 38.4414u^{180} - 8.59063u^{179} + \cdots - 122.749u - 47.7809 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -49.4226u^{180} + 30.0174u^{179} + \cdots + 232.737u - 21.1572 \\ 43.4403u^{180} + 2.98078u^{179} + \cdots - 16.4521u - 126.279 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -158.902u^{180} + 55.1634u^{179} + \cdots + 452.093u + 172.834$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{181} + 92u^{180} + \cdots - 15u - 1$
c_2, c_8	$u^{181} + 46u^{179} + \cdots - u - 1$
c_3	$u^{181} + 13u^{180} + \cdots + 628733104u - 211700029$
c_4	$u^{181} - u^{180} + \cdots + 212u - 3$
c_5	$u^{181} - 4u^{180} + \cdots - 476890u - 36227$
c_6, c_{10}	$u^{181} + u^{180} + \cdots + 386176u - 88157$
c_7	$u^{181} - 35u^{179} + \cdots + 202878969u - 21005497$
c_9	$u^{181} + 14u^{180} + \cdots - 35u - 1$
c_{11}	$u^{181} + 3u^{180} + \cdots + 1540072u + 1602889$
c_{12}	$u^{181} + 2u^{180} + \cdots + 68u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{181}+8y^{180}+\cdots-87y-1$
c_2, c_8	$y^{181}+92y^{180}+\cdots-15y-1$
c_3	$y^{181}-61y^{180}+\cdots+466437623685825210y-44816902278600841$
c_4	$y^{181}-9y^{180}+\cdots+17746y-9$
c_5	$y^{181}+18y^{180}+\cdots-14914777958y-1312395529$
c_6, c_{10}	$y^{181}+109y^{180}+\cdots-436279416002y-7771656649$
c_7	$y^{181}-70y^{180}+\cdots+4677292519050717y-441230904217009$
c_9	$y^{181}+2y^{180}+\cdots-21y-1$
c_{11}	$y^{181}-37y^{180}+\cdots+210067324431820y-2569253146321$
c_{12}	$y^{181}-2y^{180}+\cdots+380y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.595366+0.811631I$ $a=-0.220953-0.075715I$ $b=-0.254848-1.078240I$	$2.02502+2.50091I$	0
$u=-0.595366-0.811631I$ $a=-0.220953+0.075715I$ $b=-0.254848+1.078240I$	$2.02502-2.50091I$	0
$u=-0.634703+0.755237I$ $a=-0.579936-0.325735I$ $b=\ \ 0.693508-0.146741I$	$2.19217-7.31387I$	0
$u=-0.634703-0.755237I$ $a=-0.579936+0.325735I$ $b=\ \ 0.693508+0.146741I$	$2.19217+7.31387I$	0
$u=-0.370993+0.908742I$ $a=\ \ 1.62406+0.50872I$ $b=\ \ 1.62256+1.00947I$	$-3.48908+0.77709I$	0
$u=-0.370993-0.908742I$ $a=\ \ 1.62406-0.50872I$ $b=\ \ 1.62256-1.00947I$	$-3.48908-0.77709I$	0
$u=\ \ 0.704616+0.675912I$ $a=\ \ 0.1202880-0.0378242I$ $b=-0.807613+0.025109I$	$2.13396+1.34395I$	0
$u=\ \ 0.704616-0.675912I$ $a=\ \ 0.1202880+0.0378242I$ $b=-0.807613-0.025109I$	$2.13396-1.34395I$	0
$u=-0.561030+0.870578I$ $a=-0.412428+0.062081I$ $b=-1.139930-0.599033I$	$3.28852-4.60568I$	0
$u=-0.561030-0.870578I$ $a=-0.412428-0.062081I$ $b=-1.139930+0.599033I$	$3.28852+4.60568I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.123633+0.949947I$ $a=\ \ 1.157780+0.758066I$ $b=\ \ 1.192050+0.602453I$	$-3.65409+0.74327I$	0
$u=-0.123633-0.949947I$ $a=\ \ 1.157780-0.758066I$ $b=\ \ 1.192050-0.602453I$	$-3.65409-0.74327I$	0
$u=-0.892665+0.277974I$ $a=\ \ 0.309435+1.141240I$ $b=-0.237266+0.142966I$	$-2.75442+7.05989I$	0
$u=-0.892665-0.277974I$ $a=\ \ 0.309435-1.141240I$ $b=-0.237266-0.142966I$	$-2.75442-7.05989I$	0
$u=\ \ 0.746434+0.779550I$ $a=-0.411095+0.175466I$ $b=\ \ 0.750352+0.262441I$	$-1.22778+12.56300I$	0
$u=\ \ 0.746434-0.779550I$ $a=-0.411095-0.175466I$ $b=\ \ 0.750352-0.262441I$	$-1.22778-12.56300I$	0
$u=-0.908320+0.139101I$ $a=-0.360830+1.076450I$ $b=-0.288962+0.154564I$	$-5.95305-4.36779I$	0
$u=-0.908320-0.139101I$ $a=-0.360830-1.076450I$ $b=-0.288962-0.154564I$	$-5.95305+4.36779I$	0
$u=\ \ 0.886386+0.229234I$ $a=-0.22682+1.70159I$ $b=\ \ 0.059190+0.486908I$	$-1.18683-6.11657I$	0
$u=\ \ 0.886386-0.229234I$ $a=-0.22682-1.70159I$ $b=\ \ 0.059190-0.486908I$	$-1.18683+6.11657I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.863089+0.283405I$ $a=\ \ 0.28652+2.16697I$ $b=-0.284444+0.443997I$	$-4.1410+15.4470I$	0
$u=-0.863089-0.283405I$ $a=\ \ 0.28652-2.16697I$ $b=-0.284444-0.443997I$	$-4.1410-15.4470I$	0
$u=-0.358045+1.034350I$ $a=\ \ 2.59184+0.01919I$ $b=\ \ 2.80657-0.51443I$	$-3.60056+3.68982I$	0
$u=-0.358045-1.034350I$ $a=\ \ 2.59184-0.01919I$ $b=\ \ 2.80657+0.51443I$	$-3.60056-3.68982I$	0
$u=-0.551404+0.703655I$ $a=-0.250460-0.907719I$ $b=\ \ 0.456759+0.096369I$	$3.77193+0.13944I$	0
$u=-0.551404-0.703655I$ $a=-0.250460+0.907719I$ $b=\ \ 0.456759-0.096369I$	$3.77193-0.13944I$	0
$u=-0.459068+1.008750I$ $a=\ \ 2.20681+0.60195I$ $b=\ \ 3.63458+0.76309I$	$-2.44470+1.88493I$	0
$u=-0.459068-1.008750I$ $a=\ \ 2.20681-0.60195I$ $b=\ \ 3.63458-0.76309I$	$-2.44470-1.88493I$	0
$u=-0.518924+0.715548I$ $a=\ \ 0.77939+1.47033I$ $b=-0.523576+1.112090I$	$-3.08163-4.59143I$	0
$u=-0.518924-0.715548I$ $a=\ \ 0.77939-1.47033I$ $b=-0.523576-1.112090I$	$-3.08163+4.59143I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.157048+0.869008I$		
$a=$	$0.148833+1.395630I$	$-3.37948+5.12393I$	0
$b=$	$0.829703-0.113133I$		
$u=$	$0.157048-0.869008I$		
$a=$	$0.148833-1.395630I$	$-3.37948-5.12393I$	0
$b=$	$0.829703+0.113133I$		
$u=$	$0.801141+0.348018I$		
$a=$	$0.83475+1.18270I$	$-3.70946-1.31308I$	0
$b=$	$0.235543-0.110065I$		
$u=$	$0.801141-0.348018I$		
$a=$	$0.83475-1.18270I$	$-3.70946+1.31308I$	0
$b=$	$0.235543+0.110065I$		
$u=$	$0.742863+0.849193I$		
$a=$	$-0.178981-0.043073I$	$-1.41715-6.99847I$	0
$b=$	$0.014625+0.869414I$		
$u=$	$0.742863-0.849193I$		
$a=$	$-0.178981+0.043073I$	$-1.41715+6.99847I$	0
$b=$	$0.014625-0.869414I$		
$u=$	$0.503467+1.013000I$		
$a=$	$0.077435-0.434592I$	$-0.24505+2.88016I$	0
$b=$	$0.038806-1.403750I$		
$u=$	$0.503467-1.013000I$		
$a=$	$0.077435+0.434592I$	$-0.24505-2.88016I$	0
$b=$	$0.038806+1.403750I$		
$u=$	$0.440356+1.048290I$		
$a=$	$-0.998995-0.403249I$	$-0.56992+2.55721I$	0
$b=$	$-1.63920-1.06547I$		
$u=$	$0.440356-1.048290I$		
$a=$	$-0.998995+0.403249I$	$-0.56992-2.55721I$	0
$b=$	$-1.63920+1.06547I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.675539 + 0.915043I$ $a = -0.025051 + 0.332177I$ $b = 0.076457 - 0.316468I$	$1.44991 + 3.88925I$	0
$u = 0.675539 - 0.915043I$ $a = -0.025051 - 0.332177I$ $b = 0.076457 + 0.316468I$	$1.44991 - 3.88925I$	0
$u = -0.412926 + 1.060430I$ $a = 1.37075 + 0.99233I$ $b = 2.27954 + 0.39999I$	$-5.20267 - 0.90227I$	0
$u = -0.412926 - 1.060430I$ $a = 1.37075 - 0.99233I$ $b = 2.27954 - 0.39999I$	$-5.20267 + 0.90227I$	0
$u = 0.861028$ $a = 0.988370$ $b = -0.0890765$	1.61341	0
$u = -0.233629 + 1.126220I$ $a = 1.55018 + 0.13866I$ $b = 2.41784 - 0.39138I$	$-4.23044 + 0.97702I$	0
$u = -0.233629 - 1.126220I$ $a = 1.55018 - 0.13866I$ $b = 2.41784 + 0.39138I$	$-4.23044 - 0.97702I$	0
$u = -0.780080 + 0.325656I$ $a = -0.09035 - 2.02154I$ $b = 0.147982 - 0.615166I$	$0.37862 + 3.76264I$	0
$u = -0.780080 - 0.325656I$ $a = -0.09035 + 2.02154I$ $b = 0.147982 + 0.615166I$	$0.37862 - 3.76264I$	0
$u = 0.804821 + 0.255351I$ $a = 0.44956 - 2.29525I$ $b = -0.157892 - 0.433264I$	$-0.38569 - 9.16610I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.804821 - 0.255351I$ $a = 0.44956 + 2.29525I$ $b = -0.157892 + 0.433264I$	$-0.38569 + 9.16610I$	0
$u = -0.345041 + 1.103590I$ $a = 1.14839 + 0.91569I$ $b = 1.98156 + 0.52442I$	$-5.24590 - 1.12386I$	0
$u = -0.345041 - 1.103590I$ $a = 1.14839 - 0.91569I$ $b = 1.98156 - 0.52442I$	$-5.24590 + 1.12386I$	0
$u = 0.547805 + 1.019380I$ $a = 0.784206 + 0.544874I$ $b = 0.841813 - 0.555541I$	$-1.081600 + 0.205365I$	0
$u = 0.547805 - 1.019380I$ $a = 0.784206 - 0.544874I$ $b = 0.841813 + 0.555541I$	$-1.081600 - 0.205365I$	0
$u = -0.646682 + 0.534024I$ $a = 1.06485 - 1.03858I$ $b = 0.573543 + 0.171316I$	$-2.55016 + 1.06949I$	0
$u = -0.646682 - 0.534024I$ $a = 1.06485 + 1.03858I$ $b = 0.573543 - 0.171316I$	$-2.55016 - 1.06949I$	0
$u = -0.332377 + 0.769653I$ $a = -0.21601 + 2.30748I$ $b = -0.33659 + 2.64018I$	$-2.68713 - 6.41286I$	0
$u = -0.332377 - 0.769653I$ $a = -0.21601 - 2.30748I$ $b = -0.33659 - 2.64018I$	$-2.68713 + 6.41286I$	0
$u = 0.725805 + 0.415106I$ $a = -0.606486 - 0.116539I$ $b = -0.589604 + 0.253650I$	$0.362740 + 1.324350I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.725805 - 0.415106I$ $a = -0.606486 + 0.116539I$ $b = -0.589604 - 0.253650I$	$0.362740 - 1.324350I$	0
$u = -0.116898 + 1.158270I$ $a = 1.53679 + 0.17839I$ $b = 2.32806 - 0.08252I$	$-4.25718 + 1.20520I$	0
$u = -0.116898 - 1.158270I$ $a = 1.53679 - 0.17839I$ $b = 2.32806 + 0.08252I$	$-4.25718 - 1.20520I$	0
$u = 0.383159 + 1.103090I$ $a = -0.962500 + 0.752145I$ $b = -1.77229 + 2.36253I$	$-5.30848 - 3.20886I$	0
$u = 0.383159 - 1.103090I$ $a = -0.962500 - 0.752145I$ $b = -1.77229 - 2.36253I$	$-5.30848 + 3.20886I$	0
$u = -0.451440 + 1.080940I$ $a = 0.800482 - 0.588323I$ $b = 0.938164 + 0.472350I$	$-1.163910 - 0.786720I$	0
$u = -0.451440 - 1.080940I$ $a = 0.800482 + 0.588323I$ $b = 0.938164 - 0.472350I$	$-1.163910 + 0.786720I$	0
$u = 0.422902 + 1.098430I$ $a = 1.84201 + 0.78115I$ $b = 2.20323 + 1.08182I$	$-2.23070 + 0.56794I$	0
$u = 0.422902 - 1.098430I$ $a = 1.84201 - 0.78115I$ $b = 2.20323 - 1.08182I$	$-2.23070 - 0.56794I$	0
$u = -0.458491 + 1.084610I$ $a = -0.714432 - 1.185340I$ $b = -1.32638 - 3.18509I$	$0.40177 - 3.55687I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.458491-1.084610I$ $a=-0.714432+1.185340I$ $b=-1.32638+3.18509I$	$0.40177+3.55687I$	0
$u=-0.469416+1.082820I$ $a=-0.093041-0.551849I$ $b=0.247775+0.351022I$	$-1.03527-6.27958I$	0
$u=-0.469416-1.082820I$ $a=-0.093041+0.551849I$ $b=0.247775-0.351022I$	$-1.03527+6.27958I$	0
$u=0.233183+1.157760I$ $a=0.917580-0.478336I$ $b=2.19796-0.42643I$	$-8.46939+1.54159I$	0
$u=0.233183-1.157760I$ $a=0.917580+0.478336I$ $b=2.19796+0.42643I$	$-8.46939-1.54159I$	0
$u=-0.798609+0.127641I$ $a=0.80609+1.99177I$ $b=-0.098263+0.236236I$	$-6.25329+3.52327I$	0
$u=-0.798609-0.127641I$ $a=0.80609-1.99177I$ $b=-0.098263-0.236236I$	$-6.25329-3.52327I$	0
$u=-0.549070+1.059660I$ $a=-1.19056+1.02991I$ $b=-2.13444+1.17123I$	$-4.17076-5.74669I$	0
$u=-0.549070-1.059660I$ $a=-1.19056-1.02991I$ $b=-2.13444-1.17123I$	$-4.17076+5.74669I$	0
$u=0.482657+1.093120I$ $a=1.76141-0.62048I$ $b=3.01916-1.13238I$	$-0.10816+4.41774I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.482657 - 1.093120I$ $a = 1.76141 + 0.62048I$ $b = 3.01916 + 1.13238I$	$-0.10816 - 4.41774I$	0
$u = -0.824240 + 0.867010I$ $a = -0.033092 - 0.182100I$ $b = -0.441577 + 0.091360I$	$3.03707 - 3.05245I$	0
$u = -0.824240 - 0.867010I$ $a = -0.033092 + 0.182100I$ $b = -0.441577 - 0.091360I$	$3.03707 + 3.05245I$	0
$u = 0.601604 + 1.035200I$ $a = -0.097785 + 0.631510I$ $b = 0.348734 + 0.413731I$	$-1.38718 + 3.71905I$	0
$u = 0.601604 - 1.035200I$ $a = -0.097785 - 0.631510I$ $b = 0.348734 - 0.413731I$	$-1.38718 - 3.71905I$	0
$u = -0.542572 + 1.070150I$ $a = -1.78926 + 0.50083I$ $b = -2.97774 + 0.92695I$	$-1.49183 - 7.86123I$	0
$u = -0.542572 - 1.070150I$ $a = -1.78926 - 0.50083I$ $b = -2.97774 - 0.92695I$	$-1.49183 + 7.86123I$	0
$u = 0.309993 + 1.159420I$ $a = 1.404010 + 0.151915I$ $b = 2.42155 + 1.36019I$	$-9.30742 - 2.43693I$	0
$u = 0.309993 - 1.159420I$ $a = 1.404010 - 0.151915I$ $b = 2.42155 - 1.36019I$	$-9.30742 + 2.43693I$	0
$u = 0.289712 + 0.743814I$ $a = -0.063647 - 0.935766I$ $b = -0.344138 - 1.281830I$	$-0.22312 + 2.03344I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.289712 - 0.743814I$ $a = -0.063647 + 0.935766I$ $b = -0.344138 + 1.281830I$	$-0.22312 - 2.03344I$	0
$u = 0.616770 + 0.505046I$ $a = 0.197342 - 0.798565I$ $b = -1.308510 - 0.474613I$	$0.41886 + 4.40049I$	0
$u = 0.616770 - 0.505046I$ $a = 0.197342 + 0.798565I$ $b = -1.308510 + 0.474613I$	$0.41886 - 4.40049I$	0
$u = 0.580502 + 0.544023I$ $a = 0.967205 + 0.116282I$ $b = -0.422730 - 0.119944I$	$1.13183 + 1.44638I$	0
$u = 0.580502 - 0.544023I$ $a = 0.967205 - 0.116282I$ $b = -0.422730 + 0.119944I$	$1.13183 - 1.44638I$	0
$u = 0.473790 + 1.108350I$ $a = -2.09192 + 1.01004I$ $b = -2.83871 + 1.11234I$	$-1.86361 + 6.85669I$	0
$u = 0.473790 - 1.108350I$ $a = -2.09192 - 1.01004I$ $b = -2.83871 - 1.11234I$	$-1.86361 - 6.85669I$	0
$u = 0.420548 + 1.130940I$ $a = -1.58806 - 0.83622I$ $b = -2.47273 - 0.52937I$	$-7.22191 + 1.52317I$	0
$u = 0.420548 - 1.130940I$ $a = -1.58806 + 0.83622I$ $b = -2.47273 + 0.52937I$	$-7.22191 - 1.52317I$	0
$u = -0.541223 + 1.084210I$ $a = -1.257890 + 0.093994I$ $b = -1.63526 + 0.44936I$	$-1.74817 - 7.28829I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.541223-1.084210I$ $a=-1.257890-0.093994I$ $b=-1.63526-0.44936I$	$-1.74817+7.28829I$	0
$u=\ \ 0.236625+1.188870I$ $a=-0.299425+0.548056I$ $b=-0.961238+0.363852I$	$-4.48456+4.02067I$	0
$u=\ \ 0.236625-1.188870I$ $a=-0.299425-0.548056I$ $b=-0.961238-0.363852I$	$-4.48456-4.02067I$	0
$u=\ \ 0.747874+0.244536I$ $a=-0.46227+2.50916I$ $b=\ \ 0.563510+0.429958I$	$-5.13314-5.71116I$	0
$u=\ \ 0.747874-0.244536I$ $a=-0.46227-2.50916I$ $b=\ \ 0.563510-0.429958I$	$-5.13314+5.71116I$	0
$u=-0.675870+0.399177I$ $a=\ \ 0.50445-2.05809I$ $b=\ \ 0.071628-0.414562I$	$0.45098+3.15192I$	0
$u=-0.675870-0.399177I$ $a=\ \ 0.50445+2.05809I$ $b=\ \ 0.071628+0.414562I$	$0.45098-3.15192I$	0
$u=-0.535036+1.094650I$ $a=-2.61029-0.28492I$ $b=-3.42078-0.57740I$	$-2.23095-10.64040I$	0
$u=-0.535036-1.094650I$ $a=-2.61029+0.28492I$ $b=-3.42078+0.57740I$	$-2.23095+10.64040I$	0
$u=\ \ 0.473276+1.129650I$ $a=\ \ 1.087770-0.548024I$ $b=\ \ 1.80572+0.27444I$	$-6.84995+6.27359I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.473276 - 1.129650I$ $a = 1.087770 + 0.548024I$ $b = 1.80572 - 0.27444I$	$-6.84995 - 6.27359I$	0
$u = 0.762848 + 0.135949I$ $a = 0.58678 + 1.57032I$ $b = 0.882411 + 0.656826I$	$-5.01247 - 6.00479I$	0
$u = 0.762848 - 0.135949I$ $a = 0.58678 - 1.57032I$ $b = 0.882411 - 0.656826I$	$-5.01247 + 6.00479I$	0
$u = 0.502601 + 1.119240I$ $a = -0.240995 + 1.042730I$ $b = -0.37286 + 2.90419I$	$-4.45118 + 10.75730I$	0
$u = 0.502601 - 1.119240I$ $a = -0.240995 - 1.042730I$ $b = -0.37286 - 2.90419I$	$-4.45118 - 10.75730I$	0
$u = 0.287541 + 1.193830I$ $a = -1.48803 - 0.36873I$ $b = -2.46237 - 1.21265I$	$-4.89969 - 5.76769I$	0
$u = 0.287541 - 1.193830I$ $a = -1.48803 + 0.36873I$ $b = -2.46237 + 1.21265I$	$-4.89969 + 5.76769I$	0
$u = -0.496681 + 1.123250I$ $a = -1.58307 + 0.85958I$ $b = -2.33142 + 0.80238I$	$-4.27542 - 6.44833I$	0
$u = -0.496681 - 1.123250I$ $a = -1.58307 - 0.85958I$ $b = -2.33142 - 0.80238I$	$-4.27542 + 6.44833I$	0
$u = -0.657010 + 0.372835I$ $a = 0.280475 - 1.137390I$ $b = -0.122076 - 0.598640I$	$0.30441 + 2.61964I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.657010-0.372835I$ $a=\ \ 0.280475+1.137390I$ $b=-0.122076+0.598640I$	$0.30441-2.61964I$	0
$u=\ \ 0.898188+0.863137I$ $a=-0.164321+0.120590I$ $b=\ \ 0.048251+0.216107I$	$0.87736+3.27537I$	0
$u=\ \ 0.898188-0.863137I$ $a=-0.164321-0.120590I$ $b=\ \ 0.048251-0.216107I$	$0.87736-3.27537I$	0
$u=-0.650324+0.362682I$ $a=-0.40903-2.59114I$ $b=\ \ 0.197113-1.304150I$	$-0.10346+6.00550I$	0
$u=-0.650324-0.362682I$ $a=-0.40903+2.59114I$ $b=\ \ 0.197113+1.304150I$	$-0.10346-6.00550I$	0
$u=\ \ 0.373700+1.199110I$ $a=\ \ 1.10732-1.00387I$ $b=\ \ 1.64574-0.51656I$	$-8.94894-2.13171I$	0
$u=\ \ 0.373700-1.199110I$ $a=\ \ 1.10732+1.00387I$ $b=\ \ 1.64574+0.51656I$	$-8.94894+2.13171I$	0
$u=-0.246260+1.238550I$ $a=-1.400950+0.189225I$ $b=-2.35812+1.03228I$	$-9.1198+11.9665I$	0
$u=-0.246260-1.238550I$ $a=-1.400950-0.189225I$ $b=-2.35812-1.03228I$	$-9.1198-11.9665I$	0
$u=\ \ 0.537231+1.146210I$ $a=-2.19666-0.11927I$ $b=-3.69173+0.43838I$	$-7.75244+10.54450I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.537231 - 1.146210I$ $a = -2.19666 + 0.11927I$ $b = -3.69173 - 0.43838I$	$-7.75244 - 10.54450I$	0
$u = -0.567239 + 1.134120I$ $a = -1.94520 + 0.04315I$ $b = -2.98839 - 0.03191I$	$-2.01174 - 8.81752I$	0
$u = -0.567239 - 1.134120I$ $a = -1.94520 - 0.04315I$ $b = -2.98839 + 0.03191I$	$-2.01174 + 8.81752I$	0
$u = -0.366350 + 1.214110I$ $a = -1.208570 + 0.524244I$ $b = -2.12931 + 1.37451I$	$-10.32110 - 0.45327I$	0
$u = -0.366350 - 1.214110I$ $a = -1.208570 - 0.524244I$ $b = -2.12931 - 1.37451I$	$-10.32110 + 0.45327I$	0
$u = 0.504433 + 0.528222I$ $a = 0.208830 + 0.584481I$ $b = -0.441359 + 0.095514I$	$0.93448 + 1.26721I$	0
$u = 0.504433 - 0.528222I$ $a = 0.208830 - 0.584481I$ $b = -0.441359 - 0.095514I$	$0.93448 - 1.26721I$	0
$u = 0.506951 + 1.172620I$ $a = -1.69779 - 0.92472I$ $b = -2.29521 - 0.76315I$	$-8.00841 + 10.69510I$	0
$u = 0.506951 - 1.172620I$ $a = -1.69779 + 0.92472I$ $b = -2.29521 + 0.76315I$	$-8.00841 - 10.69510I$	0
$u = 0.585065 + 1.142450I$ $a = -0.972637 - 0.695220I$ $b = -1.94540 - 1.07770I$	$-6.07460 + 6.51451I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.585065 - 1.142450I$ $a = -0.972637 + 0.695220I$ $b = -1.94540 + 1.07770I$	$-6.07460 - 6.51451I$	0
$u = -0.231596 + 1.265530I$ $a = -0.599924 + 0.060745I$ $b = -1.235820 + 0.571093I$	$-7.91576 + 3.44134I$	0
$u = -0.231596 - 1.265530I$ $a = -0.599924 - 0.060745I$ $b = -1.235820 - 0.571093I$	$-7.91576 - 3.44134I$	0
$u = -0.505609 + 1.183710I$ $a = 1.78503 + 0.28698I$ $b = 3.16052 + 0.62108I$	$-9.35141 - 8.28603I$	0
$u = -0.505609 - 1.183710I$ $a = 1.78503 - 0.28698I$ $b = 3.16052 - 0.62108I$	$-9.35141 + 8.28603I$	0
$u = 0.554182 + 1.163380I$ $a = 2.01051 - 0.10080I$ $b = 3.38500 - 0.32836I$	$-3.0697 + 14.2152I$	0
$u = 0.554182 - 1.163380I$ $a = 2.01051 + 0.10080I$ $b = 3.38500 + 0.32836I$	$-3.0697 - 14.2152I$	0
$u = -0.448713 + 0.546644I$ $a = 0.31309 + 3.01890I$ $b = 0.346898 + 0.712944I$	$-1.05536 - 5.74652I$	$0. + 8.04818I$
$u = -0.448713 - 0.546644I$ $a = 0.31309 - 3.01890I$ $b = 0.346898 - 0.712944I$	$-1.05536 + 5.74652I$	$0. - 8.04818I$
$u = 0.284177 + 1.272950I$ $a = 1.341760 - 0.002454I$ $b = 2.07868 + 0.42086I$	$-6.07518 - 2.23691I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.284177 - 1.272950I$ $a = 1.341760 + 0.002454I$ $b = 2.07868 - 0.42086I$	$-6.07518 + 2.23691I$	0
$u = -0.346760 + 1.260400I$ $a = -0.900081 - 0.429562I$ $b = -1.72205 - 0.23366I$	$-10.46360 - 8.61600I$	0
$u = -0.346760 - 1.260400I$ $a = -0.900081 + 0.429562I$ $b = -1.72205 + 0.23366I$	$-10.46360 + 8.61600I$	0
$u = -0.580299 + 1.175950I$ $a = 1.97230 - 0.04078I$ $b = 3.28782 + 0.19968I$	$-6.8188 - 20.7577I$	0
$u = -0.580299 - 1.175950I$ $a = 1.97230 + 0.04078I$ $b = 3.28782 - 0.19968I$	$-6.8188 + 20.7577I$	0
$u = -0.584925 + 1.186300I$ $a = 1.160110 + 0.029460I$ $b = 2.03543 + 0.35622I$	$-5.49837 - 12.46080I$	0
$u = -0.584925 - 1.186300I$ $a = 1.160110 - 0.029460I$ $b = 2.03543 - 0.35622I$	$-5.49837 + 12.46080I$	0
$u = -0.647811 + 0.196768I$ $a = 0.67859 - 1.62622I$ $b = 0.665835 - 0.451514I$	$-1.67871 + 2.04684I$	$0. - 3.71621I$
$u = -0.647811 - 0.196768I$ $a = 0.67859 + 1.62622I$ $b = 0.665835 + 0.451514I$	$-1.67871 - 2.04684I$	$0. + 3.71621I$
$u = 0.566032 + 1.196870I$ $a = -1.66859 + 0.09354I$ $b = -2.63208 + 0.13306I$	$-4.09900 + 11.41130I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.566032 - 1.196870I$ $a = -1.66859 - 0.09354I$ $b = -2.63208 - 0.13306I$	$-4.09900 - 11.41130I$	0
$u = -0.512318 + 1.229030I$ $a = 1.075980 - 0.325033I$ $b = 1.76306 - 0.37885I$	$-9.31728 - 0.75487I$	0
$u = -0.512318 - 1.229030I$ $a = 1.075980 + 0.325033I$ $b = 1.76306 + 0.37885I$	$-9.31728 + 0.75487I$	0
$u = 0.543861 + 1.220190I$ $a = 0.676874 - 0.248472I$ $b = 1.205330 - 0.719504I$	$-1.85372 + 5.05756I$	0
$u = 0.543861 - 1.220190I$ $a = 0.676874 + 0.248472I$ $b = 1.205330 + 0.719504I$	$-1.85372 - 5.05756I$	0
$u = 0.611614 + 0.228999I$ $a = -2.43416 - 0.02033I$ $b = 0.590607 + 0.017325I$	$-1.95535 - 6.36470I$	$3.71559 + 9.07255I$
$u = 0.611614 - 0.228999I$ $a = -2.43416 + 0.02033I$ $b = 0.590607 - 0.017325I$	$-1.95535 + 6.36470I$	$3.71559 - 9.07255I$
$u = -0.264656 + 0.542076I$ $a = -0.11286 + 1.48219I$ $b = 1.59922 + 0.61337I$	$-3.42180 - 2.34729I$	$-1.91720 + 3.29503I$
$u = -0.264656 - 0.542076I$ $a = -0.11286 - 1.48219I$ $b = 1.59922 - 0.61337I$	$-3.42180 + 2.34729I$	$-1.91720 - 3.29503I$
$u = 0.580043 + 0.089696I$ $a = -0.02664 - 1.88535I$ $b = 0.946817 - 0.311200I$	$-4.07877 - 2.14692I$	$-3.32050 + 0.87886I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.580043 - 0.089696I$ $a = -0.02664 + 1.88535I$ $b = 0.946817 + 0.311200I$	$-4.07877 + 2.14692I$	$-3.32050 - 0.87886I$
$u = 0.528068 + 0.234204I$ $a = 1.61402 - 2.12063I$ $b = 0.116818 - 0.264050I$	$2.22096 - 0.29746I$	$9.28920 - 1.15000I$
$u = 0.528068 - 0.234204I$ $a = 1.61402 + 2.12063I$ $b = 0.116818 + 0.264050I$	$2.22096 + 0.29746I$	$9.28920 + 1.15000I$
$u = -0.366598 + 0.415777I$ $a = -0.152019 + 0.334681I$ $b = -0.980047 - 0.753758I$	$1.05781 + 2.44636I$	$3.42389 - 6.12336I$
$u = -0.366598 - 0.415777I$ $a = -0.152019 - 0.334681I$ $b = -0.980047 + 0.753758I$	$1.05781 - 2.44636I$	$3.42389 + 6.12336I$
$u = 0.489369 + 0.137821I$ $a = -1.43775 + 2.22126I$ $b = -0.637263 + 0.944625I$	$0.66934 - 2.84173I$	$3.56470 + 1.74396I$
$u = 0.489369 - 0.137821I$ $a = -1.43775 - 2.22126I$ $b = -0.637263 - 0.944625I$	$0.66934 + 2.84173I$	$3.56470 - 1.74396I$
$u = -0.256305 + 0.395949I$ $a = 0.24834 + 1.67677I$ $b = -1.53165 + 0.58664I$	$0.98283 - 2.80452I$	$0.081865 + 0.656677I$
$u = -0.256305 - 0.395949I$ $a = 0.24834 - 1.67677I$ $b = -1.53165 - 0.58664I$	$0.98283 + 2.80452I$	$0.081865 - 0.656677I$
$u = -0.274999 + 0.369774I$ $a = -2.41258 - 3.01097I$ $b = 0.582393 - 0.028139I$	$2.59167 - 0.12281I$	$0.50582 - 9.26688I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.274999 - 0.369774I$		
$a = -2.41258 + 3.01097I$	$2.59167 + 0.12281I$	$0.50582 + 9.26688I$
$b = \quad 0.582393 + 0.028139I$		

II. $I_2^u = \langle 216u^{42} - 709u^{41} + \cdots + 131b + 943,\ 347u^{42} - 1233u^{41} + \cdots + 131a + 2253,\ u^{43} - u^{42} + \cdots - 7u^2 - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.64885u^{42} + 9.41221u^{41} + \cdots + 12.0687u - 17.1985 \\ -1.64885u^{42} + 5.41221u^{41} + \cdots + 5.06870u - 7.19847 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -2.64885u^{42} + 9.41221u^{41} + \cdots + 13.0687u - 20.1985 \\ -1.64885u^{42} + 5.41221u^{41} + \cdots + 6.06870u - 10.1985 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - u^5 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -10.8855u^{42} + 7.22137u^{41} + \cdots + 7.87023u + 14.1527 \\ -12.0992u^{42} + 11.2748u^{41} + \cdots + 11.0458u + 7.53435 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.93130u^{42} + 12.7328u^{41} + \cdots - 4.87786u + 5.09160 \\ -1.36641u^{42} + 11.0916u^{41} + \cdots + 1.01527u - 2.48855 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.08397u^{42} - 14.2290u^{41} + \cdots + 3.96183u + 6.22137 \\ -3.32824u^{42} - 8.16794u^{41} + \cdots + 0.305344u + 13.2290 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.68702u^{42} + 11.6718u^{41} + \cdots - 8.22137u + 9.08397 \\ -3.68702u^{42} + 13.6718u^{41} + \cdots + 0.778626u - 1.91603 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{19}{131}u^{42} + \frac{3041}{131}u^{41} + \cdots + \frac{3891}{131}u - \frac{8970}{131}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{43} - 23u^{42} + \cdots - 14u + 1$
c_2	$u^{43} - u^{42} + \cdots - 7u^2 - 1$
c_3	$u^{43} - 14u^{42} + \cdots + u - 1$
c_4	$u^{43} - 3u^{41} + \cdots - 3u + 1$
c_5	$u^{43} - u^{42} + \cdots - u + 1$
c_6	$u^{43} - 2u^{42} + \cdots - u + 1$
c_7	$u^{43} - u^{42} + \cdots - 10u + 1$
c_8	$u^{43} + u^{42} + \cdots + 7u^2 + 1$
c_9	$u^{43} + 7u^{42} + \cdots - 2u^2 + 1$
c_{10}	$u^{43} + 2u^{42} + \cdots - u - 1$
c_{11}	$u^{43} - 2u^{42} + \cdots - 3u - 1$
c_{12}	$u^{43} - 5u^{42} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{43} + 7y^{42} + \cdots - 18y - 1$
c_2, c_8	$y^{43} + 23y^{42} + \cdots - 14y - 1$
c_3	$y^{43} - 2y^{42} + \cdots + 3y - 1$
c_4	$y^{43} - 6y^{42} + \cdots + 7y - 1$
c_5	$y^{43} - 23y^{42} + \cdots - 21y - 1$
c_6, c_{10}	$y^{43} + 20y^{42} + \cdots - 41y - 1$
c_7	$y^{43} - 3y^{42} + \cdots + 10y - 1$
c_9	$y^{43} - 19y^{42} + \cdots + 4y - 1$
c_{11}	$y^{43} + 10y^{42} + \cdots + 25y - 1$
c_{12}	$y^{43} - 3y^{42} + \cdots - 23y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.147581 + 0.967681I$ $a = 1.81290 - 0.48409I$ $b = 2.79934 - 0.20256I$	$-4.81797 - 1.29167I$	$-11.17937 + 1.51589I$
$u = 0.147581 - 0.967681I$ $a = 1.81290 + 0.48409I$ $b = 2.79934 + 0.20256I$	$-4.81797 + 1.29167I$	$-11.17937 - 1.51589I$
$u = 0.239451 + 0.994117I$ $a = -0.008190 - 1.331180I$ $b = 0.897542 - 1.014310I$	$-5.09511 + 2.87535I$	$-7.68843 - 4.15579I$
$u = 0.239451 - 0.994117I$ $a = -0.008190 + 1.331180I$ $b = 0.897542 + 1.014310I$	$-5.09511 - 2.87535I$	$-7.68843 + 4.15579I$
$u = -0.461022 + 1.002360I$ $a = -0.496423 - 1.025360I$ $b = -0.032447 - 0.310959I$	$-0.19498 - 5.40083I$	$3.61159 + 4.85727I$
$u = -0.461022 - 1.002360I$ $a = -0.496423 + 1.025360I$ $b = -0.032447 + 0.310959I$	$-0.19498 + 5.40083I$	$3.61159 - 4.85727I$
$u = 0.440680 + 1.021100I$ $a = 2.40301 - 0.78727I$ $b = 3.27299 - 1.59955I$	$-3.29595 - 2.32394I$	$-3.49404 + 3.67409I$
$u = 0.440680 - 1.021100I$ $a = 2.40301 + 0.78727I$ $b = 3.27299 + 1.59955I$	$-3.29595 + 2.32394I$	$-3.49404 - 3.67409I$
$u = -0.488696 + 1.020530I$ $a = 0.819997 - 0.962949I$ $b = 0.895040 - 0.006610I$	$0.038859 - 0.620184I$	$5.94449 + 0.78073I$
$u = -0.488696 - 1.020530I$ $a = 0.819997 + 0.962949I$ $b = 0.895040 + 0.006610I$	$0.038859 + 0.620184I$	$5.94449 - 0.78073I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.508158 + 1.025880I$ $a = -1.38833 - 1.06337I$ $b = -1.58574 - 1.93543I$	$-2.82285 + 8.51260I$	$-3.59817 - 11.11838I$
$u = 0.508158 - 1.025880I$ $a = -1.38833 + 1.06337I$ $b = -1.58574 + 1.93543I$	$-2.82285 - 8.51260I$	$-3.59817 + 11.11838I$
$u = -0.463516 + 1.048920I$ $a = 0.67721 + 1.25166I$ $b = 1.27324 + 3.01779I$	$0.94931 - 3.29472I$	$10.18307 + 0.91300I$
$u = -0.463516 - 1.048920I$ $a = 0.67721 - 1.25166I$ $b = 1.27324 - 3.01779I$	$0.94931 + 3.29472I$	$10.18307 - 0.91300I$
$u = -0.783267 + 0.867723I$ $a = -0.162582 - 0.311464I$ $b = -0.434558 - 0.152562I$	$3.29088 - 2.93967I$	$16.8601 - 2.6303I$
$u = -0.783267 - 0.867723I$ $a = -0.162582 + 0.311464I$ $b = -0.434558 + 0.152562I$	$3.29088 + 2.93967I$	$16.8601 + 2.6303I$
$u = 0.231451 + 1.163910I$ $a = 1.71580 - 0.14448I$ $b = 2.43063 + 0.25125I$	$-4.62584 - 1.48403I$	$-7.78282 + 9.04199I$
$u = 0.231451 - 1.163910I$ $a = 1.71580 + 0.14448I$ $b = 2.43063 - 0.25125I$	$-4.62584 + 1.48403I$	$-7.78282 - 9.04199I$
$u = 0.804406$ $a = -1.22113$ $b = 0.107716$	1.49171	-23.6080
$u = 0.749719 + 0.285254I$ $a = -0.27162 + 2.09849I$ $b = 0.009924 + 0.839618I$	$-0.14548 - 4.49496I$	$0.02639 + 6.46400I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.749719 - 0.285254I$ $a = -0.27162 - 2.09849I$ $b = 0.009924 - 0.839618I$	$-0.14548 + 4.49496I$	$0.02639 - 6.46400I$
$u = -0.397331 + 0.690213I$ $a = -0.677350 - 0.511281I$ $b = -0.98917 - 1.39536I$	$0.92792 + 1.73743I$	$0.22392 + 4.17812I$
$u = -0.397331 - 0.690213I$ $a = -0.677350 + 0.511281I$ $b = -0.98917 + 1.39536I$	$0.92792 - 1.73743I$	$0.22392 - 4.17812I$
$u = -0.776344 + 0.165252I$ $a = -0.53823 - 1.40059I$ $b = 0.442181 - 0.430676I$	$-3.75029 + 5.62519I$	$0.51865 - 5.19473I$
$u = -0.776344 - 0.165252I$ $a = -0.53823 + 1.40059I$ $b = 0.442181 + 0.430676I$	$-3.75029 - 5.62519I$	$0.51865 + 5.19473I$
$u = 0.491324 + 0.616496I$ $a = 1.54267 + 0.45537I$ $b = 0.607709 + 0.843400I$	$-1.47400 - 4.35751I$	$0.55649 + 4.53115I$
$u = 0.491324 - 0.616496I$ $a = 1.54267 - 0.45537I$ $b = 0.607709 - 0.843400I$	$-1.47400 + 4.35751I$	$0.55649 - 4.53115I$
$u = 0.887935 + 0.871827I$ $a = 0.0852827 - 0.0916029I$ $b = -0.139652 - 0.254491I$	$0.81753 + 3.25424I$	$-54.0339 + 11.5751I$
$u = 0.887935 - 0.871827I$ $a = 0.0852827 + 0.0916029I$ $b = -0.139652 + 0.254491I$	$0.81753 - 3.25424I$	$-54.0339 - 11.5751I$
$u = -0.335839 + 1.202830I$ $a = 0.873451 + 0.192193I$ $b = 1.42588 - 0.52774I$	$-7.91517 + 1.88743I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.335839-1.202830I$ $a=\ \ 0.873451-0.192193I$ $b=\ \ 1.42588+0.52774I$	$-7.91517-1.88743I$	0
$u=-0.474548+0.580266I$ $a=-0.431457+0.713239I$ $b=-1.65563+0.25173I$	$1.43613-3.40106I$	$6.68305+8.05454I$
$u=-0.474548-0.580266I$ $a=-0.431457-0.713239I$ $b=-1.65563-0.25173I$	$1.43613+3.40106I$	$6.68305-8.05454I$
$u=\ \ 0.552534+1.130110I$ $a=-2.12882+0.12365I$ $b=-3.05864+0.20643I$	$-2.59319+9.39752I$	$0.-9.57343I$
$u=\ \ 0.552534-1.130110I$ $a=-2.12882-0.12365I$ $b=-3.05864-0.20643I$	$-2.59319-9.39752I$	$0.+9.57343I$
$u=-0.521519+1.164890I$ $a=-1.63995-0.01349I$ $b=-2.55404-0.59384I$	$-6.63929-10.40680I$	0
$u=-0.521519-1.164890I$ $a=-1.63995+0.01349I$ $b=-2.55404+0.59384I$	$-6.63929+10.40680I$	0
$u=\ \ 0.348070+0.623359I$ $a=\ \ 0.16332-3.00566I$ $b=-0.39834-1.42971I$	$-1.91111+5.81936I$	$0.51933-8.32678I$
$u=\ \ 0.348070-0.623359I$ $a=\ \ 0.16332+3.00566I$ $b=-0.39834+1.42971I$	$-1.91111-5.81936I$	$0.51933+8.32678I$
$u=\ \ 0.548287+1.189040I$ $a=-0.783461+0.159299I$ $b=-1.42438+0.59111I$	$-1.78394+4.91337I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.548287 - 1.189040I$ $a = -0.783461 - 0.159299I$ $b = -1.42438 - 0.59111I$	$-1.78394 - 4.91337I$	0
$u = -0.345312 + 0.527336I$ $a = \quad 1.54335 + 2.25855I$ $b = -0.335739 + 0.044580I$	$2.67014 - 0.39884I$	$7.4059 + 16.1405I$
$u = -0.345312 - 0.527336I$ $a = \quad 1.54335 - 2.25855I$ $b = -0.335739 - 0.044580I$	$2.67014 + 0.39884I$	$7.4059 - 16.1405I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{43}-23u^{42}+\cdots-14u+1)(u^{181}+92u^{180}+\cdots-15u-1)$
c_2	$(u^{43}-u^{42}+\cdots-7u^2-1)(u^{181}+46u^{179}+\cdots-u-1)$
c_3	$(u^{43}-14u^{42}+\cdots+u-1)$ $\cdot(u^{181}+13u^{180}+\cdots+628733104u-211700029)$
c_4	$(u^{43}-3u^{41}+\cdots-3u+1)(u^{181}-u^{180}+\cdots+212u-3)$
c_5	$(u^{43}-u^{42}+\cdots-u+1)(u^{181}-4u^{180}+\cdots-476890u-36227)$
c_6	$(u^{43}-2u^{42}+\cdots-u+1)(u^{181}+u^{180}+\cdots+386176u-88157)$
c_7	$(u^{43}-u^{42}+\cdots-10u+1)$ $\cdot(u^{181}-35u^{179}+\cdots+202878969u-21005497)$
c_8	$(u^{43}+u^{42}+\cdots+7u^2+1)(u^{181}+46u^{179}+\cdots-u-1)$
c_9	$(u^{43}+7u^{42}+\cdots-2u^2+1)(u^{181}+14u^{180}+\cdots-35u-1)$
c_{10}	$(u^{43}+2u^{42}+\cdots-u-1)(u^{181}+u^{180}+\cdots+386176u-88157)$
c_{11}	$(u^{43}-2u^{42}+\cdots-3u-1)(u^{181}+3u^{180}+\cdots+1540072u+1602889)$
c_{12}	$(u^{43}-5u^{42}+\cdots-u+1)(u^{181}+2u^{180}+\cdots+68u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{43}+7y^{42}+\cdots-18y-1)(y^{181}+8y^{180}+\cdots-87y-1)$
c_2, c_8	$(y^{43}+23y^{42}+\cdots-14y-1)(y^{181}+92y^{180}+\cdots-15y-1)$
c_3	$(y^{43}-2y^{42}+\cdots+3y-1)$ $\cdot(y^{181}-61y^{180}+\cdots+466437623685825210y-44816902278600841)$
c_4	$(y^{43}-6y^{42}+\cdots+7y-1)(y^{181}-9y^{180}+\cdots+17746y-9)$
c_5	$(y^{43}-23y^{42}+\cdots-21y-1)$ $\cdot(y^{181}+18y^{180}+\cdots-14914777958y-1312395529)$
c_6, c_{10}	$(y^{43}+20y^{42}+\cdots-41y-1)$ $\cdot(y^{181}+109y^{180}+\cdots-436279416002y-7771656649)$
c_7	$(y^{43}-3y^{42}+\cdots+10y-1)$ $\cdot(y^{181}-70y^{180}+\cdots+4677292519050717y-441230904217009)$
c_9	$(y^{43}-19y^{42}+\cdots+4y-1)(y^{181}+2y^{180}+\cdots-21y-1)$
c_{11}	$(y^{43}+10y^{42}+\cdots+25y-1)$ $\cdot(y^{181}-37y^{180}+\cdots+210067324431820y-2569253146321)$
c_{12}	$(y^{43}-3y^{42}+\cdots-23y-1)(y^{181}-2y^{180}+\cdots+380y-1)$