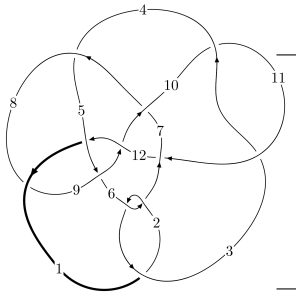
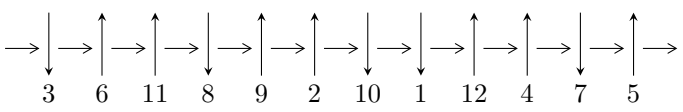
$12a_{0473}$ $(K12a_{0473})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.86496 \times 10^{672} u^{197} - 1.78840 \times 10^{672} u^{196} + \cdots + 1.18466 \times 10^{674} b + 1.78262 \times 10^{673}, \\
& 2.32687 \times 10^{674} u^{197} + 1.32190 \times 10^{674} u^{196} + \cdots + 3.67245 \times 10^{675} a - 1.48014 \times 10^{676}, \\
& u^{198} + u^{197} + \cdots - 192u + 31 \rangle \\
I_2^u = \langle & 2.58290 \times 10^{19} u^{53} - 4.28590 \times 10^{19} u^{52} + \cdots + 4.31513 \times 10^{17} b - 5.83347 \times 10^{19}, \\
& 8.59240 \times 10^{18} u^{53} - 1.13894 \times 10^{19} u^{52} + \cdots + 4.31513 \times 10^{17} a - 1.46351 \times 10^{19},\ u^{54} + 17u^{52} + \cdots + 4u +
\end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 252 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. $\boldsymbol{I_1^u = \langle -1.86 \times 10^{672} u^{197} - 1.79 \times 10^{672} u^{196} + \cdots + 1.18 \times 10^{674} b + 1.78 \times 10^{673},\ 2.33 \times 10^{674} u^{197} + 1.32 \times 10^{674} u^{196} + \cdots + 3.67 \times 10^{675} a - 1.48 \times 10^{676},\ u^{198} + u^{197} + \cdots - 192u + 31 \rangle}$

(i) Arc colorings

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.0633602u^{197} - 0.0359951u^{196} + \cdots - 20.8596u + 4.03040 \\ 0.0157425u^{197} + 0.0150963u^{196} + \cdots + 1.94045u - 0.150475 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0677733u^{197} + 0.0199501u^{196} + \cdots + 12.6545u + 2.68158 \\ 0.0290733u^{197} - 0.0351380u^{196} + \cdots + 4.67340u - 0.710225 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0890583u^{197} - 0.0497108u^{196} + \cdots - 22.5654u + 4.17656 \\ 0.0107942u^{197} + 0.00368821u^{196} + \cdots + 6.12461u - 0.722185 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0763840u^{197} + 0.0798270u^{196} + \cdots - 12.0972u + 3.22365 \\ -0.00122873u^{197} + 0.0100622u^{196} + \cdots - 1.09451u - 0.103854 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00431990u^{197} - 0.0332907u^{196} + \cdots + 25.9650u - 4.73282 \\ 0.0100152u^{197} + 0.0171788u^{196} + \cdots + 3.05089u - 0.0709769 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0633867u^{197} + 0.0532537u^{196} + \cdots - 10.4494u + 3.07203 \\ 0.0124830u^{197} + 0.00627313u^{196} + \cdots - 1.65043u + 0.165386 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0282330u^{197} - 0.0610010u^{196} + \cdots + 12.1616u - 1.21640 \\ 0.0156224u^{197} + 0.0148252u^{196} + \cdots + 4.23594u - 0.550404 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0894793u^{197} + 0.286939u^{196} + \cdots + 37.0328u - 5.55261$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{198} + 103u^{197} + \cdots + 17448u + 961$
c_2, c_6	$u^{198} - u^{197} + \cdots + 192u + 31$
c_3, c_{10}	$u^{198} + 67u^{196} + \cdots + 33900u + 11483$
c_4	$u^{198} - 50u^{196} + \cdots - 3343620599276u + 329813696659$
c_5	$u^{198} + u^{197} + \cdots - 152u + 137$
c_7	$u^{198} + 14u^{197} + \cdots - 3767846u + 4507105$
c_8	$u^{198} + 5u^{197} + \cdots - 13533u + 913$
c_9	$u^{198} + 14u^{197} + \cdots + 1162822100u + 97402681$
c_{11}	$u^{198} - 2u^{197} + \cdots + 37555120u + 6187153$
c_{12}	$u^{198} - 6u^{197} + \cdots + 13u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{198} - 5y^{197} + \cdots + 265997676y + 923521$
c_2, c_6	$y^{198} + 103y^{197} + \cdots + 17448y + 961$
c_3, c_{10}	$y^{198} + 134y^{197} + \cdots + 12295844278y + 131859289$
c_4	$y^{198} - 100y^{197} + \cdots - 9.00 \times 10^{24}y + 1.09 \times 10^{23}$
c_5	$y^{198} + 25y^{197} + \cdots + 1495404y + 18769$
c_7	$y^{198} - 80y^{197} + \cdots - 1202038047552706y + 20313995481025$
c_8	$y^{198} - 45y^{197} + \cdots + 443152173y + 833569$
c_9	$y^{198} + 44y^{197} + \cdots + 370665595377026344y + 9487282265987761$
c_{11}	$y^{198} - 56y^{197} + \cdots + 6038753260673846y + 38280862245409$
c_{12}	$y^{198} + 32y^{197} + \cdots + 265y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.824810+0.553156I$ $a=-0.69533+1.41516I$ $b=-0.284646+0.141860I$	$-3.58312-3.95709I$	0
$u=-0.824810-0.553156I$ $a=-0.69533-1.41516I$ $b=-0.284646-0.141860I$	$-3.58312+3.95709I$	0
$u=-0.963257+0.293593I$ $a=\ \ 0.70929+1.40633I$ $b=\ \ 1.339760+0.216023I$	$-4.5956+15.6769I$	0
$u=-0.963257-0.293593I$ $a=\ \ 0.70929-1.40633I$ $b=\ \ 1.339760-0.216023I$	$-4.5956-15.6769I$	0
$u=-0.729511+0.724454I$ $a=-1.066650-0.355340I$ $b=-1.09557+0.99016I$	$2.59433-0.83840I$	0
$u=-0.729511-0.724454I$ $a=-1.066650+0.355340I$ $b=-1.09557-0.99016I$	$2.59433+0.83840I$	0
$u=-0.381241+0.956773I$ $a=-0.555354+0.662424I$ $b=\ \ 0.563657+0.070525I$	$-0.93368-2.82399I$	0
$u=-0.381241-0.956773I$ $a=-0.555354-0.662424I$ $b=\ \ 0.563657-0.070525I$	$-0.93368+2.82399I$	0
$u=\ \ 0.877338+0.412580I$ $a=\ \ 0.47161-1.33895I$ $b=\ \ 1.232260-0.166680I$	$0.06938-4.33235I$	0
$u=\ \ 0.877338-0.412580I$ $a=\ \ 0.47161+1.33895I$ $b=\ \ 1.232260+0.166680I$	$0.06938+4.33235I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.222610+1.006240I$ $a=\ 0.406687-0.257500I$ $b=\ 3.08749-2.46706I$	$-8.49476-5.37600I$	0
$u=-0.222610-1.006240I$ $a=\ 0.406687+0.257500I$ $b=\ 3.08749+2.46706I$	$-8.49476+5.37600I$	0
$u=\ 0.802811+0.538722I$ $a=\ 1.188090+0.731574I$ $b=\ 1.260460+0.278506I$	$-4.06775+3.53850I$	0
$u=\ 0.802811-0.538722I$ $a=\ 1.188090-0.731574I$ $b=\ 1.260460-0.278506I$	$-4.06775-3.53850I$	0
$u=\ 0.255685+1.005100I$ $a=\ 0.738611+0.326309I$ $b=-1.114180-0.226089I$	$-4.83208+5.96241I$	0
$u=\ 0.255685-1.005100I$ $a=\ 0.738611-0.326309I$ $b=-1.114180+0.226089I$	$-4.83208-5.96241I$	0
$u=-0.254005+1.014770I$ $a=-0.786575+0.268218I$ $b=-1.25127-1.19822I$	$-8.14733-0.80174I$	0
$u=-0.254005-1.014770I$ $a=-0.786575-0.268218I$ $b=-1.25127+1.19822I$	$-8.14733+0.80174I$	0
$u=\ 0.236003+1.019580I$ $a=\ 1.123630+0.673011I$ $b=\ 1.44734+1.25988I$	$-4.68178-4.39747I$	0
$u=\ 0.236003-1.019580I$ $a=\ 1.123630-0.673011I$ $b=\ 1.44734-1.25988I$	$-4.68178+4.39747I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.132449+1.039490I$ $a=\ \ 0.915902+0.468946I$ $b=\ \ 1.76687+0.09225I$	$-4.76977-4.96050I$	0
$u=-0.132449-1.039490I$ $a=\ \ 0.915902-0.468946I$ $b=\ \ 1.76687-0.09225I$	$-4.76977+4.96050I$	0
$u=\ \ 0.614386+0.715810I$ $a=-0.378979+1.009620I$ $b=-1.56433+0.11301I$	$4.21166-0.54080I$	0
$u=\ \ 0.614386-0.715810I$ $a=-0.378979-1.009620I$ $b=-1.56433-0.11301I$	$4.21166+0.54080I$	0
$u=\ \ 0.594908+0.878745I$ $a=\ \ 1.032970-0.515434I$ $b=\ \ 1.30871+1.42246I$	$3.73146+5.29164I$	0
$u=\ \ 0.594908-0.878745I$ $a=\ \ 1.032970+0.515434I$ $b=\ \ 1.30871-1.42246I$	$3.73146-5.29164I$	0
$u=\ \ 1.039900+0.228021I$ $a=-0.226420+0.522952I$ $b=-0.478681+0.172308I$	$-3.45727-6.87757I$	0
$u=\ \ 1.039900-0.228021I$ $a=-0.226420-0.522952I$ $b=-0.478681-0.172308I$	$-3.45727+6.87757I$	0
$u=-0.737283+0.564655I$ $a=-1.52356-0.00658I$ $b=-0.924037+0.911189I$	$0.51049-3.80248I$	0
$u=-0.737283-0.564655I$ $a=-1.52356+0.00658I$ $b=-0.924037-0.911189I$	$0.51049+3.80248I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.416017 + 0.993053I$ $a = 0.720929 + 0.437955I$ $b = 1.166810 - 0.354621I$	$-3.38687 + 1.35108I$	0
$u = 0.416017 - 0.993053I$ $a = 0.720929 - 0.437955I$ $b = 1.166810 + 0.354621I$	$-3.38687 - 1.35108I$	0
$u = 0.232488 + 1.052280I$ $a = -0.799893 + 1.019930I$ $b = -2.76987 - 1.73929I$	$-8.89238 + 5.32591I$	0
$u = 0.232488 - 1.052280I$ $a = -0.799893 - 1.019930I$ $b = -2.76987 + 1.73929I$	$-8.89238 - 5.32591I$	0
$u = -0.279734 + 1.040910I$ $a = -0.253261 + 0.176642I$ $b = -3.07992 + 2.05683I$	$-8.82880 + 3.92495I$	0
$u = -0.279734 - 1.040910I$ $a = -0.253261 - 0.176642I$ $b = -3.07992 - 2.05683I$	$-8.82880 - 3.92495I$	0
$u = 0.486449 + 0.961931I$ $a = 0.185939 + 0.008126I$ $b = 1.70735 + 0.50992I$	$-1.97977 - 0.72064I$	0
$u = 0.486449 - 0.961931I$ $a = 0.185939 - 0.008126I$ $b = 1.70735 - 0.50992I$	$-1.97977 + 0.72064I$	0
$u = 0.847298 + 0.351445I$ $a = -0.65649 + 1.50631I$ $b = -1.39353 + 0.24812I$	$-0.33300 - 9.63949I$	0
$u = 0.847298 - 0.351445I$ $a = -0.65649 - 1.50631I$ $b = -1.39353 - 0.24812I$	$-0.33300 + 9.63949I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.384297+1.022610I$		
$a=$	$0.915893+0.258477I$	$-7.60838+5.05242I$	0
$b=$	$0.591419-0.583888I$		
$u=$	$0.384297-1.022610I$		
$a=$	$0.915893-0.258477I$	$-7.60838-5.05242I$	0
$b=$	$0.591419+0.583888I$		
$u=$	$-0.394959+1.023850I$		
$a=$	$-1.19575+1.09283I$	$-1.48905+0.43411I$	0
$b=$	$-0.44012+1.55630I$		
$u=$	$-0.394959-1.023850I$		
$a=$	$-1.19575-1.09283I$	$-1.48905-0.43411I$	0
$b=$	$-0.44012-1.55630I$		
$u=$	$0.251533+1.071030I$		
$a=$	$0.92596-1.18051I$	$-8.96847-4.35509I$	0
$b=$	$2.97705+0.89424I$		
$u=$	$0.251533-1.071030I$		
$a=$	$0.92596+1.18051I$	$-8.96847+4.35509I$	0
$b=$	$2.97705-0.89424I$		
$u=$	$-0.812119+0.745419I$		
$a=$	$0.895161+0.236677I$	$1.80790-6.18377I$	0
$b=$	$0.762848-0.865532I$		
$u=$	$-0.812119-0.745419I$		
$a=$	$0.895161-0.236677I$	$1.80790+6.18377I$	0
$b=$	$0.762848+0.865532I$		
$u=$	$-0.372855+1.039690I$		
$a=$	$-0.968646+0.800400I$	$-7.23762+3.27750I$	0
$b=$	$-1.172610+0.172507I$		
$u=$	$-0.372855-1.039690I$		
$a=$	$-0.968646-0.800400I$	$-7.23762-3.27750I$	0
$b=$	$-1.172610-0.172507I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.519911 + 0.722424I$ $a = -0.026612 - 0.141068I$ $b = 1.108450 + 0.675080I$	$-1.83814 - 0.88802I$	0
$u = 0.519911 - 0.722424I$ $a = -0.026612 + 0.141068I$ $b = 1.108450 - 0.675080I$	$-1.83814 + 0.88802I$	0
$u = -1.046270 + 0.379600I$ $a = -0.053059 + 0.358438I$ $b = 0.155168 + 0.269625I$	$0.565986 + 0.651189I$	0
$u = -1.046270 - 0.379600I$ $a = -0.053059 - 0.358438I$ $b = 0.155168 - 0.269625I$	$0.565986 - 0.651189I$	0
$u = -0.683256 + 0.893934I$ $a = 0.332044 + 0.846280I$ $b = 1.381190 + 0.089150I$	$2.08908 - 4.49974I$	0
$u = -0.683256 - 0.893934I$ $a = 0.332044 - 0.846280I$ $b = 1.381190 - 0.089150I$	$2.08908 + 4.49974I$	0
$u = 0.485445 + 1.016770I$ $a = -0.524205 + 0.003433I$ $b = -1.67733 - 1.65044I$	$-2.96479 + 4.78008I$	0
$u = 0.485445 - 1.016770I$ $a = -0.524205 - 0.003433I$ $b = -1.67733 + 1.65044I$	$-2.96479 - 4.78008I$	0
$u = -0.444508 + 1.039410I$ $a = -1.50105 - 0.95204I$ $b = -2.42661 + 1.25090I$	$-3.24317 - 1.20456I$	0
$u = -0.444508 - 1.039410I$ $a = -1.50105 + 0.95204I$ $b = -2.42661 - 1.25090I$	$-3.24317 + 1.20456I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.308845+1.088940I$ $a=\ \ 0.370261-0.776912I$ $b=-0.084035+1.029990I$	$-5.84447+4.04897I$	0
$u=-0.308845-1.088940I$ $a=\ \ 0.370261+0.776912I$ $b=-0.084035-1.029990I$	$-5.84447-4.04897I$	0
$u=-0.518948+1.011330I$ $a=\ \ 0.310847+1.039890I$ $b=\ \ 1.56683-0.36672I$	$-0.39175-2.63542I$	0
$u=-0.518948-1.011330I$ $a=\ \ 0.310847-1.039890I$ $b=\ \ 1.56683+0.36672I$	$-0.39175+2.63542I$	0
$u=\ \ 0.462927+1.047690I$ $a=\ \ 0.288225-0.977650I$ $b=\ \ 1.27654+1.30182I$	$1.25206+3.28632I$	0
$u=\ \ 0.462927-1.047690I$ $a=\ \ 0.288225+0.977650I$ $b=\ \ 1.27654-1.30182I$	$1.25206-3.28632I$	0
$u=-1.141360+0.146277I$ $a=-0.87484-1.20045I$ $b=-1.232320-0.216989I$	$-2.16615+5.60711I$	0
$u=-1.141360-0.146277I$ $a=-0.87484+1.20045I$ $b=-1.232320+0.216989I$	$-2.16615-5.60711I$	0
$u=-0.762448+0.373427I$ $a=\ \ 0.001253-0.627888I$ $b=-0.994084+0.270184I$	$-3.64779+1.26818I$	0
$u=-0.762448-0.373427I$ $a=\ \ 0.001253+0.627888I$ $b=-0.994084-0.270184I$	$-3.64779-1.26818I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.747516 + 0.402468I$ $a = 0.21934 - 1.93663I$ $b = 1.108420 - 0.191050I$	$-0.20396 - 6.41614I$	0
$u = 0.747516 - 0.402468I$ $a = 0.21934 + 1.93663I$ $b = 1.108420 + 0.191050I$	$-0.20396 + 6.41614I$	0
$u = -0.377232 + 1.089410I$ $a = 0.797220 - 1.067190I$ $b = 0.104841 - 0.329076I$	$-8.66867 + 0.54381I$	0
$u = -0.377232 - 1.089410I$ $a = 0.797220 + 1.067190I$ $b = 0.104841 + 0.329076I$	$-8.66867 - 0.54381I$	0
$u = 0.489049 + 1.044700I$ $a = -0.664690 + 0.020529I$ $b = -1.97839 + 0.09531I$	$-1.45922 + 6.72358I$	0
$u = 0.489049 - 1.044700I$ $a = -0.664690 - 0.020529I$ $b = -1.97839 - 0.09531I$	$-1.45922 - 6.72358I$	0
$u = 0.245589 + 1.127890I$ $a = -0.870344 - 0.754624I$ $b = 0.251260 - 1.202110I$	$-8.93341 + 0.08390I$	0
$u = 0.245589 - 1.127890I$ $a = -0.870344 + 0.754624I$ $b = 0.251260 + 1.202110I$	$-8.93341 - 0.08390I$	0
$u = -0.472608 + 1.055410I$ $a = 0.97037 - 1.55840I$ $b = -0.58648 - 1.59176I$	$-3.01128 - 5.39837I$	0
$u = -0.472608 - 1.055410I$ $a = 0.97037 + 1.55840I$ $b = -0.58648 + 1.59176I$	$-3.01128 + 5.39837I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.757260 + 0.364751I$ $a = -2.12506 - 0.90755I$ $b = -1.19865 - 0.83244I$	$-4.53758 - 6.76051I$	0
$u = 0.757260 - 0.364751I$ $a = -2.12506 + 0.90755I$ $b = -1.19865 + 0.83244I$	$-4.53758 + 6.76051I$	0
$u = 0.364061 + 1.102010I$ $a = -1.026340 - 0.363460I$ $b = -0.328856 - 0.468998I$	$-8.23780 + 7.37982I$	0
$u = 0.364061 - 1.102010I$ $a = -1.026340 + 0.363460I$ $b = -0.328856 + 0.468998I$	$-8.23780 - 7.37982I$	0
$u = 0.522730 + 1.037170I$ $a = -0.378495 - 0.177136I$ $b = -0.18124 - 1.46254I$	$-6.63260 + 1.33254I$	0
$u = 0.522730 - 1.037170I$ $a = -0.378495 + 0.177136I$ $b = -0.18124 + 1.46254I$	$-6.63260 - 1.33254I$	0
$u = 0.265860 + 1.133190I$ $a = 0.495368 + 0.624719I$ $b = 0.637140 + 0.235968I$	$-4.39155 + 0.24998I$	0
$u = 0.265860 - 1.133190I$ $a = 0.495368 - 0.624719I$ $b = 0.637140 - 0.235968I$	$-4.39155 - 0.24998I$	0
$u = 0.599728 + 0.577169I$ $a = -0.388694 + 0.200588I$ $b = -0.28828 - 1.44371I$	$-0.91719 + 5.13630I$	0
$u = 0.599728 - 0.577169I$ $a = -0.388694 - 0.200588I$ $b = -0.28828 + 1.44371I$	$-0.91719 - 5.13630I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.782592 + 0.282194I$ $a = -1.11690 + 1.37447I$ $b = -1.075150 + 0.342609I$	$-4.38008 - 2.89098I$	0
$u = 0.782592 - 0.282194I$ $a = -1.11690 - 1.37447I$ $b = -1.075150 - 0.342609I$	$-4.38008 + 2.89098I$	0
$u = -0.500040 + 1.059690I$ $a = 1.70534 + 0.45569I$ $b = 2.51555 - 1.68935I$	$-0.73399 - 7.01501I$	0
$u = -0.500040 - 1.059690I$ $a = 1.70534 - 0.45569I$ $b = 2.51555 + 1.68935I$	$-0.73399 + 7.01501I$	0
$u = -0.639301 + 0.983530I$ $a = 0.197767 + 1.128470I$ $b = 1.156070 + 0.411848I$	$-0.72364 - 1.41803I$	0
$u = -0.639301 - 0.983530I$ $a = 0.197767 - 1.128470I$ $b = 1.156070 - 0.411848I$	$-0.72364 + 1.41803I$	0
$u = -0.723369 + 0.387062I$ $a = 0.242751 - 0.938498I$ $b = 0.610791 + 0.843374I$	$-4.67901 + 6.09919I$	0
$u = -0.723369 - 0.387062I$ $a = 0.242751 + 0.938498I$ $b = 0.610791 - 0.843374I$	$-4.67901 - 6.09919I$	0
$u = -0.020576 + 1.185450I$ $a = 0.864718 + 0.346125I$ $b = 0.599249 + 0.073733I$	$-5.90636 - 2.04498I$	0
$u = -0.020576 - 1.185450I$ $a = 0.864718 - 0.346125I$ $b = 0.599249 - 0.073733I$	$-5.90636 + 2.04498I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.840311+0.845045I$ $a=-0.339990-0.514192I$ $b=-0.885798-0.084962I$	$1.52171+0.21201I$	0
$u=-0.840311-0.845045I$ $a=-0.339990+0.514192I$ $b=-0.885798+0.084962I$	$1.52171-0.21201I$	0
$u=-0.525930+1.069960I$ $a=1.098620+0.087603I$ $b=2.08393-2.03824I$	$-6.11780-9.99420I$	0
$u=-0.525930-1.069960I$ $a=1.098620-0.087603I$ $b=2.08393+2.03824I$	$-6.11780+9.99420I$	0
$u=0.984744+0.673591I$ $a=0.503195-0.928439I$ $b=1.205310-0.138533I$	$0.45241-4.77440I$	0
$u=0.984744-0.673591I$ $a=0.503195+0.928439I$ $b=1.205310+0.138533I$	$0.45241+4.77440I$	0
$u=0.120608+0.787765I$ $a=1.37504+0.75472I$ $b=1.105350+0.003716I$	$-6.25392-2.50764I$	0
$u=0.120608-0.787765I$ $a=1.37504-0.75472I$ $b=1.105350-0.003716I$	$-6.25392+2.50764I$	0
$u=-0.112461+0.788782I$ $a=-1.58784-0.15106I$ $b=-0.591296-0.673025I$	$-5.78124-5.66389I$	0
$u=-0.112461-0.788782I$ $a=-1.58784+0.15106I$ $b=-0.591296+0.673025I$	$-5.78124+5.66389I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.738165+0.291767I$		
$a=$	$0.558273-1.136720I$	$-0.09519-2.68195I$	0
$b=$	$0.852046+0.237899I$		
$u=$	$0.738165-0.291767I$		
$a=$	$0.558273+1.136720I$	$-0.09519+2.68195I$	0
$b=$	$0.852046-0.237899I$		
$u=$	$0.148857+1.199050I$		
$a=$	$-0.833664-0.726153I$	$-5.61682-6.73750I$	0
$b=$	$-0.372025-0.473225I$		
$u=$	$0.148857-1.199050I$		
$a=$	$-0.833664+0.726153I$	$-5.61682+6.73750I$	0
$b=$	$-0.372025+0.473225I$		
$u=$	$-0.505540+1.100760I$		
$a=$	$-1.147110-0.507952I$	$-7.75924-7.84532I$	0
$b=$	$-2.16485+1.71594I$		
$u=$	$-0.505540-1.100760I$		
$a=$	$-1.147110+0.507952I$	$-7.75924+7.84532I$	0
$b=$	$-2.16485-1.71594I$		
$u=$	$-0.313472+0.711149I$		
$a=$	$0.25243+1.78510I$	$-1.78173-2.12156I$	0
$b=$	$1.340140-0.283871I$		
$u=$	$-0.313472-0.711149I$		
$a=$	$0.25243-1.78510I$	$-1.78173+2.12156I$	0
$b=$	$1.340140+0.283871I$		
$u=$	$0.508548+1.126290I$		
$a=$	$0.713088+0.036404I$	$-7.18992+0.18186I$	0
$b=$	$0.628710+1.059660I$		
$u=$	$0.508548-1.126290I$		
$a=$	$0.713088-0.036404I$	$-7.18992-0.18186I$	0
$b=$	$0.628710-1.059660I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.598838+0.474090I$ $a=-0.676160-0.269721I$ $b=-0.600546+0.570846I$	$1.11261-0.90115I$	0
$u=-0.598838-0.474090I$ $a=-0.676160+0.269721I$ $b=-0.600546-0.570846I$	$1.11261+0.90115I$	0
$u=-0.690759+0.323339I$ $a=\ \ 0.644158+0.831022I$ $b=\ \ 1.69558-0.29105I$	$-1.91809+6.72702I$	0
$u=-0.690759-0.323339I$ $a=\ \ 0.644158-0.831022I$ $b=\ \ 1.69558+0.29105I$	$-1.91809-6.72702I$	0
$u=-0.543213+1.112850I$ $a=-0.588558-0.485942I$ $b=-1.85686+1.61850I$	$-4.20588-11.47960I$	0
$u=-0.543213-1.112850I$ $a=-0.588558+0.485942I$ $b=-1.85686-1.61850I$	$-4.20588+11.47960I$	0
$u=-0.564468+1.102300I$ $a=\ \ 0.545722-0.255840I$ $b=\ \ 1.78950+0.72166I$	$-6.79075-11.02120I$	0
$u=-0.564468-1.102300I$ $a=\ \ 0.545722+0.255840I$ $b=\ \ 1.78950-0.72166I$	$-6.79075+11.02120I$	0
$u=-0.554510+0.518938I$ $a=-1.30260-0.65624I$ $b=-1.37314+0.72666I$	$1.04847-1.72159I$	0
$u=-0.554510-0.518938I$ $a=-1.30260+0.65624I$ $b=-1.37314-0.72666I$	$1.04847+1.72159I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.521241+1.127700I$ $a=\ \ 0.332269+0.202571I$ $b=\ \ 1.072300-0.550216I$	$-0.96745-3.52885I$	0
$u=-0.521241-1.127700I$ $a=\ \ 0.332269-0.202571I$ $b=\ \ 1.072300+0.550216I$	$-0.96745+3.52885I$	0
$u=\ \ 0.578854+1.101340I$ $a=-1.44315+0.06768I$ $b=-2.28052-1.56100I$	$-2.27278+11.45280I$	0
$u=\ \ 0.578854-1.101340I$ $a=-1.44315-0.06768I$ $b=-2.28052+1.56100I$	$-2.27278-11.45280I$	0
$u=-0.571500+1.108720I$ $a=\ \ 0.565179+0.031084I$ $b=\ \ 1.57728-1.50098I$	$-5.82025-6.29317I$	0
$u=-0.571500-1.108720I$ $a=\ \ 0.565179-0.031084I$ $b=\ \ 1.57728+1.50098I$	$-5.82025+6.29317I$	0
$u=\ \ 0.548322+1.127500I$ $a=-0.847832+0.286398I$ $b=-2.05383-0.84014I$	$-2.52412+7.54304I$	0
$u=\ \ 0.548322-1.127500I$ $a=-0.847832-0.286398I$ $b=-2.05383+0.84014I$	$-2.52412-7.54304I$	0
$u=\ \ 0.569399+1.118000I$ $a=-0.50535-1.68929I$ $b=\ \ 0.90248-1.35828I$	$-6.77011+11.77930I$	0
$u=\ \ 0.569399-1.118000I$ $a=-0.50535+1.68929I$ $b=\ \ 0.90248+1.35828I$	$-6.77011-11.77930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.521023 + 1.144030I$ $a = -0.266039 + 0.978578I$ $b = -1.134730 + 0.449251I$	$-2.13610 + 2.01997I$	0
$u = 0.521023 - 1.144030I$ $a = -0.266039 - 0.978578I$ $b = -1.134730 - 0.449251I$	$-2.13610 - 2.01997I$	0
$u = 0.553601 + 1.140610I$ $a = 1.25135 - 0.67392I$ $b = 2.01836 + 0.85890I$	$-6.90204 + 7.87006I$	0
$u = 0.553601 - 1.140610I$ $a = 1.25135 + 0.67392I$ $b = 2.01836 - 0.85890I$	$-6.90204 - 7.87006I$	0
$u = 0.851591 + 0.941930I$ $a = -1.006740 + 0.283724I$ $b = -1.30216 - 0.93207I$	$-0.32568 + 11.25770I$	0
$u = 0.851591 - 0.941930I$ $a = -1.006740 - 0.283724I$ $b = -1.30216 + 0.93207I$	$-0.32568 - 11.25770I$	0
$u = -0.494312 + 1.172850I$ $a = -0.403178 + 0.017663I$ $b = -0.973569 - 0.185280I$	$-1.08505 - 4.73909I$	0
$u = -0.494312 - 1.172850I$ $a = -0.403178 - 0.017663I$ $b = -0.973569 + 0.185280I$	$-1.08505 + 4.73909I$	0
$u = 0.618843 + 1.129480I$ $a = -1.163820 + 0.230234I$ $b = -2.03597 - 1.40240I$	$-2.11502 + 9.82931I$	0
$u = 0.618843 - 1.129480I$ $a = -1.163820 - 0.230234I$ $b = -2.03597 + 1.40240I$	$-2.11502 - 9.82931I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.651111 + 0.283423I$ $a = 0.581491 + 1.053030I$ $b = -0.346579 + 0.884285I$	$-4.71584 + 4.37839I$	0
$u = 0.651111 - 0.283423I$ $a = 0.581491 - 1.053030I$ $b = -0.346579 - 0.884285I$	$-4.71584 - 4.37839I$	0
$u = 0.597360 + 1.146370I$ $a = 1.228210 - 0.370045I$ $b = 2.16174 + 1.43382I$	$-2.7187 + 14.9844I$	0
$u = 0.597360 - 1.146370I$ $a = 1.228210 + 0.370045I$ $b = 2.16174 - 1.43382I$	$-2.7187 - 14.9844I$	0
$u = -0.566200 + 0.422937I$ $a = 0.26508 - 1.59952I$ $b = -1.47889 + 0.00458I$	$-4.21924 + 5.55959I$	$0. - 7.35367I$
$u = -0.566200 - 0.422937I$ $a = 0.26508 + 1.59952I$ $b = -1.47889 - 0.00458I$	$-4.21924 - 5.55959I$	$0. + 7.35367I$
$u = -0.629099 + 1.138350I$ $a = -0.731891 + 0.658784I$ $b = -1.074780 + 0.083998I$	$-5.46610 - 1.69081I$	0
$u = -0.629099 - 1.138350I$ $a = -0.731891 - 0.658784I$ $b = -1.074780 - 0.083998I$	$-5.46610 + 1.69081I$	0
$u = 0.461302 + 1.222640I$ $a = -0.582381 + 0.432692I$ $b = -1.48919 - 0.15022I$	$-2.85043 + 6.61669I$	0
$u = 0.461302 - 1.222640I$ $a = -0.582381 - 0.432692I$ $b = -1.48919 + 0.15022I$	$-2.85043 - 6.61669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.661049+0.125042I$ $a=\ \ 0.407469+0.244721I$ $b=-0.274295-0.366209I$	$1.88448+0.31661I$	$9.20971+3.08421I$
$u=-0.661049-0.125042I$ $a=\ \ 0.407469-0.244721I$ $b=-0.274295+0.366209I$	$1.88448-0.31661I$	$9.20971-3.08421I$
$u=\ \ 0.621636+1.173050I$ $a=\ \ 0.679141+1.179670I$ $b=\ \ 0.127732+0.720699I$	$-6.03567+2.16927I$	0
$u=\ \ 0.621636-1.173050I$ $a=\ \ 0.679141-1.179670I$ $b=\ \ 0.127732-0.720699I$	$-6.03567-2.16927I$	0
$u=-0.621498+1.181550I$ $a=-0.590701+0.031859I$ $b=-0.744629+0.788803I$	$-2.03803-6.50636I$	0
$u=-0.621498-1.181550I$ $a=-0.590701-0.031859I$ $b=-0.744629-0.788803I$	$-2.03803+6.50636I$	0
$u=\ \ 0.467783+0.456039I$ $a=-1.116730-0.108529I$ $b=\ \ 0.644788-0.967917I$	$-4.98463+2.85653I$	$-2.27995-4.97383I$
$u=\ \ 0.467783-0.456039I$ $a=-1.116730+0.108529I$ $b=\ \ 0.644788+0.967917I$	$-4.98463-2.85653I$	$-2.27995+4.97383I$
$u=-0.616599+1.207640I$ $a=-1.189210-0.310269I$ $b=-2.25120+1.31016I$	$-7.3862-21.3933I$	0
$u=-0.616599-1.207640I$ $a=-1.189210+0.310269I$ $b=-2.25120-1.31016I$	$-7.3862+21.3933I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.343730 + 0.526968I$ $a = -1.03551 + 1.04796I$ $b = -1.99095 - 0.15985I$	$2.96695 + 0.40002I$	$-4.7271 + 24.4821I$
$u = 0.343730 - 0.526968I$ $a = -1.03551 - 1.04796I$ $b = -1.99095 + 0.15985I$	$2.96695 - 0.40002I$	$-4.7271 - 24.4821I$
$u = 0.614652 + 0.120392I$ $a = 1.89630 + 0.57948I$ $b = 0.480229 + 0.256493I$	$0.60871 + 2.47592I$	$3.36829 - 3.12260I$
$u = 0.614652 - 0.120392I$ $a = 1.89630 - 0.57948I$ $b = 0.480229 - 0.256493I$	$0.60871 - 2.47592I$	$3.36829 + 3.12260I$
$u = -0.562516 + 0.270089I$ $a = 0.66889 + 1.91660I$ $b = 1.53924 + 0.13775I$	$-5.44544 + 3.51979I$	$-3.15873 - 2.56834I$
$u = -0.562516 - 0.270089I$ $a = 0.66889 - 1.91660I$ $b = 1.53924 - 0.13775I$	$-5.44544 - 3.51979I$	$-3.15873 + 2.56834I$
$u = -0.223794 + 1.361440I$ $a = 0.661265 - 0.789292I$ $b = 0.414545 - 0.386713I$	$-10.2390 + 11.6591I$	0
$u = -0.223794 - 1.361440I$ $a = 0.661265 + 0.789292I$ $b = 0.414545 + 0.386713I$	$-10.2390 - 11.6591I$	0
$u = -0.461661 + 0.413951I$ $a = -0.22842 - 2.77017I$ $b = -1.334560 - 0.082343I$	$1.14788 + 2.88356I$	$7.79263 - 4.94514I$
$u = -0.461661 - 0.413951I$ $a = -0.22842 + 2.77017I$ $b = -1.334560 + 0.082343I$	$1.14788 - 2.88356I$	$7.79263 + 4.94514I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618999 + 1.243810I$ $a = 0.594007 - 0.047111I$ $b = 0.948512 + 0.802340I$	$-6.5669 + 12.7735I$	0
$u = 0.618999 - 1.243810I$ $a = 0.594007 + 0.047111I$ $b = 0.948512 - 0.802340I$	$-6.5669 - 12.7735I$	0
$u = 0.485974 + 0.314780I$ $a = 0.48311 - 1.46240I$ $b = 0.136445 + 0.590560I$	$0.43743 - 2.69187I$	$3.81614 + 7.23618I$
$u = 0.485974 - 0.314780I$ $a = 0.48311 + 1.46240I$ $b = 0.136445 - 0.590560I$	$0.43743 + 2.69187I$	$3.81614 - 7.23618I$
$u = -0.61817 + 1.28056I$ $a = 1.127020 + 0.336774I$ $b = 2.23702 - 1.03361I$	$-5.64471 - 11.70530I$	0
$u = -0.61817 - 1.28056I$ $a = 1.127020 - 0.336774I$ $b = 2.23702 + 1.03361I$	$-5.64471 + 11.70530I$	0
$u = 0.01345 + 1.44015I$ $a = -0.122345 - 0.217401I$ $b = 0.032307 - 0.766772I$	$-9.49847 - 0.63103I$	0
$u = 0.01345 - 1.44015I$ $a = -0.122345 + 0.217401I$ $b = 0.032307 + 0.766772I$	$-9.49847 + 0.63103I$	0
$u = -0.333106 + 0.432370I$ $a = 2.79270 - 0.66650I$ $b = 0.632557 - 0.907478I$	$-1.13554 + 1.59985I$	$-3.65752 - 3.77819I$
$u = -0.333106 - 0.432370I$ $a = 2.79270 + 0.66650I$ $b = 0.632557 + 0.907478I$	$-1.13554 - 1.59985I$	$-3.65752 + 3.77819I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.126461 + 0.482925I$ $a = -1.27788 - 1.91383I$ $b = -0.311559 + 0.547157I$	$0.52833 - 2.78826I$	$-0.58842 + 10.29084I$
$u = 0.126461 - 0.482925I$ $a = -1.27788 + 1.91383I$ $b = -0.311559 - 0.547157I$	$0.52833 + 2.78826I$	$-0.58842 - 10.29084I$
$u = 0.27437 + 1.52486I$ $a = -0.271711 - 0.007241I$ $b = -0.1303390 + 0.0220521I$	$-9.30528 - 1.88326I$	0
$u = 0.27437 - 1.52486I$ $a = -0.271711 + 0.007241I$ $b = -0.1303390 - 0.0220521I$	$-9.30528 + 1.88326I$	0
$u = -0.14956 + 1.72447I$ $a = -0.176124 + 0.845917I$ $b = -0.105569 + 0.521329I$	$-8.66149 - 0.51626I$	0
$u = -0.14956 - 1.72447I$ $a = -0.176124 - 0.845917I$ $b = -0.105569 - 0.521329I$	$-8.66149 + 0.51626I$	0
$u = 0.222235 + 0.127063I$ $a = 0.90649 + 3.82283I$ $b = 0.468407 - 0.386717I$	$-1.32204 + 1.57318I$	$-1.54812 - 2.70792I$
$u = 0.222235 - 0.127063I$ $a = 0.90649 - 3.82283I$ $b = 0.468407 + 0.386717I$	$-1.32204 - 1.57318I$	$-1.54812 + 2.70792I$

II. $I_2^u =$
$\langle \mathbf{2.58\times 10^{19} u^{53} - 4.29\times 10^{19} u^{52} + \cdots + 4.32\times 10^{17} b - 5.83\times 10^{19},\ 8.59\times 10^{18} u^{53} - 1.14\times 10^{19} u^{52} + \cdots + 4.32\times 10^{17} a - 1.46\times 10^{19},\ u^{54} + 17u^{52} + \cdots + 4u + 1} \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -19.9123u^{53} + 26.3940u^{52} + \cdots + 112.336u + 33.9158 \\ -59.8569u^{53} + 99.3227u^{52} + \cdots + 555.473u + 135.187 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -53.9491u^{53} - 11.5730u^{52} + \cdots + 56.5708u + 22.6082 \\ -36.5241u^{53} - 24.2600u^{52} + \cdots - 9.11001u + 7.99023 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 10.5353u^{53} + 37.5686u^{52} + \cdots + 111.926u + 24.5505 \\ -47.0285u^{53} + 38.8740u^{52} + \cdots + 251.360u + 63.5633 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -45.5609u^{53} - 148.716u^{52} + \cdots - 686.913u - 135.965 \\ -27.4795u^{53} - 35.8601u^{52} + \cdots - 146.463u - 27.5691 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.55215u^{53} - 2.08238u^{52} + \cdots - 16.9840u + 0.874132 \\ 43.0483u^{53} + 23.1423u^{52} + \cdots + 48.2279u - 0.459467 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -106.272u^{53} - 174.188u^{52} + \cdots - 698.207u - 123.064 \\ -45.5883u^{53} - 8.12476u^{52} + \cdots + 4.84107u + 10.8041 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -163.973u^{53} + 60.1983u^{52} + \cdots + 558.994u + 156.560 \\ 16.3000u^{53} + 33.0006u^{52} + \cdots + 168.093u + 35.6752 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{17404159193779681110}{431512625934986509}u^{53} + \frac{161846419160915924532}{431512625934986509}u^{52} + \cdots + \frac{766895556770402658785}{431512625934986509}u + \frac{173311032398584277281}{431512625934986509}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{54} - 34u^{53} + \cdots - 24u + 1$
c_2	$u^{54} + 17u^{52} + \cdots + 4u + 1$
c_3	$u^{54} + u^{53} + \cdots - 4u + 1$
c_4	$u^{54} + u^{53} + \cdots - 70u + 7$
c_5	$u^{54} - 4u^{53} + \cdots + 4u + 1$
c_6	$u^{54} + 17u^{52} + \cdots - 4u + 1$
c_7	$u^{54} - 17u^{53} + \cdots - 22u + 1$
c_8	$u^{54} - 13u^{52} + \cdots - 5u + 1$
c_9	$u^{54} + 7u^{53} + \cdots - 4u + 3$
c_{10}	$u^{54} - u^{53} + \cdots + 4u + 1$
c_{11}	$u^{54} - u^{53} + \cdots + 266u + 41$
c_{12}	$u^{54} + u^{53} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{54} - 18y^{53} + \cdots + 52y + 1$
c_2, c_6	$y^{54} + 34y^{53} + \cdots + 24y + 1$
c_3, c_{10}	$y^{54} + 33y^{53} + \cdots + 6y + 1$
c_4	$y^{54} - 33y^{53} + \cdots - 2142y + 49$
c_5	$y^{54} + 12y^{53} + \cdots + 12y + 1$
c_7	$y^{54} - 33y^{53} + \cdots - 62y + 1$
c_8	$y^{54} - 26y^{53} + \cdots + 21y + 1$
c_9	$y^{54} - 5y^{53} + \cdots + 632y + 9$
c_{11}	$y^{54} - 21y^{53} + \cdots + 1158y + 1681$
c_{12}	$y^{54} + 11y^{53} + \cdots + 13y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.252302 + 0.964900I$ $a = 1.156310 + 0.139801I$ $b = -0.016988 - 0.317040I$	$-6.44857 + 6.42382I$	$0. - 9.79570I$
$u = 0.252302 - 0.964900I$ $a = 1.156310 - 0.139801I$ $b = -0.016988 + 0.317040I$	$-6.44857 - 6.42382I$	$0. + 9.79570I$
$u = 0.952722 + 0.371367I$ $a = 0.61117 - 1.42224I$ $b = 1.183950 - 0.226439I$	$-0.75968 - 4.86921I$	0
$u = 0.952722 - 0.371367I$ $a = 0.61117 + 1.42224I$ $b = 1.183950 + 0.226439I$	$-0.75968 + 4.86921I$	0
$u = -0.925274 + 0.444599I$ $a = 0.111740 - 0.267727I$ $b = -0.0455032 + 0.0023297I$	$0.745917 + 0.626722I$	0
$u = -0.925274 - 0.444599I$ $a = 0.111740 + 0.267727I$ $b = -0.0455032 - 0.0023297I$	$0.745917 - 0.626722I$	0
$u = 0.269026 + 0.929385I$ $a = 1.21735 + 0.74105I$ $b = 1.35227 + 0.68975I$	$-6.35172 - 4.28431I$	$-5.46483 + 4.61188I$
$u = 0.269026 - 0.929385I$ $a = 1.21735 - 0.74105I$ $b = 1.35227 - 0.68975I$	$-6.35172 + 4.28431I$	$-5.46483 - 4.61188I$
$u = 0.271954 + 0.997965I$ $a = 0.349548 - 0.668384I$ $b = 3.31850 + 1.26053I$	$-8.36647 - 3.63652I$	0
$u = 0.271954 - 0.997965I$ $a = 0.349548 + 0.668384I$ $b = 3.31850 - 1.26053I$	$-8.36647 + 3.63652I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.511457 + 0.925970I$ $a = -0.635972 - 0.130189I$ $b = -0.12661 - 1.59190I$	$-6.67987 + 2.09195I$	0
$u = \quad 0.511457 - 0.925970I$ $a = -0.635972 + 0.130189I$ $b = -0.12661 + 1.59190I$	$-6.67987 - 2.09195I$	0
$u = \quad 0.208628 + 0.917279I$ $a = -0.223315 + 0.755932I$ $b = -3.81576 - 1.60106I$	$-7.96159 + 5.57838I$	$2.00000 - 11.23787I$
$u = \quad 0.208628 - 0.917279I$ $a = -0.223315 - 0.755932I$ $b = -3.81576 + 1.60106I$	$-7.96159 - 5.57838I$	$2.00000 + 11.23787I$
$u = -0.297558 + 1.025260I$ $a = -0.818107 + 0.816255I$ $b = -0.451220 - 0.357249I$	$-7.38669 + 1.53445I$	0
$u = -0.297558 - 1.025260I$ $a = -0.818107 - 0.816255I$ $b = -0.451220 + 0.357249I$	$-7.38669 - 1.53445I$	0
$u = -0.433395 + 0.976593I$ $a = -1.171880 + 0.069685I$ $b = -1.80973 + 0.93974I$	$-2.36580 - 0.50047I$	0
$u = -0.433395 - 0.976593I$ $a = -1.171880 - 0.069685I$ $b = -1.80973 - 0.93974I$	$-2.36580 + 0.50047I$	0
$u = -0.207336 + 0.881878I$ $a = -1.219990 - 0.165687I$ $b = -1.45149 - 0.48432I$	$-6.70562 - 3.57574I$	$-6.87762 + 4.93879I$
$u = -0.207336 - 0.881878I$ $a = -1.219990 + 0.165687I$ $b = -1.45149 + 0.48432I$	$-6.70562 + 3.57574I$	$-6.87762 - 4.93879I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.410590+0.805204I$ $a=-0.65205+1.44052I$ $b=\ \ 1.052550+0.009983I$	$-1.69949-2.98125I$	$-5.84106+8.46897I$
$u=-0.410590-0.805204I$ $a=-0.65205-1.44052I$ $b=\ \ 1.052550-0.009983I$	$-1.69949+2.98125I$	$-5.84106-8.46897I$
$u=\ \ 0.466416+1.034800I$ $a=-0.296665+0.915764I$ $b=-1.20612-1.41098I$	$1.45486+3.18912I$	0
$u=\ \ 0.466416-1.034800I$ $a=-0.296665-0.915764I$ $b=-1.20612+1.41098I$	$1.45486-3.18912I$	0
$u=-0.569914+1.013750I$ $a=\ \ 0.300755+1.140990I$ $b=\ \ 1.317890+0.384133I$	$0.15641-1.41677I$	0
$u=-0.569914-1.013750I$ $a=\ \ 0.300755-1.140990I$ $b=\ \ 1.317890-0.384133I$	$0.15641+1.41677I$	0
$u=\ \ 0.782589+0.275166I$ $a=-0.557760-0.587475I$ $b=-0.675459-0.117455I$	$-3.43698-5.81701I$	$0.49299+3.78351I$
$u=\ \ 0.782589-0.275166I$ $a=-0.557760+0.587475I$ $b=-0.675459+0.117455I$	$-3.43698+5.81701I$	$0.49299-3.78351I$
$u=-0.572454+0.551686I$ $a=-1.76454-0.34428I$ $b=-0.754731+1.035030I$	$1.56465-3.19828I$	$8.00116+7.26217I$
$u=-0.572454-0.551686I$ $a=-1.76454+0.34428I$ $b=-0.754731-1.035030I$	$1.56465+3.19828I$	$8.00116-7.26217I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.456373+1.117580I$ $a=\ 0.763531+0.112107I$ $b=\ 1.37814-0.42595I$	$-1.36302-5.68915I$	0
$u=-0.456373-1.117580I$ $a=\ 0.763531-0.112107I$ $b=\ 1.37814+0.42595I$	$-1.36302+5.68915I$	0
$u=-0.517969+1.095690I$ $a=\ 0.681228-0.123182I$ $b=\ 1.148030-0.635366I$	$-1.41043-5.68941I$	0
$u=-0.517969-1.095690I$ $a=\ 0.681228+0.123182I$ $b=\ 1.148030+0.635366I$	$-1.41043+5.68941I$	0
$u=-0.516519+1.112940I$ $a=\ 0.986932+0.247895I$ $b=\ 2.13168-1.75770I$	$-5.61653-8.97135I$	0
$u=-0.516519-1.112940I$ $a=\ 0.986932-0.247895I$ $b=\ 2.13168+1.75770I$	$-5.61653+8.97135I$	0
$u=\ 0.675290+1.027400I$ $a=\ 0.765135+0.889181I$ $b=\ 0.552312+0.188786I$	$-5.62092+2.88349I$	0
$u=\ 0.675290-1.027400I$ $a=\ 0.765135-0.889181I$ $b=\ 0.552312-0.188786I$	$-5.62092-2.88349I$	0
$u=\ 0.566956+1.125850I$ $a=-0.265251-0.635193I$ $b=-0.151887+0.107074I$	$-5.85829+10.83880I$	0
$u=\ 0.566956-1.125850I$ $a=-0.265251+0.635193I$ $b=-0.151887-0.107074I$	$-5.85829-10.83880I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.703718+0.137043I$ $a=-1.02694+1.47100I$ $b=-1.007450-0.071277I$	$-2.88236-4.71604I$	$-0.94963+7.20067I$
$u=-0.703718-0.137043I$ $a=-1.02694-1.47100I$ $b=-1.007450+0.071277I$	$-2.88236+4.71604I$	$-0.94963-7.20067I$
$u=\ 0.627209+1.124520I$ $a=-1.259800+0.170943I$ $b=-2.08005-1.39631I$	$-3.00813+10.51030I$	0
$u=\ 0.627209-1.124520I$ $a=-1.259800-0.170943I$ $b=-2.08005+1.39631I$	$-3.00813-10.51030I$	0
$u=\ 0.375501+0.568987I$ $a=\ 0.920992-0.965857I$ $b=\ 2.00173+0.07907I$	$3.00586+0.54027I$	$10.0140-27.8660I$
$u=\ 0.375501-0.568987I$ $a=\ 0.920992+0.965857I$ $b=\ 2.00173-0.07907I$	$3.00586-0.54027I$	$10.0140+27.8660I$
$u=-0.275796+0.592661I$ $a=\ 0.92720-1.80731I$ $b=-0.259755+0.255508I$	$0.59531+2.33278I$	$0.79014+6.10257I$
$u=-0.275796-0.592661I$ $a=\ 0.92720+1.80731I$ $b=-0.259755-0.255508I$	$0.59531-2.33278I$	$0.79014-6.10257I$
$u=\ 0.19889+1.51949I$ $a=\ 0.097897-0.139315I$ $b=\ 0.423851-0.259847I$	$-9.07324-1.96744I$	0
$u=\ 0.19889-1.51949I$ $a=\ 0.097897+0.139315I$ $b=\ 0.423851+0.259847I$	$-9.07324+1.96744I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.211422+0.338542I$ $a=\ \ 1.07130-2.05181I$ $b=-1.50920+0.62969I$	$-3.05842+4.86845I$	$2.98366-5.20062I$
$u=-0.211422-0.338542I$ $a=\ \ 1.07130+2.05181I$ $b=-1.50920-0.62969I$	$-3.05842-4.86845I$	$2.98366+5.20062I$
$u=-0.06062+1.68409I$ $a=-0.068821+0.740481I$ $b=\ \ 0.001020+0.447021I$	$-8.52031-0.32190I$	0
$u=-0.06062-1.68409I$ $a=-0.068821-0.740481I$ $b=\ \ 0.001020-0.447021I$	$-8.52031+0.32190I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{54}-34u^{53}+\cdots-24u+1)(u^{198}+103u^{197}+\cdots+17448u+961)$
c_2	$(u^{54}+17u^{52}+\cdots+4u+1)(u^{198}-u^{197}+\cdots+192u+31)$
c_3	$(u^{54}+u^{53}+\cdots-4u+1)(u^{198}+67u^{196}+\cdots+33900u+11483)$
c_4	$(u^{54}+u^{53}+\cdots-70u+7)$ $\cdot(u^{198}-50u^{196}+\cdots-3343620599276u+329813696659)$
c_5	$(u^{54}-4u^{53}+\cdots+4u+1)(u^{198}+u^{197}+\cdots-152u+137)$
c_6	$(u^{54}+17u^{52}+\cdots-4u+1)(u^{198}-u^{197}+\cdots+192u+31)$
c_7	$(u^{54}-17u^{53}+\cdots-22u+1)$ $\cdot(u^{198}+14u^{197}+\cdots-3767846u+4507105)$
c_8	$(u^{54}-13u^{52}+\cdots-5u+1)(u^{198}+5u^{197}+\cdots-13533u+913)$
c_9	$(u^{54}+7u^{53}+\cdots-4u+3)$ $\cdot(u^{198}+14u^{197}+\cdots+1162822100u+97402681)$
c_{10}	$(u^{54}-u^{53}+\cdots+4u+1)(u^{198}+67u^{196}+\cdots+33900u+11483)$
c_{11}	$(u^{54}-u^{53}+\cdots+266u+41)$ $\cdot(u^{198}-2u^{197}+\cdots+37555120u+6187153)$
c_{12}	$(u^{54}+u^{53}+\cdots-u+1)(u^{198}-6u^{197}+\cdots+13u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{54}-18y^{53}+\cdots+52y+1)$ $\cdot(y^{198}-5y^{197}+\cdots+265997676y+923521)$
c_2, c_6	$(y^{54}+34y^{53}+\cdots+24y+1)(y^{198}+103y^{197}+\cdots+17448y+961)$
c_3, c_{10}	$(y^{54}+33y^{53}+\cdots+6y+1)$ $\cdot(y^{198}+134y^{197}+\cdots+12295844278y+131859289)$
c_4	$(y^{54}-33y^{53}+\cdots-2142y+49)$ $\cdot(y^{198}-100y^{197}+\cdots-9.00\times10^{24}y+1.09\times10^{23})$
c_5	$(y^{54}+12y^{53}+\cdots+12y+1)$ $\cdot(y^{198}+25y^{197}+\cdots+1495404y+18769)$
c_7	$(y^{54}-33y^{53}+\cdots-62y+1)$ $\cdot(y^{198}-80y^{197}+\cdots-1202038047552706y+20313995481025)$
c_8	$(y^{54}-26y^{53}+\cdots+21y+1)$ $\cdot(y^{198}-45y^{197}+\cdots+443152173y+833569)$
c_9	$(y^{54}-5y^{53}+\cdots+632y+9)$ $\cdot(y^{198}+44y^{197}+\cdots+370665595377026344y+9487282265987761)$
c_{11}	$(y^{54}-21y^{53}+\cdots+1158y+1681)$ $\cdot(y^{198}-56y^{197}+\cdots+6038753260673846y+38280862245409)$
c_{12}	$(y^{54}+11y^{53}+\cdots+13y+1)(y^{198}+32y^{197}+\cdots+265y+1)$