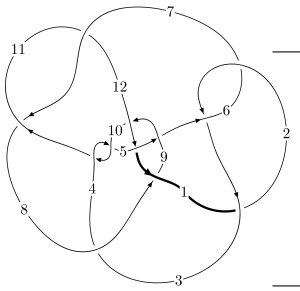
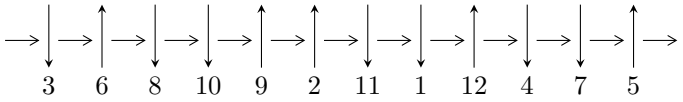
$12a_{0309}$ $(K12a_{0309})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -3.39225 \times 10^{858} u^{153} + 1.90990 \times 10^{859} u^{152} + \cdots + 1.42535 \times 10^{862} b + 1.18889 \times 10^{864}, \\
& - 2.84840 \times 10^{864} u^{153} + 5.22709 \times 10^{864} u^{152} + \cdots + 1.60581 \times 10^{867} a + 7.40412 \times 10^{868}, \\
& u^{154} - u^{153} + \cdots - 1143847u + 112661 \rangle \\
I_2^u = \langle & -4.22889 \times 10^{38} u^{45} - 7.22511 \times 10^{39} u^{44} + \cdots + 4.86508 \times 10^{38} b - 1.65490 \times 10^{40}, \\
& - 2.30560 \times 10^{40} u^{45} - 1.40190 \times 10^{40} u^{44} + \cdots + 1.45952 \times 10^{39} a - 3.45185 \times 10^{40}, \\
& u^{46} + 21u^{44} + \cdots + 3u + 1 \rangle \\
I_3^u = \langle & b - u,\ a,\ u^{14} + 2u^{12} + u^{10} + 2u^8 + u^7 + 2u^6 + u^5 + u^2 + u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 214 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. $\boldsymbol{I_1^u = \langle -3.39 \times 10^{858} u^{153} + 1.91 \times 10^{859} u^{152} + \cdots + 1.43 \times 10^{862} b + 1.19 \times 10^{864},\ -2.85 \times 10^{864} u^{153} + 5.23 \times 10^{864} u^{152} + \cdots + 1.61 \times 10^{867} a + 7.40 \times 10^{868},\ u^{154} - u^{153} + \cdots - 1143847 u + 112661 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00177381u^{153} - 0.00325511u^{152} + \cdots + 671.644u - 46.1082 \\ 0.000237994u^{153} - 0.00133995u^{152} + \cdots + 878.554u - 83.4103 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00153581u^{153} - 0.00191516u^{152} + \cdots - 206.910u + 37.3021 \\ 0.000237994u^{153} - 0.00133995u^{152} + \cdots + 878.554u - 83.4103 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.000939431u^{153} - 0.00110689u^{152} + \cdots + 184.723u - 17.1986 \\ -0.000532150u^{153} + 0.000211654u^{152} + \cdots + 335.198u - 37.4226 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.000256300u^{153} - 0.00305237u^{152} + \cdots + 2848.54u - 284.248 \\ -0.00120465u^{153} + 0.000746461u^{152} + \cdots + 591.126u - 66.7312 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.000589338u^{153} + 0.0000342459u^{152} + \cdots + 517.802u - 53.6851 \\ -0.00118166u^{153} + 0.00183121u^{152} + \cdots - 408.716u + 32.7101 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.000292379u^{153} + 0.00194373u^{152} + \cdots - 1479.75u + 144.955 \\ 0.000567327u^{153} - 0.00126130u^{152} + \cdots + 462.941u - 40.9968 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00333143u^{153} - 0.00305964u^{152} + \cdots - 907.570u + 112.824 \\ 0.00109675u^{153} - 0.00365980u^{152} + \cdots + 1903.93u - 177.939 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.000231030u^{153} - 0.00199593u^{152} + \cdots + 1354.30u - 128.116 \\ -0.00114791u^{153} + 0.00101689u^{152} + \cdots + 231.045u - 29.1577 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00225151u^{153} + 0.00479437u^{152} + \cdots - 2232.62u + 208.796$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{154} + 70u^{153} + \cdots + 2351600u + 40000$
c_2, c_6	$u^{154} + 4u^{153} + \cdots + 2700u + 200$
c_3	$u^{154} - u^{153} + \cdots + 2016184651u + 1384157231$
c_4, c_{10}	$u^{154} - u^{153} + \cdots - 1143847u + 112661$
c_5	$u^{154} - 4u^{153} + \cdots + 55u + 1$
c_7, c_{11}	$u^{154} + 2u^{153} + \cdots - 249479005u + 13493731$
c_8	$u^{154} + 9u^{153} + \cdots - 649198290u + 29322847$
c_9	$u^{154} + 18u^{153} + \cdots + 290880u + 11897$
c_{12}	$u^{154} - 20u^{152} + \cdots - 232062u + 57347$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{154} + 46y^{153} + \cdots + 924906720000y + 1600000000$
c_2, c_6	$y^{154} + 70y^{153} + \cdots + 2351600y + 40000$
c_3	$y^{154} + 63y^{153} + \cdots - 3.46 \times 10^{19}y + 1.92 \times 10^{18}$
c_4, c_{10}	$y^{154} + 139y^{153} + \cdots - 104773968485y + 12692500921$
c_5	$y^{154} + 6y^{153} + \cdots - 143y + 1$
c_7, c_{11}	$y^{154} + 114y^{153} + \cdots + 2908457925570425y + 182080776300361$
c_8	$y^{154} + 37y^{153} + \cdots + 16647274284827280y + 859829356185409$
c_9	$y^{154} - 34y^{153} + \cdots - 6991839034y + 141538609$
c_{12}	$y^{154} - 40y^{153} + \cdots - 208157950460y + 3288678409$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.680276 + 0.738161I$ $a = -1.357200 - 0.079694I$ $b = -1.019250 + 0.939094I$	$-3.82081 - 4.81342I$	0
$u = 0.680276 - 0.738161I$ $a = -1.357200 + 0.079694I$ $b = -1.019250 - 0.939094I$	$-3.82081 + 4.81342I$	0
$u = 0.504148 + 0.841661I$ $a = -1.55694 - 1.18967I$ $b = -0.961833 + 0.610685I$	$0.64778 - 3.05199I$	0
$u = 0.504148 - 0.841661I$ $a = -1.55694 + 1.18967I$ $b = -0.961833 - 0.610685I$	$0.64778 + 3.05199I$	0
$u = -0.285517 + 0.927898I$ $a = 2.35344 - 0.97712I$ $b = 1.080010 + 0.419366I$	$0.18002 + 6.26907I$	0
$u = -0.285517 - 0.927898I$ $a = 2.35344 + 0.97712I$ $b = 1.080010 - 0.419366I$	$0.18002 - 6.26907I$	0
$u = -0.610780 + 0.742892I$ $a = -2.09941 - 0.95812I$ $b = -1.75886 - 1.25119I$	$-1.34690 + 2.43834I$	0
$u = -0.610780 - 0.742892I$ $a = -2.09941 + 0.95812I$ $b = -1.75886 + 1.25119I$	$-1.34690 - 2.43834I$	0
$u = -0.300717 + 0.908720I$ $a = 1.062630 - 0.089277I$ $b = 0.744562 + 0.867791I$	$0.68630 + 2.30026I$	0
$u = -0.300717 - 0.908720I$ $a = 1.062630 + 0.089277I$ $b = 0.744562 - 0.867791I$	$0.68630 - 2.30026I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.385458 + 0.850098I$ $a = 0.097392 + 1.025470I$ $b = 0.448483 + 1.102820I$	$-3.41216 + 0.66021I$	0
$u = 0.385458 - 0.850098I$ $a = 0.097392 - 1.025470I$ $b = 0.448483 - 1.102820I$	$-3.41216 - 0.66021I$	0
$u = -0.110996 + 1.083840I$ $a = -0.138900 + 0.057689I$ $b = -0.629890 - 0.584548I$	$1.32837 - 5.00544I$	0
$u = -0.110996 - 1.083840I$ $a = -0.138900 - 0.057689I$ $b = -0.629890 + 0.584548I$	$1.32837 + 5.00544I$	0
$u = -0.096899 + 1.146000I$ $a = 2.75265 - 0.12374I$ $b = 1.74385 - 0.15037I$	$1.26900 - 1.14595I$	0
$u = -0.096899 - 1.146000I$ $a = 2.75265 + 0.12374I$ $b = 1.74385 + 0.15037I$	$1.26900 + 1.14595I$	0
$u = -0.844043 + 0.048061I$ $a = -0.217403 + 0.102016I$ $b = -0.811064 + 0.891451I$	$-4.46898 - 1.86070I$	0
$u = -0.844043 - 0.048061I$ $a = -0.217403 - 0.102016I$ $b = -0.811064 - 0.891451I$	$-4.46898 + 1.86070I$	0
$u = -0.825409 + 0.082473I$ $a = -1.49726 + 0.21682I$ $b = -0.943008 - 0.954276I$	$1.87730 - 7.43583I$	0
$u = -0.825409 - 0.082473I$ $a = -1.49726 - 0.21682I$ $b = -0.943008 + 0.954276I$	$1.87730 + 7.43583I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.028330 + 1.171140I$ $a = 0.82002 + 2.31604I$ $b = 0.82307 + 2.55897I$	$1.26673 - 3.35634I$	0
$u = 0.028330 - 1.171140I$ $a = 0.82002 - 2.31604I$ $b = 0.82307 - 2.55897I$	$1.26673 + 3.35634I$	0
$u = -0.648227 + 0.510501I$ $a = -0.706411 - 0.373495I$ $b = 0.839916 - 0.303316I$	$0.10185 - 6.51912I$	0
$u = -0.648227 - 0.510501I$ $a = -0.706411 + 0.373495I$ $b = 0.839916 + 0.303316I$	$0.10185 + 6.51912I$	0
$u = 0.739790 + 0.347254I$ $a = 0.669955 - 0.037100I$ $b = -0.793443 - 0.224422I$	$1.28293 + 2.27410I$	0
$u = 0.739790 - 0.347254I$ $a = 0.669955 + 0.037100I$ $b = -0.793443 + 0.224422I$	$1.28293 - 2.27410I$	0
$u = 0.598042 + 1.021020I$ $a = -1.27886 - 0.78167I$ $b = -1.049090 + 0.667325I$	$1.77046 - 7.34207I$	0
$u = 0.598042 - 1.021020I$ $a = -1.27886 + 0.78167I$ $b = -1.049090 - 0.667325I$	$1.77046 + 7.34207I$	0
$u = -0.538039 + 1.073050I$ $a = 1.27668 - 0.62270I$ $b = 1.037410 + 0.638222I$	$2.32181 + 2.85382I$	0
$u = -0.538039 - 1.073050I$ $a = 1.27668 + 0.62270I$ $b = 1.037410 - 0.638222I$	$2.32181 - 2.85382I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.250880+1.176150I$ $a=-1.47255+1.02922I$ $b=-0.960814-0.615935I$	$2.22996+9.76512I$	0
$u=-0.250880-1.176150I$ $a=-1.47255-1.02922I$ $b=-0.960814+0.615935I$	$2.22996-9.76512I$	0
$u=-0.150902+1.197400I$ $a=-1.87161+0.75958I$ $b=-1.041870-0.664675I$	$1.33987+2.44790I$	0
$u=-0.150902-1.197400I$ $a=-1.87161-0.75958I$ $b=-1.041870+0.664675I$	$1.33987-2.44790I$	0
$u=0.213634+1.193460I$ $a=0.494881-0.200383I$ $b=0.701619-0.724730I$	$4.05101+0.41529I$	0
$u=0.213634-1.193460I$ $a=0.494881+0.200383I$ $b=0.701619+0.724730I$	$4.05101-0.41529I$	0
$u=0.176146+1.208500I$ $a=-2.46754+0.14885I$ $b=-1.82483+0.65605I$	$4.34975-3.97955I$	0
$u=0.176146-1.208500I$ $a=-2.46754-0.14885I$ $b=-1.82483-0.65605I$	$4.34975+3.97955I$	0
$u=-0.409723+1.154180I$ $a=-0.234750-0.814571I$ $b=-0.264992-1.053720I$	$-0.58320+3.01376I$	0
$u=-0.409723-1.154180I$ $a=-0.234750+0.814571I$ $b=-0.264992+1.053720I$	$-0.58320-3.01376I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.155735+1.218650I$ $a=\ 0.969284-0.800962I$ $b=\ 0.484991+0.217555I$	$0.70263+1.39575I$	0
$u=-0.155735-1.218650I$ $a=\ 0.969284+0.800962I$ $b=\ 0.484991-0.217555I$	$0.70263-1.39575I$	0
$u=-0.751725+0.135973I$ $a=-0.002277+0.176126I$ $b=-0.922149-0.840079I$	$-1.18918+9.46525I$	0
$u=-0.751725-0.135973I$ $a=-0.002277-0.176126I$ $b=-0.922149+0.840079I$	$-1.18918-9.46525I$	0
$u=-0.186399+1.248160I$ $a=\ 1.96091+1.45626I$ $b=\ 0.609034-0.093752I$	$7.81077+9.34359I$	0
$u=-0.186399-1.248160I$ $a=\ 1.96091-1.45626I$ $b=\ 0.609034+0.093752I$	$7.81077-9.34359I$	0
$u=-0.109360+1.274490I$ $a=\ 1.26238+0.85032I$ $b=\ 0.731284-0.262524I$	$4.64815+2.86380I$	0
$u=-0.109360-1.274490I$ $a=\ 1.26238-0.85032I$ $b=\ 0.731284+0.262524I$	$4.64815-2.86380I$	0
$u=\ 0.222707+1.261150I$ $a=\ 1.47489+0.69500I$ $b=\ 0.924337-0.691392I$	$4.63470-5.73526I$	0
$u=\ 0.222707-1.261150I$ $a=\ 1.47489-0.69500I$ $b=\ 0.924337+0.691392I$	$4.63470+5.73526I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.704061 + 0.123618I$ $a = 1.88251 + 0.13761I$ $b = 0.990278 - 0.857898I$	$4.23750 + 1.62869I$	0
$u = 0.704061 - 0.123618I$ $a = 1.88251 - 0.13761I$ $b = 0.990278 + 0.857898I$	$4.23750 - 1.62869I$	0
$u = 0.193314 + 1.271610I$ $a = -2.05285 + 1.13190I$ $b = -0.670798 - 0.064763I$	$9.49465 - 4.18882I$	0
$u = 0.193314 - 1.271610I$ $a = -2.05285 - 1.13190I$ $b = -0.670798 + 0.064763I$	$9.49465 + 4.18882I$	0
$u = 0.323783 + 1.250010I$ $a = -0.65894 - 1.57180I$ $b = -0.72310 - 1.97844I$	$7.73141 - 5.42666I$	0
$u = 0.323783 - 1.250010I$ $a = -0.65894 + 1.57180I$ $b = -0.72310 + 1.97844I$	$7.73141 + 5.42666I$	0
$u = -0.378323 + 1.241380I$ $a = 1.97051 - 0.14474I$ $b = 1.30514 + 0.80182I$	$-0.74937 + 6.21479I$	0
$u = -0.378323 - 1.241380I$ $a = 1.97051 + 0.14474I$ $b = 1.30514 - 0.80182I$	$-0.74937 - 6.21479I$	0
$u = -0.597108 + 0.363941I$ $a = 0.52684 - 1.70497I$ $b = 0.586518 + 0.608844I$	$-0.30752 + 6.59655I$	$0. - 11.22925I$
$u = -0.597108 - 0.363941I$ $a = 0.52684 + 1.70497I$ $b = 0.586518 - 0.608844I$	$-0.30752 - 6.59655I$	$0. + 11.22925I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.688105 + 0.075351I$ $a = -0.0773368 + 0.0429747I$ $b = 0.893669 - 0.808821I$	$0.76910 - 4.17192I$	$0. + 2.96945I$
$u = 0.688105 - 0.075351I$ $a = -0.0773368 - 0.0429747I$ $b = 0.893669 + 0.808821I$	$0.76910 + 4.17192I$	$0. - 2.96945I$
$u = 1.268200 + 0.323241I$ $a = -0.563489 - 0.040982I$ $b = -0.965910 + 0.857200I$	$2.0993 - 14.0844I$	0
$u = 1.268200 - 0.323241I$ $a = -0.563489 + 0.040982I$ $b = -0.965910 - 0.857200I$	$2.0993 + 14.0844I$	0
$u = -0.644823 + 0.248468I$ $a = 0.519385 - 1.059250I$ $b = 0.249825 + 0.560299I$	$-1.62100 + 1.20613I$	$-7.60402 - 3.45153I$
$u = -0.644823 - 0.248468I$ $a = 0.519385 + 1.059250I$ $b = 0.249825 - 0.560299I$	$-1.62100 - 1.20613I$	$-7.60402 + 3.45153I$
$u = 0.197940 + 1.309880I$ $a = -1.144590 - 0.792199I$ $b = -0.648796 - 0.039742I$	$4.78088 + 0.89314I$	0
$u = 0.197940 - 1.309880I$ $a = -1.144590 + 0.792199I$ $b = -0.648796 + 0.039742I$	$4.78088 - 0.89314I$	0
$u = -0.366020 + 1.283300I$ $a = 0.538304 - 1.269530I$ $b = 0.68317 - 1.69217I$	$5.68046 + 11.74420I$	0
$u = -0.366020 - 1.283300I$ $a = 0.538304 + 1.269530I$ $b = 0.68317 + 1.69217I$	$5.68046 - 11.74420I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.068747 + 1.334440I$ $a = -1.70094 - 0.41918I$ $b = -1.32420 - 1.22528I$	$10.51040 + 0.51748I$	0
$u = 0.068747 - 1.334440I$ $a = -1.70094 + 0.41918I$ $b = -1.32420 + 1.22528I$	$10.51040 - 0.51748I$	0
$u = -1.311270 + 0.351892I$ $a = 0.535009 + 0.043527I$ $b = 0.921441 + 0.842470I$	$4.16992 + 8.03328I$	0
$u = -1.311270 - 0.351892I$ $a = 0.535009 - 0.043527I$ $b = 0.921441 - 0.842470I$	$4.16992 - 8.03328I$	0
$u = 0.260400 + 1.332790I$ $a = -1.221840 - 0.597544I$ $b = -0.914134 + 0.086477I$	$5.87617 - 0.94126I$	0
$u = 0.260400 - 1.332790I$ $a = -1.221840 + 0.597544I$ $b = -0.914134 - 0.086477I$	$5.87617 + 0.94126I$	0
$u = -0.019416 + 1.366180I$ $a = 1.58183 - 0.20607I$ $b = 1.18386 - 1.15904I$	$9.71919 - 6.43143I$	0
$u = -0.019416 - 1.366180I$ $a = 1.58183 + 0.20607I$ $b = 1.18386 + 1.15904I$	$9.71919 + 6.43143I$	0
$u = 0.343333 + 1.322870I$ $a = 1.126390 + 0.665558I$ $b = 0.817853 - 0.559738I$	$4.64612 - 6.23300I$	0
$u = 0.343333 - 1.322870I$ $a = 1.126390 - 0.665558I$ $b = 0.817853 + 0.559738I$	$4.64612 + 6.23300I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.292774 + 1.338060I$ $a = -1.90173 + 0.06786I$ $b = -1.41632 + 0.97929I$	$5.27154 - 7.74314I$	0
$u = \quad 0.292774 - 1.338060I$ $a = -1.90173 - 0.06786I$ $b = -1.41632 - 0.97929I$	$5.27154 + 7.74314I$	0
$u = \quad 0.228793 + 1.355920I$ $a = -2.19820 + 0.41200I$ $b = -0.867242 + 0.040306I$	$9.00297 - 1.63390I$	0
$u = \quad 0.228793 - 1.355920I$ $a = -2.19820 - 0.41200I$ $b = -0.867242 - 0.040306I$	$9.00297 + 1.63390I$	0
$u = -0.332579 + 1.337410I$ $a = \quad 1.158610 - 0.535980I$ $b = \quad 1.006520 + 0.206702I$	$4.87714 + 5.80776I$	0
$u = -0.332579 - 1.337410I$ $a = \quad 1.158610 + 0.535980I$ $b = \quad 1.006520 - 0.206702I$	$4.87714 - 5.80776I$	0
$u = -0.196346 + 1.364170I$ $a = \quad 1.061220 - 0.755691I$ $b = \quad 0.545958 - 0.147343I$	$2.52598 - 5.68055I$	0
$u = -0.196346 - 1.364170I$ $a = \quad 1.061220 + 0.755691I$ $b = \quad 0.545958 + 0.147343I$	$2.52598 + 5.68055I$	0
$u = \quad 1.381480 + 0.131996I$ $a = -0.073790 + 0.234969I$ $b = -0.642619 + 0.376564I$	$4.60223 + 3.87306I$	0
$u = \quad 1.381480 - 0.131996I$ $a = -0.073790 - 0.234969I$ $b = -0.642619 - 0.376564I$	$4.60223 - 3.87306I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.322729+1.363620I$ $a=\ 1.83712+0.01992I$ $b=\ 1.35412+1.00345I$	$3.58085+13.37050I$	0
$u=-0.322729-1.363620I$ $a=\ 1.83712-0.01992I$ $b=\ 1.35412-1.00345I$	$3.58085-13.37050I$	0
$u=-0.496958+0.330419I$ $a=\ 0.793994-0.109908I$ $b=-0.124310+0.607419I$	$-1.048750+0.872309I$	$-5.68371-3.75181I$
$u=-0.496958-0.330419I$ $a=\ 0.793994+0.109908I$ $b=-0.124310-0.607419I$	$-1.048750-0.872309I$	$-5.68371+3.75181I$
$u=-0.339841+0.481414I$ $a=-1.18623-0.83581I$ $b=\ 0.770096-0.366821I$	$-1.070700-0.587732I$	$-2.64012+2.27476I$
$u=-0.339841-0.481414I$ $a=-1.18623+0.83581I$ $b=\ 0.770096+0.366821I$	$-1.070700+0.587732I$	$-2.64012-2.27476I$
$u=\ 0.22777+1.40559I$ $a=\ 1.224270+0.409544I$ $b=\ 0.663510-0.889729I$	$6.23344-5.29443I$	0
$u=\ 0.22777-1.40559I$ $a=\ 1.224270-0.409544I$ $b=\ 0.663510+0.889729I$	$6.23344+5.29443I$	0
$u=-0.27489+1.39790I$ $a=\ 2.30124+0.19742I$ $b=\ 0.956640+0.144389I$	$6.74126-3.45669I$	0
$u=-0.27489-1.39790I$ $a=\ 2.30124-0.19742I$ $b=\ 0.956640-0.144389I$	$6.74126+3.45669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.25642+1.40336I$ $a=-1.222700+0.472685I$ $b=-0.483968-0.628098I$	$3.66848+4.50627I$	0
$u=-0.25642-1.40336I$ $a=-1.222700-0.472685I$ $b=-0.483968+0.628098I$	$3.66848-4.50627I$	0
$u=-0.14074+1.42252I$ $a=1.90968-0.09401I$ $b=1.047510-0.131099I$	$5.16627+4.18257I$	0
$u=-0.14074-1.42252I$ $a=1.90968+0.09401I$ $b=1.047510+0.131099I$	$5.16627-4.18257I$	0
$u=-0.25472+1.41421I$ $a=-1.168930+0.447249I$ $b=-0.539640-0.881667I$	$5.28248+9.80868I$	0
$u=-0.25472-1.41421I$ $a=-1.168930-0.447249I$ $b=-0.539640+0.881667I$	$5.28248-9.80868I$	0
$u=-0.267646+0.492329I$ $a=-0.315896-0.860029I$ $b=-0.699615-0.169819I$	$-0.56877+2.28388I$	$0.07612-5.54904I$
$u=-0.267646-0.492329I$ $a=-0.315896+0.860029I$ $b=-0.699615+0.169819I$	$-0.56877-2.28388I$	$0.07612+5.54904I$
$u=0.14949+1.43850I$ $a=-1.43673-0.20640I$ $b=-1.072020-0.163298I$	$6.42279-1.12751I$	0
$u=0.14949-1.43850I$ $a=-1.43673+0.20640I$ $b=-1.072020+0.163298I$	$6.42279+1.12751I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.502688 + 0.155565I$ $a = -1.49145 - 0.91290I$ $b = -0.024860 + 0.735125I$	$-2.72966 - 4.41670I$	$-10.79846 + 8.07506I$
$u = 0.502688 - 0.155565I$ $a = -1.49145 + 0.91290I$ $b = -0.024860 - 0.735125I$	$-2.72966 + 4.41670I$	$-10.79846 - 8.07506I$
$u = 0.514706 + 0.013908I$ $a = 1.09140 - 1.19067I$ $b = -0.633607 + 0.347900I$	$0.80386 - 2.85548I$	$-2.79396 + 5.91496I$
$u = 0.514706 - 0.013908I$ $a = 1.09140 + 1.19067I$ $b = -0.633607 - 0.347900I$	$0.80386 + 2.85548I$	$-2.79396 - 5.91496I$
$u = 0.01912 + 1.49273I$ $a = 1.121410 - 0.029927I$ $b = 1.132680 - 0.435931I$	$8.33043 - 0.13737I$	0
$u = 0.01912 - 1.49273I$ $a = 1.121410 + 0.029927I$ $b = 1.132680 + 0.435931I$	$8.33043 + 0.13737I$	0
$u = 1.39943 + 0.52874I$ $a = -0.661413 + 0.343410I$ $b = -0.806605 + 0.991948I$	$-2.84104 - 4.89555I$	0
$u = 1.39943 - 0.52874I$ $a = -0.661413 - 0.343410I$ $b = -0.806605 - 0.991948I$	$-2.84104 + 4.89555I$	0
$u = -1.47567 + 0.25210I$ $a = 0.220912 + 0.254588I$ $b = 0.656593 + 0.606135I$	$5.48902 + 2.39272I$	0
$u = -1.47567 - 0.25210I$ $a = 0.220912 - 0.254588I$ $b = 0.656593 - 0.606135I$	$5.48902 - 2.39272I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.04267 + 1.52143I$ $a = -1.172040 - 0.075959I$ $b = -1.177920 - 0.346356I$	$8.02528 - 4.71783I$	0
$u = 0.04267 - 1.52143I$ $a = -1.172040 + 0.075959I$ $b = -1.177920 + 0.346356I$	$8.02528 + 4.71783I$	0
$u = 0.441937 + 0.176478I$ $a = 0.046932 + 0.547145I$ $b = 0.861445 + 0.602319I$	$1.33076 + 1.67738I$	$-0.92814 - 2.26174I$
$u = 0.441937 - 0.176478I$ $a = 0.046932 - 0.547145I$ $b = 0.861445 - 0.602319I$	$1.33076 - 1.67738I$	$-0.92814 + 2.26174I$
$u = 0.043999 + 0.444178I$ $a = -2.22475 + 0.70393I$ $b = -1.31736 + 0.98409I$	$-0.88901 + 2.88158I$	$-13.69117 - 2.87122I$
$u = 0.043999 - 0.444178I$ $a = -2.22475 - 0.70393I$ $b = -1.31736 - 0.98409I$	$-0.88901 - 2.88158I$	$-13.69117 + 2.87122I$
$u = 0.48043 + 1.50404I$ $a = 1.47720 - 0.29592I$ $b = 1.29527 - 1.00085I$	$10.19040 - 2.49134I$	0
$u = 0.48043 - 1.50404I$ $a = 1.47720 + 0.29592I$ $b = 1.29527 + 1.00085I$	$10.19040 + 2.49134I$	0
$u = 0.343617 + 0.231601I$ $a = 0.35256 - 2.97788I$ $b = -0.663018 + 0.451601I$	$0.82032 - 2.68863I$	$0.92944 + 7.03632I$
$u = 0.343617 - 0.231601I$ $a = 0.35256 + 2.97788I$ $b = -0.663018 - 0.451601I$	$0.82032 + 2.68863I$	$0.92944 - 7.03632I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.61586 + 1.47098I$ $a = 0.725922 + 0.537424I$ $b = 0.904312 - 0.247580I$	$9.0901 - 10.8840I$	0
$u = 0.61586 - 1.47098I$ $a = 0.725922 - 0.537424I$ $b = 0.904312 + 0.247580I$	$9.0901 + 10.8840I$	0
$u = 0.388952 + 0.106860I$ $a = 3.57606 - 1.28220I$ $b = 0.773375 + 0.625532I$	$5.82700 + 1.93500I$	$4.57092 - 2.39153I$
$u = 0.388952 - 0.106860I$ $a = 3.57606 + 1.28220I$ $b = 0.773375 - 0.625532I$	$5.82700 - 1.93500I$	$4.57092 + 2.39153I$
$u = 0.50188 + 1.51634I$ $a = 1.72954 + 0.10138I$ $b = 1.28417 - 0.92848I$	$7.8726 - 20.2678I$	0
$u = 0.50188 - 1.51634I$ $a = 1.72954 - 0.10138I$ $b = 1.28417 + 0.92848I$	$7.8726 + 20.2678I$	0
$u = -0.49897 + 1.52623I$ $a = -1.70634 + 0.04741I$ $b = -1.29913 - 0.93329I$	$10.0651 + 14.3028I$	0
$u = -0.49897 - 1.52623I$ $a = -1.70634 - 0.04741I$ $b = -1.29913 + 0.93329I$	$10.0651 - 14.3028I$	0
$u = -0.49050 + 1.53212I$ $a = -1.57991 - 0.17865I$ $b = -1.32337 - 0.97139I$	$11.3585 + 8.9480I$	0
$u = -0.49050 - 1.53212I$ $a = -1.57991 + 0.17865I$ $b = -1.32337 + 0.97139I$	$11.3585 - 8.9480I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.48339 + 1.53684I$ $a = 1.79912 - 0.06550I$ $b = 1.33513 - 0.91343I$	$3.49744 - 11.19910I$	0
$u = 0.48339 - 1.53684I$ $a = 1.79912 + 0.06550I$ $b = 1.33513 + 0.91343I$	$3.49744 + 11.19910I$	0
$u = -0.319497 + 0.203705I$ $a = -3.81484 - 2.36500I$ $b = -0.708567 + 0.591377I$	$4.50585 - 7.31636I$	$2.08021 + 8.71451I$
$u = -0.319497 - 0.203705I$ $a = -3.81484 + 2.36500I$ $b = -0.708567 - 0.591377I$	$4.50585 + 7.31636I$	$2.08021 - 8.71451I$
$u = -0.60983 + 1.55096I$ $a = -0.715684 + 0.468491I$ $b = -0.845883 - 0.186963I$	$10.27190 + 5.27603I$	0
$u = -0.60983 - 1.55096I$ $a = -0.715684 - 0.468491I$ $b = -0.845883 + 0.186963I$	$10.27190 - 5.27603I$	0
$u = 0.205070 + 0.186618I$ $a = -3.18720 + 1.70585I$ $b = 0.042320 + 0.809100I$	$-3.45549 + 1.37836I$	$-15.0801 - 1.0679I$
$u = 0.205070 - 0.186618I$ $a = -3.18720 - 1.70585I$ $b = 0.042320 - 0.809100I$	$-3.45549 - 1.37836I$	$-15.0801 + 1.0679I$
$u = 0.02699 + 1.76555I$ $a = 0.841150 - 0.091493I$ $b = 0.466114 - 0.207697I$	$2.72265 - 5.85992I$	0
$u = 0.02699 - 1.76555I$ $a = 0.841150 + 0.091493I$ $b = 0.466114 + 0.207697I$	$2.72265 + 5.85992I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$1.32710+1.72912I$		
$a=$	$0.344718+0.378350I$	$4.92790+5.59223I$	0
$b=$	$0.513341+0.350317I$		
$u=$	$1.32710-1.72912I$		
$a=$	$0.344718-0.378350I$	$4.92790-5.59223I$	0
$b=$	$0.513341-0.350317I$		
$u=$	$-0.84492+2.11023I$		
$a=$	$-0.475452+0.243944I$	$7.63820+1.07629I$	0
$b=$	$-0.535352+0.083095I$		
$u=$	$-0.84492-2.11023I$		
$a=$	$-0.475452-0.243944I$	$7.63820-1.07629I$	0
$b=$	$-0.535352-0.083095I$		

II. $I_2^u = \langle -4.23 \times 10^{38} u^{45} - 7.23 \times 10^{39} u^{44} + \cdots + 4.87 \times 10^{38} b - 1.65 \times 10^{40},\ -2.31 \times 10^{40} u^{45} - 1.40 \times 10^{40} u^{44} + \cdots + 1.46 \times 10^{39} a - 3.45 \times 10^{40},\ u^{46} + 21u^{44} + \cdots + 3u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 15.7969u^{45} + 9.60517u^{44} + \cdots + 84.8598u + 23.6506 \\ 0.869234u^{45} + 14.8510u^{44} + \cdots + 104.091u + 34.0159 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 14.9277u^{45} - 5.24581u^{44} + \cdots - 19.2313u - 10.3654 \\ 0.869234u^{45} + 14.8510u^{44} + \cdots + 104.091u + 34.0159 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 4.27405u^{45} + 0.587601u^{44} + \cdots + 16.5351u - 2.61769 \\ 6.33556u^{45} - 8.31853u^{44} + \cdots - 46.9512u - 18.3213 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -6.18072u^{45} + 2.65001u^{44} + \cdots + 8.77449u + 4.87938 \\ 13.0411u^{45} + 14.3147u^{44} + \cdots + 100.988u + 26.5052 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -21.1697u^{45} + 4.72258u^{44} + \cdots - 21.0858u + 3.15118 \\ 5.33556u^{45} - 8.31853u^{44} + \cdots - 48.9512u - 18.3213 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -18.9742u^{45} - 21.4431u^{44} + \cdots - 171.923u - 41.1991 \\ -15.5736u^{45} - 0.635634u^{44} + \cdots - 38.9938u - 0.752008 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 26.6005u^{45} - 35.9121u^{44} + \cdots - 179.050u - 70.0084 \\ 2.12448u^{45} - 7.66909u^{44} + \cdots - 37.1268u - 14.2503 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -18.8296u^{45} + 7.63038u^{44} + \cdots + 3.13429u + 9.70866 \\ 4.36521u^{45} - 9.86492u^{44} + \cdots - 62.1078u - 21.9710 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 320.848u^{45} - 205.377u^{44} + \cdots - 545.612u - 392.646$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{46} - 28u^{45} + \cdots - 222u + 9$
c_2	$u^{46} + 2u^{45} + \cdots + 6u + 3$
c_3	$u^{46} + 3u^{44} + \cdots - 127u + 43$
c_4	$u^{46} + 21u^{44} + \cdots + 3u + 1$
c_5	$u^{46} - u^{45} + \cdots - 5u + 1$
c_6	$u^{46} - 2u^{45} + \cdots - 6u + 3$
c_7	$u^{46} + u^{45} + \cdots - 7u + 1$
c_8	$u^{46} - 12u^{44} + \cdots - 4u^2 + 1$
c_9	$u^{46} + 7u^{45} + \cdots + 4u + 1$
c_{10}	$u^{46} + 21u^{44} + \cdots - 3u + 1$
c_{11}	$u^{46} - u^{45} + \cdots + 7u + 1$
c_{12}	$u^{46} - 5u^{45} + \cdots - 8u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{46} + 4y^{45} + \cdots - 2070y + 81$
c_2, c_6	$y^{46} + 28y^{45} + \cdots + 222y + 9$
c_3	$y^{46} + 6y^{45} + \cdots + 73913y + 1849$
c_4, c_{10}	$y^{46} + 42y^{45} + \cdots + 35y + 1$
c_5	$y^{46} + 17y^{45} + \cdots + 29y + 1$
c_7, c_{11}	$y^{46} + 21y^{45} + \cdots + 37y + 1$
c_8	$y^{46} - 24y^{45} + \cdots - 8y + 1$
c_9	$y^{46} - 19y^{45} + \cdots - 18y + 1$
c_{12}	$y^{46} - 5y^{45} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.356305 + 0.981181I$ $a = -1.84798 - 1.11805I$ $b = -1.033190 + 0.583314I$	$-0.35320 - 2.76691I$	0
$u = 0.356305 - 0.981181I$ $a = -1.84798 + 1.11805I$ $b = -1.033190 - 0.583314I$	$-0.35320 + 2.76691I$	0
$u = 0.635240 + 0.704896I$ $a = -0.219024 + 0.209735I$ $b = 0.700690 + 0.484821I$	$-1.005790 - 0.989430I$	0
$u = 0.635240 - 0.704896I$ $a = -0.219024 - 0.209735I$ $b = 0.700690 - 0.484821I$	$-1.005790 + 0.989430I$	0
$u = 0.301079 + 0.869165I$ $a = -1.40262 - 1.35830I$ $b = -0.999846 + 0.606614I$	$1.09901 - 8.98077I$	$-2.00000 + 8.84858I$
$u = 0.301079 - 0.869165I$ $a = -1.40262 + 1.35830I$ $b = -0.999846 - 0.606614I$	$1.09901 + 8.98077I$	$-2.00000 - 8.84858I$
$u = -0.524204 + 0.699585I$ $a = -2.47170 - 0.81211I$ $b = -2.07019 - 1.16023I$	$-1.44267 + 2.49355I$	$-40.5197 - 17.6874I$
$u = -0.524204 - 0.699585I$ $a = -2.47170 + 0.81211I$ $b = -2.07019 + 1.16023I$	$-1.44267 - 2.49355I$	$-40.5197 + 17.6874I$
$u = -0.344889 + 0.801624I$ $a = 1.25932 - 1.14660I$ $b = 1.006620 + 0.619972I$	$2.75209 + 4.32012I$	$3.60017 - 4.78552I$
$u = -0.344889 - 0.801624I$ $a = 1.25932 + 1.14660I$ $b = 1.006620 - 0.619972I$	$2.75209 - 4.32012I$	$3.60017 + 4.78552I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.448856+1.062100I$ $a=\ 1.92345-0.71946I$ $b=\ 1.086610+0.592521I$	$0.45237+5.33557I$	0
$u=-0.448856-1.062100I$ $a=\ 1.92345+0.71946I$ $b=\ 1.086610-0.592521I$	$0.45237-5.33557I$	0
$u=-0.011978+1.204950I$ $a=\ 1.09499+1.26161I$ $b=\ 0.78369+1.80507I$	$1.40437-3.00424I$	0
$u=-0.011978-1.204950I$ $a=\ 1.09499-1.26161I$ $b=\ 0.78369-1.80507I$	$1.40437+3.00424I$	0
$u=-0.000196+1.211600I$ $a=\ 0.332898-0.428094I$ $b=\ 0.113554+1.037010I$	$-0.72858+1.58603I$	0
$u=-0.000196-1.211600I$ $a=\ 0.332898+0.428094I$ $b=\ 0.113554-1.037010I$	$-0.72858-1.58603I$	0
$u=-0.000064+0.707925I$ $a=\ 0.12760+1.49357I$ $b=-0.113834+0.972701I$	$-2.74184-1.58572I$	$-2.29677+4.84383I$
$u=-0.000064-0.707925I$ $a=\ 0.12760-1.49357I$ $b=-0.113834-0.972701I$	$-2.74184+1.58572I$	$-2.29677-4.84383I$
$u=-0.004268+0.695036I$ $a=-0.698602+1.189530I$ $b=-0.84768+1.55346I$	$-0.59646+3.11057I$	$-0.1014-15.3427I$
$u=-0.004268-0.695036I$ $a=-0.698602-1.189530I$ $b=-0.84768-1.55346I$	$-0.59646-3.11057I$	$-0.1014+15.3427I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.304445+1.276800I$ $a=\ \ 0.098631+0.586404I$ $b=-0.261556-0.742500I$	$6.81422+9.83475I$	0
$u=-0.304445-1.276800I$ $a=\ \ 0.098631-0.586404I$ $b=-0.261556+0.742500I$	$6.81422-9.83475I$	0
$u=\ \ 0.330247+1.275760I$ $a=-0.231582-0.165978I$ $b=\ \ 0.115057-1.013100I$	$8.09241-4.39798I$	0
$u=\ \ 0.330247-1.275760I$ $a=-0.231582+0.165978I$ $b=\ \ 0.115057+1.013100I$	$8.09241+4.39798I$	0
$u=\ \ 1.105670+0.727190I$ $a=-0.880647+0.140450I$ $b=-0.857379+0.917815I$	$-3.08315-4.24616I$	0
$u=\ \ 1.105670-0.727190I$ $a=-0.880647-0.140450I$ $b=-0.857379-0.917815I$	$-3.08315+4.24616I$	0
$u=-0.242127+1.340620I$ $a=-1.21421+0.93829I$ $b=-0.619849-0.548650I$	$4.24631+4.85559I$	0
$u=-0.242127-1.340620I$ $a=-1.21421-0.93829I$ $b=-0.619849+0.548650I$	$4.24631-4.85559I$	0
$u=-0.464336+0.429225I$ $a=\ \ 0.411376-0.589278I$ $b=-0.804776+0.450712I$	$-1.50899-1.43410I$	$-7.36239+0.11490I$
$u=-0.464336-0.429225I$ $a=\ \ 0.411376+0.589278I$ $b=-0.804776-0.450712I$	$-1.50899+1.43410I$	$-7.36239-0.11490I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.051454 + 1.412250I$ $a = -1.43897 + 0.19267I$ $b = -1.045900 - 0.104796I$	$6.65462 - 2.11600I$	0
$u = 0.051454 - 1.412250I$ $a = -1.43897 - 0.19267I$ $b = -1.045900 + 0.104796I$	$6.65462 + 2.11600I$	0
$u = 0.23822 + 1.41370I$ $a = 1.62807 + 0.50345I$ $b = 0.850344 - 0.552434I$	$3.96639 - 7.37592I$	0
$u = 0.23822 - 1.41370I$ $a = 1.62807 - 0.50345I$ $b = 0.850344 + 0.552434I$	$3.96639 + 7.37592I$	0
$u = -0.471690 + 0.306679I$ $a = -1.87113 - 0.11589I$ $b = 0.594049 - 0.209396I$	$0.48382 - 2.02414I$	$-5.48158 - 1.98092I$
$u = -0.471690 - 0.306679I$ $a = -1.87113 + 0.11589I$ $b = 0.594049 + 0.209396I$	$0.48382 + 2.02414I$	$-5.48158 + 1.98092I$
$u = -0.186257 + 0.406082I$ $a = 1.55110 - 1.49497I$ $b = 1.135920 + 0.453407I$	$2.02710 + 2.49131I$	$5.14854 - 6.40492I$
$u = -0.186257 - 0.406082I$ $a = 1.55110 + 1.49497I$ $b = 1.135920 - 0.453407I$	$2.02710 - 2.49131I$	$5.14854 + 6.40492I$
$u = -1.10887 + 1.23983I$ $a = 0.328354 - 0.665003I$ $b = 0.321011 - 0.322796I$	$4.89916 - 5.17194I$	0
$u = -1.10887 - 1.23983I$ $a = 0.328354 + 0.665003I$ $b = 0.321011 + 0.322796I$	$4.89916 + 5.17194I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.176854 + 0.275777I$ $a = 3.62391 - 0.12992I$ $b = -0.706384 - 0.018614I$	$-0.76758 + 5.38204I$	$-5.75834 - 4.57438I$
$u = 0.176854 - 0.275777I$ $a = 3.62391 + 0.12992I$ $b = -0.706384 + 0.018614I$	$-0.76758 - 5.38204I$	$-5.75834 + 4.57438I$
$u = 0.36999 + 1.70893I$ $a = 0.626823 + 0.402088I$ $b = 0.615800 + 0.121664I$	$3.19583 + 5.69973I$	0
$u = 0.36999 - 1.70893I$ $a = 0.626823 - 0.402088I$ $b = 0.615800 - 0.121664I$	$3.19583 - 5.69973I$	0
$u = 0.54712 + 1.73083I$ $a = -0.730040 - 0.294105I$ $b = -0.462775 - 0.271259I$	$7.26388 - 0.98595I$	0
$u = 0.54712 - 1.73083I$ $a = -0.730040 + 0.294105I$ $b = -0.462775 + 0.271259I$	$7.26388 + 0.98595I$	0

III. $I_3^u = \langle b-u,\ a,\ u^{14}+2u^{12}+\cdots+u+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^3 \\ u^3+u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^6+u^4+1 \\ -u^6-2u^4-u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^6+u^4+1 \\ -u^8-2u^6-2u^4-2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{13}-2u^{11}-u^9-2u^7-2u^5-u \\ u^{13}+3u^{11}+3u^9-u^8+2u^7-u^6+2u^5+u^3-u^2 \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^7-4u^5-4u-2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)^7$
c_2, c_6	$(u^2-u+1)^7$
c_3, c_5	$u^{14}+6u^{12}+\cdots+3u+1$
c_4, c_{10}, c_{12}	$u^{14}+2u^{12}+u^{10}+2u^8+u^7+2u^6+u^5+u^2+u+1$
c_7, c_9, c_{11}	$u^{14}-4u^{13}+\cdots-u+1$
c_8	$u^{14}-4u^{13}+\cdots+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6	$(y^2+y+1)^7$
c_3, c_5	$y^{14}+12y^{13}+\cdots+9y+1$
c_4, c_{10}, c_{12}	$y^{14}+4y^{13}+\cdots+y+1$
c_7, c_9, c_{11}	$y^{14}-4y^{13}+\cdots+y+1$
c_8	$y^{14}-20y^{13}+\cdots+17y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.736457+0.697375I$ $a=0$ $b=-0.736457+0.697375I$	$-2.02988I$	$0.+3.46410I$
$u=-0.736457-0.697375I$ $a=0$ $b=-0.736457-0.697375I$	$2.02988I$	$0.-3.46410I$
$u=0.856039+0.441605I$ $a=0$ $b=0.856039+0.441605I$	$2.02988I$	$0.-3.46410I$
$u=0.856039-0.441605I$ $a=0$ $b=0.856039-0.441605I$	$-2.02988I$	$0.+3.46410I$
$u=0.821529+0.637804I$ $a=0$ $b=0.821529+0.637804I$	$-2.02988I$	$0.+3.46410I$
$u=0.821529-0.637804I$ $a=0$ $b=0.821529-0.637804I$	$2.02988I$	$0.-3.46410I$
$u=0.101179+1.129380I$ $a=0$ $b=0.101179+1.129380I$	$2.02988I$	$0.-3.46410I$
$u=0.101179-1.129380I$ $a=0$ $b=0.101179-1.129380I$	$-2.02988I$	$0.+3.46410I$
$u=-0.784401+0.284979I$ $a=0$ $b=-0.784401+0.284979I$	$2.02988I$	$0.-3.46410I$
$u=-0.784401-0.284979I$ $a=0$ $b=-0.784401-0.284979I$	$-2.02988I$	$0.+3.46410I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.288573 + 0.759251I$ $a = 0$ $b = -0.288573 + 0.759251I$	$2.02988I$	$0. - 3.46410I$
$u = -0.288573 - 0.759251I$ $a = 0$ $b = -0.288573 - 0.759251I$	$-2.02988I$	$0. + 3.46410I$
$u = 0.030683 + 1.280040I$ $a = 0$ $b = 0.030683 + 1.280040I$	$-2.02988I$	$0. + 3.46410I$
$u = 0.030683 - 1.280040I$ $a = 0$ $b = 0.030683 - 1.280040I$	$2.02988I$	$0. - 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^7)(u^{46}-28u^{45}+\cdots-222u+9)$ $\cdot(u^{154}+70u^{153}+\cdots+2351600u+40000)$
c_2	$((u^2-u+1)^7)(u^{46}+2u^{45}+\cdots+6u+3)$ $\cdot(u^{154}+4u^{153}+\cdots+2700u+200)$
c_3	$(u^{14}+6u^{12}+\cdots+3u+1)(u^{46}+3u^{44}+\cdots-127u+43)$ $\cdot(u^{154}-u^{153}+\cdots+2016184651u+1384157231)$
c_4	$(u^{14}+2u^{12}+u^{10}+2u^8+u^7+2u^6+u^5+u^2+u+1)$ $\cdot(u^{46}+21u^{44}+\cdots+3u+1)(u^{154}-u^{153}+\cdots-1143847u+112661)$
c_5	$(u^{14}+6u^{12}+\cdots+3u+1)(u^{46}-u^{45}+\cdots-5u+1)$ $\cdot(u^{154}-4u^{153}+\cdots+55u+1)$
c_6	$((u^2-u+1)^7)(u^{46}-2u^{45}+\cdots-6u+3)$ $\cdot(u^{154}+4u^{153}+\cdots+2700u+200)$
c_7	$(u^{14}-4u^{13}+\cdots-u+1)(u^{46}+u^{45}+\cdots-7u+1)$ $\cdot(u^{154}+2u^{153}+\cdots-249479005u+13493731)$
c_8	$(u^{14}-4u^{13}+\cdots+u+1)(u^{46}-12u^{44}+\cdots-4u^2+1)$ $\cdot(u^{154}+9u^{153}+\cdots-649198290u+29322847)$
c_9	$(u^{14}-4u^{13}+\cdots-u+1)(u^{46}+7u^{45}+\cdots+4u+1)$ $\cdot(u^{154}+18u^{153}+\cdots+290880u+11897)$
c_{10}	$(u^{14}+2u^{12}+u^{10}+2u^8+u^7+2u^6+u^5+u^2+u+1)$ $\cdot(u^{46}+21u^{44}+\cdots-3u+1)(u^{154}-u^{153}+\cdots-1143847u+112661)$
c_{11}	$(u^{14}-4u^{13}+\cdots-u+1)(u^{46}-u^{45}+\cdots+7u+1)$ $\cdot(u^{154}+2u^{153}+\cdots-249479005u+13493731)$
c_{12}	$(u^{14}+2u^{12}+u^{10}+2u^8+u^7+2u^6+u^5+u^2+u+1)$ $\cdot(u^{46}-5u^{45}+\cdots-8u^2+1)(u^{154}-20u^{152}+\cdots-232062u+57347)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^7)(y^{46}+4y^{45}+\cdots-2070y+81)$ $\cdot(y^{154}+46y^{153}+\cdots+924906720000y+1600000000)$
c_2, c_6	$((y^2+y+1)^7)(y^{46}+28y^{45}+\cdots+222y+9)$ $\cdot(y^{154}+70y^{153}+\cdots+2351600y+40000)$
c_3	$(y^{14}+12y^{13}+\cdots+9y+1)(y^{46}+6y^{45}+\cdots+73913y+1849)$ $\cdot(y^{154}+63y^{153}+\cdots-3.46\times10^{19}y+1.92\times10^{18})$
c_4, c_{10}	$(y^{14}+4y^{13}+\cdots+y+1)(y^{46}+42y^{45}+\cdots+35y+1)$ $\cdot(y^{154}+139y^{153}+\cdots-104773968485y+12692500921)$
c_5	$(y^{14}+12y^{13}+\cdots+9y+1)(y^{46}+17y^{45}+\cdots+29y+1)$ $\cdot(y^{154}+6y^{153}+\cdots-143y+1)$
c_7, c_{11}	$(y^{14}-4y^{13}+\cdots+y+1)(y^{46}+21y^{45}+\cdots+37y+1)$ $\cdot(y^{154}+114y^{153}+\cdots+2908457925570425y+182080776300361)$
c_8	$(y^{14}-20y^{13}+\cdots+17y+1)(y^{46}-24y^{45}+\cdots-8y+1)$ $\cdot(y^{154}+37y^{153}+\cdots+16647274284827280y+859829356185409)$
c_9	$(y^{14}-4y^{13}+\cdots+y+1)(y^{46}-19y^{45}+\cdots-18y+1)$ $\cdot(y^{154}-34y^{153}+\cdots-6991839034y+141538609)$
c_{12}	$(y^{14}+4y^{13}+\cdots+y+1)(y^{46}-5y^{45}+\cdots-16y+1)$ $\cdot(y^{154}-40y^{153}+\cdots-208157950460y+3288678409)$