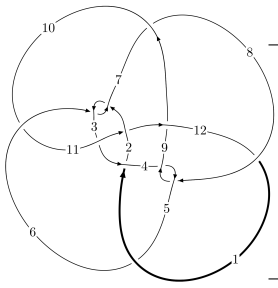
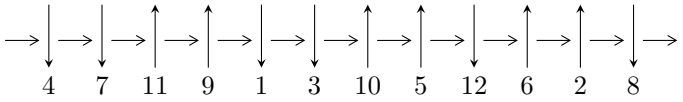
$12a_{1102}$ $(K12a_{1102})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 3.67350 \times 10^{1261} u^{203} + 1.84172 \times 10^{1262} u^{202} + \cdots + 4.40006 \times 10^{1260} b + 1.04500 \times 10^{1265},$$
$$- 4.46111 \times 10^{1264} u^{203} + 4.52131 \times 10^{1265} u^{202} + \cdots + 1.56246 \times 10^{1264} a + 2.45131 \times 10^{1269},$$
$$u^{204} + 3u^{203} + \cdots + 4840u + 3551\rangle$$
$$I_2^u = \langle -1.71279 \times 10^{68} u^{49} - 6.40240 \times 10^{67} u^{48} + \cdots + 2.21690 \times 10^{67} b + 1.98493 \times 10^{69},$$
$$- 3.49182 \times 10^{66} u^{49} - 3.83591 \times 10^{66} u^{48} + \cdots + 1.30406 \times 10^{66} a + 2.94979 \times 10^{67},$$
$$u^{50} + 3u^{49} + \cdots + 13u + 3\rangle$$
$$I_3^u = \langle b + u,\ a + u,\ u^2 - u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 256 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. $\boldsymbol{I_1^u = \langle 3.67 \times 10^{1261} u^{203} + 1.84 \times 10^{1262} u^{202} + \cdots + 4.40 \times 10^{1260} b + 1.04 \times 10^{1265},\ -4.46 \times 10^{1264} u^{203} + 4.52 \times 10^{1265} u^{202} + \cdots + 1.56 \times 10^{1264} a + 2.45 \times 10^{1269},\ u^{204} + 3u^{203} + \cdots + 4840u + 3551 \rangle}$

(i) Arc colorings

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

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

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

$$a_{12} = \begin{pmatrix} 2.85518u^{203} - 28.9371u^{202} + \cdots - 223331.u - 156888. \\ -8.34874u^{203} - 41.8568u^{202} + \cdots - 51131.0u - 23749.6 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 50.8749u^{203} + 136.840u^{202} + \cdots - 27276.5u - 182971. \\ 7.65173u^{203} + 12.0064u^{202} + \cdots - 34318.5u - 54732.4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 11.2039u^{203} + 12.9197u^{202} + \cdots - 172200.u - 133138. \\ -8.34874u^{203} - 41.8568u^{202} + \cdots - 51131.0u - 23749.6 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -36.9992u^{203} - 133.745u^{202} + \cdots - 371456.u - 68804.1 \\ -29.0147u^{203} - 81.8505u^{202} + \cdots + 18063.1u + 91150.3 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 12.2441u^{203} - 7.07902u^{202} + \cdots - 347730.u - 234824. \\ -0.719291u^{203} - 9.75512u^{202} + \cdots + 16196.1u - 4159.77 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 13.7845u^{203} + 31.5172u^{202} + \cdots - 61495.8u - 114855. \\ 4.93226u^{203} - 15.2298u^{202} + \cdots - 370958.u - 217639. \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 35.9709u^{203} + 143.181u^{202} + \cdots + 533783.u + 142600. \\ -21.6892u^{203} - 79.6632u^{202} + \cdots - 122288.u - 12547.3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 67.5293u^{203} + 213.644u^{202} + \cdots + 486394.u + 5854.21 \\ 24.6346u^{203} + 65.3690u^{202} + \cdots + 110435.u - 46413.4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -265.682u^{203} - 624.980u^{202} + \cdots + 724985.u + 1.44105 \times 10^6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$4(4u^{204} - 110u^{203} + \cdots - 2861790u + 86273)$
c_2, c_6	$u^{204} + 3u^{203} + \cdots + 4840u + 3551$
c_3	$4(4u^{204} - 26u^{203} + \cdots - 4.51642 \times 10^7 u + 1.92815 \times 10^7)$
c_4, c_8	$u^{204} - 3u^{203} + \cdots - 4840u + 3551$
c_5	$u^{204} + 2u^{203} + \cdots + 3563896u + 160336$
c_7	$4(4u^{204} + 110u^{203} + \cdots + 2861790u + 86273)$
c_9	$u^{204} + 10u^{203} + \cdots + 6000u + 2125$
c_{10}	$u^{204} - 2u^{203} + \cdots - 3563896u + 160336$
c_{11}	$u^{204} - 10u^{203} + \cdots - 6000u + 2125$
c_{12}	$4(4u^{204} + 26u^{203} + \cdots + 4.51642 \times 10^7 u + 1.92815 \times 10^7)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$16(16y^{204} - 12y^{203} + \cdots + 4.27091 \times 10^9 y + 7.44303 \times 10^9)$
c_2, c_4, c_6 c_8	$y^{204} + 131y^{203} + \cdots + 1159746294y + 12609601$
c_3, c_{12}	$16 \cdot (16y^{204} - 748y^{203} + \cdots + 42675043546023867y + 371776280813001)$
c_5, c_{10}	$y^{204} - 16y^{203} + \cdots + 2207655010624y + 25707632896$
c_9, c_{11}	$y^{204} - 46y^{203} + \cdots + 487217500y + 4515625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.051229+0.997299I$ $a=-1.95825-1.29139I$ $b=-0.780105-0.063644I$	$-3.51918-1.04221I$	0
$u=-0.051229-0.997299I$ $a=-1.95825+1.29139I$ $b=-0.780105+0.063644I$	$-3.51918+1.04221I$	0
$u=-0.054273+1.001330I$ $a=\ \ 0.779443+0.927451I$ $b=\ \ 0.650174-0.786115I$	$-3.56627+0.68723I$	0
$u=-0.054273-1.001330I$ $a=\ \ 0.779443-0.927451I$ $b=\ \ 0.650174+0.786115I$	$-3.56627-0.68723I$	0
$u=\ \ 0.212067+0.965336I$ $a=-0.968189-0.329212I$ $b=-0.625468-1.070670I$	$-1.17263+3.43391I$	0
$u=\ \ 0.212067-0.965336I$ $a=-0.968189+0.329212I$ $b=-0.625468+1.070670I$	$-1.17263-3.43391I$	0
$u=-0.401804+0.934446I$ $a=\ \ 0.381037-0.009674I$ $b=\ \ 0.274551+1.198520I$	$2.37355-5.11261I$	0
$u=-0.401804-0.934446I$ $a=\ \ 0.381037+0.009674I$ $b=\ \ 0.274551-1.198520I$	$2.37355+5.11261I$	0
$u=\ \ 0.148839+1.018130I$ $a=-2.62495+0.06301I$ $b=-1.75547-0.08177I$	$-0.97297+2.59722I$	0
$u=\ \ 0.148839-1.018130I$ $a=-2.62495-0.06301I$ $b=-1.75547+0.08177I$	$-0.97297-2.59722I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.011556+1.031150I$ $a=\ 1.49935-0.88126I$ $b=\ 0.929016+0.650830I$	$-1.58126-5.70438I$	0
$u=-0.011556-1.031150I$ $a=\ 1.49935+0.88126I$ $b=\ 0.929016-0.650830I$	$-1.58126+5.70438I$	0
$u=-0.187032+1.014480I$ $a=-2.58656-0.47173I$ $b=-1.47357-0.21915I$	$-4.08470I$	0
$u=-0.187032-1.014480I$ $a=-2.58656+0.47173I$ $b=-1.47357+0.21915I$	$4.08470I$	0
$u=-0.459756+0.850378I$ $a=-0.515838+1.247530I$ $b=-1.169510-0.029616I$	$-0.58413+4.40088I$	0
$u=-0.459756-0.850378I$ $a=-0.515838-1.247530I$ $b=-1.169510+0.029616I$	$-0.58413-4.40088I$	0
$u=\ 0.211289+0.942603I$ $a=\ 0.013430+1.023340I$ $b=\ 0.55197+1.84637I$	$4.37297+0.53308I$	0
$u=\ 0.211289-0.942603I$ $a=\ 0.013430-1.023340I$ $b=\ 0.55197-1.84637I$	$4.37297-0.53308I$	0
$u=\ 0.307793+0.989208I$ $a=\ 0.13731+1.41503I$ $b=\ 0.58364+2.00724I$	$2.62359+12.41050I$	0
$u=\ 0.307793-0.989208I$ $a=\ 0.13731-1.41503I$ $b=\ 0.58364-2.00724I$	$2.62359-12.41050I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.746233+0.723442I$ $a=\ 0.836172-0.797491I$ $b=\ 0.967089-0.556374I$	$3.95477+3.85138I$	0
$u=-0.746233-0.723442I$ $a=\ 0.836172+0.797491I$ $b=\ 0.967089+0.556374I$	$3.95477-3.85138I$	0
$u=\ 0.226179+0.932604I$ $a=\ 3.12258-0.52225I$ $b=\ 0.411370-0.470927I$	$2.66918+11.39430I$	0
$u=\ 0.226179-0.932604I$ $a=\ 3.12258+0.52225I$ $b=\ 0.411370+0.470927I$	$2.66918-11.39430I$	0
$u=\ 0.950146+0.099052I$ $a=\ 0.110065+0.108369I$ $b=\ 0.920127+0.718542I$	$-0.33838-4.08024I$	0
$u=\ 0.950146-0.099052I$ $a=\ 0.110065-0.108369I$ $b=\ 0.920127-0.718542I$	$-0.33838+4.08024I$	0
$u=-0.268180+1.010710I$ $a=\ 0.16343-1.43207I$ $b=\ 0.66592-1.98156I$	$-1.40036-6.34486I$	0
$u=-0.268180-1.010710I$ $a=\ 0.16343+1.43207I$ $b=\ 0.66592+1.98156I$	$-1.40036+6.34486I$	0
$u=-0.829479+0.462983I$ $a=-0.166613-0.610878I$ $b=\ 1.18333-0.84935I$	$3.23806+5.58875I$	0
$u=-0.829479-0.462983I$ $a=-0.166613+0.610878I$ $b=\ 1.18333+0.84935I$	$3.23806-5.58875I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.939682 + 0.095860I$ $a = -0.337457 + 0.268608I$ $b = -0.424168 - 0.795765I$	$5.93767 - 3.95269I$	0
$u = 0.939682 - 0.095860I$ $a = -0.337457 - 0.268608I$ $b = -0.424168 + 0.795765I$	$5.93767 + 3.95269I$	0
$u = 0.695440 + 0.796725I$ $a = 0.266504 - 0.702020I$ $b = -0.481935 + 0.457813I$	$-1.26449 + 1.30166I$	0
$u = 0.695440 - 0.796725I$ $a = 0.266504 + 0.702020I$ $b = -0.481935 - 0.457813I$	$-1.26449 - 1.30166I$	0
$u = -0.833528 + 0.432817I$ $a = 0.348893 + 0.168592I$ $b = -0.686112 - 0.669672I$	$1.95629 - 8.25786I$	0
$u = -0.833528 - 0.432817I$ $a = 0.348893 - 0.168592I$ $b = -0.686112 + 0.669672I$	$1.95629 + 8.25786I$	0
$u = 0.801995 + 0.482457I$ $a = 0.819543 - 0.367997I$ $b = -0.349244 - 0.796838I$	$3.56627 - 0.68723I$	0
$u = 0.801995 - 0.482457I$ $a = 0.819543 + 0.367997I$ $b = -0.349244 + 0.796838I$	$3.56627 + 0.68723I$	0
$u = -1.052890 + 0.171869I$ $a = 0.167718 + 0.136237I$ $b = -0.881069 + 0.730076I$	$5.51079 + 4.29685I$	0
$u = -1.052890 - 0.171869I$ $a = 0.167718 - 0.136237I$ $b = -0.881069 - 0.730076I$	$5.51079 - 4.29685I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.027960+0.287527I$ $a=-0.0552375-0.0154616I$ $b=-0.402642+0.588854I$	$3.12986-1.22046I$	0
$u=-1.027960-0.287527I$ $a=-0.0552375+0.0154616I$ $b=-0.402642-0.588854I$	$3.12986+1.22046I$	0
$u=-0.434269+0.993849I$ $a=-1.010430-0.622410I$ $b=\ \ 0.0229985+0.1125580I$	$3.24228-6.46386I$	0
$u=-0.434269-0.993849I$ $a=-1.010430+0.622410I$ $b=\ \ 0.0229985-0.1125580I$	$3.24228+6.46386I$	0
$u=\ \ 0.902975+0.041911I$ $a=\ \ 0.222078+0.022680I$ $b=\ \ 0.901835-0.742438I$	$-0.36015+4.15367I$	0
$u=\ \ 0.902975-0.041911I$ $a=\ \ 0.222078-0.022680I$ $b=\ \ 0.901835+0.742438I$	$-0.36015-4.15367I$	0
$u=-0.198646+0.863874I$ $a=\ \ 3.19678-0.09619I$ $b=\ \ 0.268321+0.498301I$	$-0.34975-5.08554I$	0
$u=-0.198646-0.863874I$ $a=\ \ 3.19678+0.09619I$ $b=\ \ 0.268321-0.498301I$	$-0.34975+5.08554I$	0
$u=\ \ 0.125761+1.107940I$ $a=-1.57308+0.88124I$ $b=-0.766669-0.031549I$	$-2.37355+5.11261I$	0
$u=\ \ 0.125761-1.107940I$ $a=-1.57308-0.88124I$ $b=-0.766669+0.031549I$	$-2.37355-5.11261I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.406129 + 0.780005I$ $a = 1.77929 - 0.56271I$ $b = 0.17390 - 1.68668I$	$6.09283 + 1.75066I$	0
$u = 0.406129 - 0.780005I$ $a = 1.77929 + 0.56271I$ $b = 0.17390 + 1.68668I$	$6.09283 - 1.75066I$	0
$u = 0.262782 + 0.838291I$ $a = -2.27900 + 1.10877I$ $b = -0.44587 + 1.90754I$	$5.17607 + 1.25050I$	0
$u = 0.262782 - 0.838291I$ $a = -2.27900 - 1.10877I$ $b = -0.44587 - 1.90754I$	$5.17607 - 1.25050I$	0
$u = 1.113650 + 0.135671I$ $a = -0.0212920 - 0.0847913I$ $b = -0.971497 - 0.742864I$	$-9.69632I$	0
$u = 1.113650 - 0.135671I$ $a = -0.0212920 + 0.0847913I$ $b = -0.971497 + 0.742864I$	$9.69632I$	0
$u = 0.341590 + 0.803796I$ $a = 2.20474 - 0.13978I$ $b = 0.346484 - 0.722096I$	$5.80970 + 0.97005I$	0
$u = 0.341590 - 0.803796I$ $a = 2.20474 + 0.13978I$ $b = 0.346484 + 0.722096I$	$5.80970 - 0.97005I$	0
$u = -0.646136 + 0.562458I$ $a = 1.243000 + 0.275490I$ $b = -0.077992 + 0.704835I$	$3.51918 + 1.04221I$	0
$u = -0.646136 - 0.562458I$ $a = 1.243000 - 0.275490I$ $b = -0.077992 - 0.704835I$	$3.51918 - 1.04221I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.100020 + 0.337987I$ $a = 0.227969 + 0.305234I$ $b = 1.089140 + 0.512097I$	$0.34975 - 5.08554I$	0
$u = 1.100020 - 0.337987I$ $a = 0.227969 - 0.305234I$ $b = 1.089140 - 0.512097I$	$0.34975 + 5.08554I$	0
$u = -1.146350 + 0.147011I$ $a = -0.083504 + 0.157855I$ $b = -0.992856 + 0.777619I$	$3.7066 + 15.6856I$	0
$u = -1.146350 - 0.147011I$ $a = -0.083504 - 0.157855I$ $b = -0.992856 - 0.777619I$	$3.7066 - 15.6856I$	0
$u = -0.577482 + 0.614932I$ $a = -1.63594 + 0.97333I$ $b = -1.267250 - 0.087270I$	$4.13767 - 8.80378I$	0
$u = -0.577482 - 0.614932I$ $a = -1.63594 - 0.97333I$ $b = -1.267250 + 0.087270I$	$4.13767 + 8.80378I$	0
$u = -1.177070 + 0.065224I$ $a = 0.176090 - 0.259745I$ $b = 0.764803 - 0.725898I$	$1.40036 + 6.34486I$	0
$u = -1.177070 - 0.065224I$ $a = 0.176090 + 0.259745I$ $b = 0.764803 + 0.725898I$	$1.40036 - 6.34486I$	0
$u = 0.460944 + 1.085140I$ $a = -0.695550 - 0.967192I$ $b = -0.911272 - 0.058061I$	$-4.15789 - 0.07680I$	0
$u = 0.460944 - 1.085140I$ $a = -0.695550 + 0.967192I$ $b = -0.911272 + 0.058061I$	$-4.15789 + 0.07680I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.430137+1.103930I$ $a=\ \ 1.009960-0.761489I$ $b=\ \ 1.253360-0.644602I$	$1.13472-3.92428I$	0
$u=-0.430137-1.103930I$ $a=\ \ 1.009960+0.761489I$ $b=\ \ 1.253360+0.644602I$	$1.13472+3.92428I$	0
$u=\ \ 0.812439+0.049180I$ $a=\ \ 0.277213+0.853767I$ $b=\ \ 0.759008+0.392331I$	$0.65302-2.35043I$	0
$u=\ \ 0.812439-0.049180I$ $a=\ \ 0.277213-0.853767I$ $b=\ \ 0.759008-0.392331I$	$0.65302+2.35043I$	0
$u=\ \ 0.179935+0.791252I$ $a=-2.79268+0.98444I$ $b=-1.04510+1.05675I$	$4.91227+1.46033I$	0
$u=\ \ 0.179935-0.791252I$ $a=-2.79268-0.98444I$ $b=-1.04510-1.05675I$	$4.91227-1.46033I$	0
$u=\ \ 0.211600+1.171730I$ $a=\ \ 1.22377+1.59322I$ $b=\ \ 0.491009-0.349867I$	$-3.23806+5.58875I$	0
$u=\ \ 0.211600-1.171730I$ $a=\ \ 1.22377-1.59322I$ $b=\ \ 0.491009+0.349867I$	$-3.23806-5.58875I$	0
$u=-0.318190+0.736951I$ $a=\ \ 0.683196-1.069640I$ $b=-0.225095+1.023770I$	$-0.21738+2.51186I$	0
$u=-0.318190-0.736951I$ $a=\ \ 0.683196+1.069640I$ $b=-0.225095-1.023770I$	$-0.21738-2.51186I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.358100 + 0.711020I$ $a = 0.674272 + 0.287348I$ $b = -0.075062 - 1.247790I$	$6.04666 + 2.26274I$	0
$u = 0.358100 - 0.711020I$ $a = 0.674272 - 0.287348I$ $b = -0.075062 + 1.247790I$	$6.04666 - 2.26274I$	0
$u = 0.783654 + 0.135648I$ $a = 0.465779 - 0.221697I$ $b = -0.866825 + 0.444846I$	$-3.12986 + 1.22046I$	0
$u = 0.783654 - 0.135648I$ $a = 0.465779 + 0.221697I$ $b = -0.866825 - 0.444846I$	$-3.12986 - 1.22046I$	0
$u = -0.316560 + 1.166380I$ $a = -1.83827 + 0.18130I$ $b = -0.939328 - 1.026530I$	$-3.95477 - 3.85138I$	0
$u = -0.316560 - 1.166380I$ $a = -1.83827 - 0.18130I$ $b = -0.939328 + 1.026530I$	$-3.95477 + 3.85138I$	0
$u = -0.085483 + 0.784159I$ $a = 1.49002 - 0.55040I$ $b = 1.40094 - 1.20346I$	$0.97297 + 2.59722I$	0
$u = -0.085483 - 0.784159I$ $a = 1.49002 + 0.55040I$ $b = 1.40094 + 1.20346I$	$0.97297 - 2.59722I$	0
$u = 0.215596 + 0.755293I$ $a = -1.98259 + 0.19130I$ $b = 0.096965 - 0.433266I$	$-0.65302 + 2.35043I$	0
$u = 0.215596 - 0.755293I$ $a = -1.98259 - 0.19130I$ $b = 0.096965 + 0.433266I$	$-0.65302 - 2.35043I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.192830+0.260298I$ $a=\ \ 0.204097-0.131393I$ $b=\ \ 0.878574-0.352144I$	$0.21738+2.51186I$	0
$u=-1.192830-0.260298I$ $a=\ \ 0.204097+0.131393I$ $b=\ \ 0.878574+0.352144I$	$0.21738-2.51186I$	0
$u=\ \ 0.533930+1.105390I$ $a=\ \ 1.040090+0.112544I$ $b=\ \ 0.856992-1.081250I$	$1.58126+5.70438I$	0
$u=\ \ 0.533930-1.105390I$ $a=\ \ 1.040090-0.112544I$ $b=\ \ 0.856992+1.081250I$	$1.58126-5.70438I$	0
$u=-0.356094+1.196540I$ $a=\ \ 1.80745-0.28125I$ $b=\ \ 1.52620+0.90449I$	$-3.90221+0.84482I$	0
$u=-0.356094-1.196540I$ $a=\ \ 1.80745+0.28125I$ $b=\ \ 1.52620-0.90449I$	$-3.90221-0.84482I$	0
$u=-1.134920+0.521672I$ $a=-0.121844+0.087621I$ $b=\ \ 0.529509+0.047207I$	$1.26449+1.30166I$	0
$u=-1.134920-0.521672I$ $a=-0.121844-0.087621I$ $b=\ \ 0.529509-0.047207I$	$1.26449-1.30166I$	0
$u=\ \ 0.278523+0.694695I$ $a=\ \ 0.270824+1.116420I$ $b=-0.383247-1.059640I$	$3.26619-8.95262I$	0
$u=\ \ 0.278523-0.694695I$ $a=\ \ 0.270824-1.116420I$ $b=-0.383247+1.059640I$	$3.26619+8.95262I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.193069 + 0.714302I$ $a = 1.106070 + 0.814830I$ $b = 0.935405 + 0.827953I$	$0.142072 - 1.312510I$	0
$u = 0.193069 - 0.714302I$ $a = 1.106070 - 0.814830I$ $b = 0.935405 - 0.827953I$	$0.142072 + 1.312510I$	0
$u = -0.033804 + 0.735910I$ $a = 1.33302 + 1.06812I$ $b = 1.03116 + 1.34315I$	$0.042864 - 1.329990I$	0
$u = -0.033804 - 0.735910I$ $a = 1.33302 - 1.06812I$ $b = 1.03116 - 1.34315I$	$0.042864 + 1.329990I$	0
$u = -0.580379 + 1.139150I$ $a = -1.80795 + 0.48749I$ $b = -1.58741 - 0.94411I$	$1.08520 - 10.89050I$	0
$u = -0.580379 - 1.139150I$ $a = -1.80795 - 0.48749I$ $b = -1.58741 + 0.94411I$	$1.08520 + 10.89050I$	0
$u = -0.226715 + 1.266170I$ $a = 1.58263 - 1.19015I$ $b = 0.686546 + 0.302299I$	$-1.08520 - 10.89050I$	0
$u = -0.226715 - 1.266170I$ $a = 1.58263 + 1.19015I$ $b = 0.686546 - 0.302299I$	$-1.08520 + 10.89050I$	0
$u = 0.372244 + 1.231880I$ $a = -1.75966 + 0.01937I$ $b = -1.37763 + 0.45249I$	$-3.24228 + 6.46386I$	0
$u = 0.372244 - 1.231880I$ $a = -1.75966 - 0.01937I$ $b = -1.37763 - 0.45249I$	$-3.24228 - 6.46386I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.619444+1.133000I$ $a=\ \ 0.904581-0.869490I$ $b=\ \ 1.390740+0.201924I$	$-2.11936-9.06912I$	0
$u=-0.619444-1.133000I$ $a=\ \ 0.904581+0.869490I$ $b=\ \ 1.390740-0.201924I$	$-2.11936+9.06912I$	0
$u=-0.695852+0.004121I$ $a=\ \ 0.067446-1.062120I$ $b=-0.758173+0.308921I$	$4.15789+0.07680I$	0
$u=-0.695852-0.004121I$ $a=\ \ 0.067446+1.062120I$ $b=-0.758173-0.308921I$	$4.15789-0.07680I$	0
$u=\ \ 0.092485+0.684929I$ $a=\ \ 2.08206-0.02377I$ $b=\ \ 1.40583+0.29676I$	$-0.042864-1.329990I$	0
$u=\ \ 0.092485-0.684929I$ $a=\ \ 2.08206+0.02377I$ $b=\ \ 1.40583-0.29676I$	$-0.042864+1.329990I$	0
$u=\ \ 0.449724+1.234610I$ $a=-1.83840-0.24598I$ $b=-1.28790+0.92893I$	$-4.13767+8.80378I$	0
$u=\ \ 0.449724-1.234610I$ $a=-1.83840+0.24598I$ $b=-1.28790-0.92893I$	$-4.13767-8.80378I$	0
$u=-0.209028+0.647329I$ $a=\ \ 1.60717-0.00374I$ $b=\ \ 0.815372+0.584812I$	$-0.025899-1.317480I$	0
$u=-0.209028-0.647329I$ $a=\ \ 1.60717+0.00374I$ $b=\ \ 0.815372-0.584812I$	$-0.025899+1.317480I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.447049+1.245170I$ $a=\ 1.35626-0.49355I$ $b=\ 0.853793+0.714437I$	$0.58413-4.40088I$	0
$u=-0.447049-1.245170I$ $a=\ 1.35626+0.49355I$ $b=\ 0.853793-0.714437I$	$0.58413+4.40088I$	0
$u=\ 0.175052+0.650184I$ $a=-2.72577-1.12722I$ $b=-1.42717-0.32225I$	$0.36015+4.15367I$	0
$u=\ 0.175052-0.650184I$ $a=-2.72577+1.12722I$ $b=-1.42717+0.32225I$	$0.36015-4.15367I$	0
$u=-0.255159+1.308660I$ $a=-1.44348-0.16689I$ $b=-1.113770-0.629518I$	$-5.02464-2.55425I$	0
$u=-0.255159-1.308660I$ $a=-1.44348+0.16689I$ $b=-1.113770+0.629518I$	$-5.02464+2.55425I$	0
$u=\ 1.323120+0.203520I$ $a=-0.182410-0.102634I$ $b=-0.185952-0.451735I$	$7.32694+5.52984I$	0
$u=\ 1.323120-0.203520I$ $a=-0.182410+0.102634I$ $b=-0.185952+0.451735I$	$7.32694-5.52984I$	0
$u=-0.537105+1.230220I$ $a=\ 1.288760-0.216933I$ $b=\ 0.906484+0.715227I$	$0.07279-4.28820I$	0
$u=-0.537105-1.230220I$ $a=\ 1.288760+0.216933I$ $b=\ 0.906484-0.715227I$	$0.07279+4.28820I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.218743 + 1.328010I$ $a = -1.25749 - 0.68837I$ $b = -0.918889 + 0.104266I$	$-5.80970 - 0.97005I$	0
$u = 0.218743 - 1.328010I$ $a = -1.25749 + 0.68837I$ $b = -0.918889 - 0.104266I$	$-5.80970 + 0.97005I$	0
$u = -0.341573 + 1.302320I$ $a = 1.69129 + 0.28635I$ $b = 1.52192 + 1.10920I$	$-3.17219 - 12.04770I$	0
$u = -0.341573 - 1.302320I$ $a = 1.69129 - 0.28635I$ $b = 1.52192 - 1.10920I$	$-3.17219 + 12.04770I$	0
$u = 0.413199 + 1.283260I$ $a = 1.55111 + 0.11733I$ $b = 1.48789 - 0.97398I$	$-7.32694 + 5.52984I$	0
$u = 0.413199 - 1.283260I$ $a = 1.55111 - 0.11733I$ $b = 1.48789 + 0.97398I$	$-7.32694 - 5.52984I$	0
$u = -0.232428 + 1.333390I$ $a = 0.734746 - 0.194547I$ $b = 0.850017 + 0.335551I$	$-0.393714I$	0
$u = -0.232428 - 1.333390I$ $a = 0.734746 + 0.194547I$ $b = 0.850017 - 0.335551I$	$0.393714I$	0
$u = -0.762880 + 1.126910I$ $a = -0.457006 + 0.664747I$ $b = -0.773322 + 0.214074I$	$-1.13472 - 3.92428I$	0
$u = -0.762880 - 1.126910I$ $a = -0.457006 - 0.664747I$ $b = -0.773322 - 0.214074I$	$-1.13472 + 3.92428I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.605089+1.219020I$		
$a=$	$0.755614+0.564221I$	$-5.93767+3.95269I$	0
$b=$	$1.106440-0.293057I$		
$u=$	$0.605089-1.219020I$		
$a=$	$0.755614-0.564221I$	$-5.93767-3.95269I$	0
$b=$	$1.106440+0.293057I$		
$u=$	$-0.542785+0.329764I$		
$a=$	$1.108320-0.046903I$	$5.02464+2.55425I$	0
$b=$	$-0.196274-0.764313I$		
$u=$	$-0.542785-0.329764I$		
$a=$	$1.108320+0.046903I$	$5.02464-2.55425I$	0
$b=$	$-0.196274+0.764313I$		
$u=$	$0.386511+1.317200I$		
$a=$	$1.48406-0.01024I$	$-7.30823+5.56093I$	0
$b=$	$1.47767-0.98144I$		
$u=$	$0.386511-1.317200I$		
$a=$	$1.48406+0.01024I$	$-7.30823-5.56093I$	0
$b=$	$1.47767+0.98144I$		
$u=$	$1.390860+0.023185I$		
$a=$	$-0.133386+0.126101I$	$7.30823-5.56093I$	0
$b=$	$0.124563+0.414387I$		
$u=$	$1.390860-0.023185I$		
$a=$	$-0.133386-0.126101I$	$7.30823+5.56093I$	0
$b=$	$0.124563-0.414387I$		
$u=$	$0.483451+1.307180I$		
$a=$	$1.52791+0.18266I$	$2.11936+9.06912I$	0
$b=$	$0.814150-0.672402I$		
$u=$	$0.483451-1.307180I$		
$a=$	$1.52791-0.18266I$	$2.11936-9.06912I$	0
$b=$	$0.814150+0.672402I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.241543+1.376590I$ $a=-1.313120+0.357251I$ $b=-0.949427-0.284593I$	$-6.04666-2.26274I$	0
$u=-0.241543-1.376590I$ $a=-1.313120-0.357251I$ $b=-0.949427+0.284593I$	$-6.04666+2.26274I$	0
$u=-0.357910+0.480543I$ $a=1.237720-0.525784I$ $b=0.859867+0.622144I$	$-0.142072-1.312510I$	0
$u=-0.357910-0.480543I$ $a=1.237720+0.525784I$ $b=0.859867-0.622144I$	$-0.142072+1.312510I$	0
$u=-0.571543+0.176241I$ $a=0.726268+0.505393I$ $b=-1.003560-0.315364I$	$-0.07279+4.28820I$	0
$u=-0.571543-0.176241I$ $a=0.726268-0.505393I$ $b=-1.003560+0.315364I$	$-0.07279-4.28820I$	0
$u=0.539456+1.296130I$ $a=-1.69809-0.20285I$ $b=-1.35002+0.85798I$	$-4.06110+9.52256I$	0
$u=0.539456-1.296130I$ $a=-1.69809+0.20285I$ $b=-1.35002-0.85798I$	$-4.06110-9.52256I$	0
$u=-0.575841+1.281520I$ $a=1.51702-0.19198I$ $b=1.32991+1.04088I$	$2.03764-10.08370I$	0
$u=-0.575841-1.281520I$ $a=1.51702+0.19198I$ $b=1.32991-1.04088I$	$2.03764+10.08370I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.62070 + 1.27936I$ $a = 1.294790 + 0.060268I$ $b = 0.912545 - 0.646946I$	$3.90221 + 0.84482I$	0
$u = 0.62070 - 1.27936I$ $a = 1.294790 - 0.060268I$ $b = 0.912545 + 0.646946I$	$3.90221 - 0.84482I$	0
$u = -0.218763 + 0.528807I$ $a = 1.37495 + 0.51477I$ $b = 0.614559 + 0.759311I$	$0.025899 - 1.317480I$	0
$u = -0.218763 - 0.528807I$ $a = 1.37495 - 0.51477I$ $b = 0.614559 - 0.759311I$	$0.025899 + 1.317480I$	0
$u = 0.65134 + 1.28005I$ $a = -1.52434 - 0.44960I$ $b = -1.42065 + 0.64563I$	$-2.66918 + 11.39430I$	0
$u = 0.65134 - 1.28005I$ $a = -1.52434 + 0.44960I$ $b = -1.42065 - 0.64563I$	$-2.66918 - 11.39430I$	0
$u = 0.300821 + 0.474811I$ $a = -3.20004 + 0.29615I$ $b = -1.005390 + 0.868571I$	$4.06110 - 9.52256I$	0
$u = 0.300821 - 0.474811I$ $a = -3.20004 - 0.29615I$ $b = -1.005390 - 0.868571I$	$4.06110 + 9.52256I$	0
$u = 0.58438 + 1.31527I$ $a = 1.59784 + 0.23038I$ $b = 1.33960 - 0.99674I$	$-3.7066 + 15.6856I$	0
$u = 0.58438 - 1.31527I$ $a = 1.59784 - 0.23038I$ $b = 1.33960 + 0.99674I$	$-3.7066 - 15.6856I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.04078+1.45031I$ $a=\ \ 0.056208+0.788549I$ $b=\ \ 0.152419+1.266330I$	$0.520794I$	0
$u=-0.04078-1.45031I$ $a=\ \ 0.056208-0.788549I$ $b=\ \ 0.152419-1.266330I$	$-0.520794I$	0
$u=\ \ 0.075883+0.542133I$ $a=\ \ 2.01321-0.15163I$ $b=\ \ 0.929124+0.270137I$	$-0.063457-1.359090I$	0
$u=\ \ 0.075883-0.542133I$ $a=\ \ 2.01321+0.15163I$ $b=\ \ 0.929124-0.270137I$	$-0.063457+1.359090I$	0
$u=-0.59946+1.32352I$ $a=\ \ 1.63789-0.20681I$ $b=\ \ 1.37529+0.98879I$	$-21.8262I$	0
$u=-0.59946-1.32352I$ $a=\ \ 1.63789+0.20681I$ $b=\ \ 1.37529-0.98879I$	$21.8262I$	0
$u=-0.02454+1.45626I$ $a=-1.70997-0.03188I$ $b=-0.824650-0.088243I$	$-6.09283-1.75066I$	0
$u=-0.02454-1.45626I$ $a=-1.70997+0.03188I$ $b=-0.824650+0.088243I$	$-6.09283+1.75066I$	0
$u=-0.57154+1.34325I$ $a=-1.59268+0.03856I$ $b=-1.29335-0.90748I$	$-2.62359-12.41050I$	0
$u=-0.57154-1.34325I$ $a=-1.59268-0.03856I$ $b=-1.29335+0.90748I$	$-2.62359+12.41050I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.62852+1.32730I$ $a=-1.339020+0.365474I$ $b=-1.214380-0.624915I$	$-3.26619-8.95262I$	0
$u=-0.62852-1.32730I$ $a=-1.339020-0.365474I$ $b=-1.214380+0.624915I$	$-3.26619+8.95262I$	0
$u=\ \ 0.36886+1.42693I$ $a=-0.871962-0.663797I$ $b=-0.703554+0.018047I$	$-4.91227+1.46033I$	0
$u=\ \ 0.36886-1.42693I$ $a=-0.871962+0.663797I$ $b=-0.703554-0.018047I$	$-4.91227-1.46033I$	0
$u=\ \ 0.60319+1.35778I$ $a=-1.039820+0.173582I$ $b=-0.869126+0.983930I$	$3.17219+12.04770I$	0
$u=\ \ 0.60319-1.35778I$ $a=-1.039820-0.173582I$ $b=-0.869126-0.983930I$	$3.17219-12.04770I$	0
$u=-0.28083+1.46541I$ $a=-0.711076+0.558330I$ $b=-0.554300-0.086594I$	$-4.37297+0.53308I$	0
$u=-0.28083-1.46541I$ $a=-0.711076-0.558330I$ $b=-0.554300+0.086594I$	$-4.37297-0.53308I$	0
$u=-0.63462+1.35052I$ $a=-0.868078+0.195969I$ $b=-0.803440-0.673643I$	$-1.95629-8.25786I$	0
$u=-0.63462-1.35052I$ $a=-0.868078-0.195969I$ $b=-0.803440+0.673643I$	$-1.95629+8.25786I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.31962 + 1.46733I$ $a = 0.799817 + 0.456485I$ $b = 0.953292 + 0.012132I$	$-5.51079 - 4.29685I$	0
$u = 0.31962 - 1.46733I$ $a = 0.799817 - 0.456485I$ $b = 0.953292 - 0.012132I$	$-5.51079 + 4.29685I$	0
$u = -0.114803 + 0.477113I$ $a = 1.30778 + 0.80085I$ $b = 0.642785 + 0.950104I$	$0.063457 - 1.359090I$	0
$u = -0.114803 - 0.477113I$ $a = 1.30778 - 0.80085I$ $b = 0.642785 - 0.950104I$	$0.063457 + 1.359090I$	0
$u = -0.30438 + 1.52512I$ $a = 0.746452 - 0.516922I$ $b = 0.866524 - 0.083799I$	$-2.03764 + 10.08370I$	0
$u = -0.30438 - 1.52512I$ $a = 0.746452 + 0.516922I$ $b = 0.866524 + 0.083799I$	$-2.03764 - 10.08370I$	0
$u = 0.12785 + 1.61442I$ $a = -1.215830 - 0.187804I$ $b = -0.669363 - 0.014353I$	$-5.17607 + 1.25050I$	0
$u = 0.12785 - 1.61442I$ $a = -1.215830 + 0.187804I$ $b = -0.669363 + 0.014353I$	$-5.17607 - 1.25050I$	0
$u = 0.347555 + 0.119688I$ $a = 1.40081 - 0.81406I$ $b = 0.422678 - 1.038110I$	$1.17263 + 3.43391I$	$3.94418 + 0.I$
$u = 0.347555 - 0.119688I$ $a = 1.40081 + 0.81406I$ $b = 0.422678 + 1.038110I$	$1.17263 - 3.43391I$	$3.94418 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.028634+0.289272I$ $a=-4.95357-1.69185I$ $b=-0.927691-0.542166I$	$0.33838+4.08024I$	$2.30009-3.61352I$
$u=-0.028634-0.289272I$ $a=-4.95357+1.69185I$ $b=-0.927691+0.542166I$	$0.33838-4.08024I$	$2.30009+3.61352I$
$u=-0.10828+2.10833I$ $a=\quad 0.057757+0.151646I$ $b=\quad 0.158982+0.584415I$	$0.674755I$	0
$u=-0.10828-2.10833I$ $a=\quad 0.057757-0.151646I$ $b=\quad 0.158982-0.584415I$	$-0.674755I$	0

II. $I_2^u = \langle -1.71\times 10^{68}u^{49} - 6.40\times 10^{67}u^{48} + \cdots + 2.22\times 10^{67}b + 1.98\times 10^{69},\ -3.49\times 10^{66}u^{49} - 3.84\times 10^{66}u^{48} + \cdots + 1.30\times 10^{66}a + 2.95\times 10^{67},\ u^{50} + 3u^{49} + \cdots + 13u + 3\rangle$

(i) Arc colorings

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

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

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

$$a_{12} = \begin{pmatrix} 2.67765u^{49} + 2.94151u^{48} + \cdots - 86.6967u - 22.6201 \\ 7.72607u^{49} + 2.88800u^{48} + \cdots - 361.028u - 89.5362 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 22.5057u^{49} + 31.6260u^{48} + \cdots - 662.101u - 164.957 \\ -17.2496u^{49} - 61.9905u^{48} + \cdots - 202.287u - 26.7623 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -5.04842u^{49} + 0.0535180u^{48} + \cdots + 274.331u + 66.9162 \\ 7.72607u^{49} + 2.88800u^{48} + \cdots - 361.028u - 89.5362 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -34.5147u^{49} - 133.869u^{48} + \cdots - 685.536u - 117.414 \\ 13.7832u^{49} + 54.5258u^{48} + \cdots + 371.888u + 67.8201 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.180218u^{49} + 6.47809u^{48} + \cdots + 109.659u + 22.8960 \\ 5.48507u^{49} - 0.508421u^{48} + \cdots - 301.067u - 73.3001 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -35.3370u^{49} - 105.674u^{48} + \cdots - 81.1222u + 6.33839 \\ -23.7865u^{49} - 75.7634u^{48} + \cdots - 207.829u - 25.0100 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -40.9120u^{49} - 127.579u^{48} + \cdots - 140.929u + 15.8904 \\ -9.03612u^{49} - 30.4312u^{48} + \cdots - 79.6876u - 10.1997 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 39.5978u^{49} + 75.3219u^{48} + \cdots - 912.238u - 240.231 \\ -17.9179u^{49} - 99.4825u^{48} + \cdots - 924.417u - 188.990 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -323.370u^{49} - 1150.36u^{48} + \cdots - 4068.92u - 587.865$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$4(4u^{50}+30u^{49}+\cdots-35u+3)$
c_2, c_8	$u^{50}+3u^{49}+\cdots+13u+3$
c_3	$4(4u^{50}-18u^{49}+\cdots+22u+3)$
c_4, c_6	$u^{50}-3u^{49}+\cdots-13u+3$
c_5	$u^{50}-3u^{49}+\cdots-42u+196$
c_7	$4(4u^{50}-30u^{49}+\cdots+35u+3)$
c_9	$u^{50}-20u^{49}+\cdots-55u+3$
c_{10}	$u^{50}+3u^{49}+\cdots+42u+196$
c_{11}	$u^{50}+20u^{49}+\cdots+55u+3$
c_{12}	$4(4u^{50}+18u^{49}+\cdots-22u+3)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$16(16y^{50} - 556y^{49} + \cdots - 37y + 9)$
c_2, c_4, c_6 c_8	$y^{50} + 37y^{49} + \cdots + 161y + 9$
c_3, c_{12}	$16(16y^{50} - 76y^{49} + \cdots - 178y + 9)$
c_5, c_{10}	$y^{50} + 19y^{49} + \cdots + 243236y + 38416$
c_9, c_{11}	$y^{50} - 40y^{49} + \cdots + 527y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.170723 + 0.989302I$ $a = -2.54894 + 0.47858I$ $b = -1.033940 + 0.209552I$	$-1.78642 + 2.75945I$	$-5.95732 + 0.I$
$u = 0.170723 - 0.989302I$ $a = -2.54894 - 0.47858I$ $b = -1.033940 - 0.209552I$	$-1.78642 - 2.75945I$	$-5.95732 + 0.I$
$u = 0.932460 + 0.311451I$ $a = 0.541508 + 0.140844I$ $b = -0.136236 - 0.325796I$	$1.86029 - 1.50133I$	0
$u = 0.932460 - 0.311451I$ $a = 0.541508 - 0.140844I$ $b = -0.136236 + 0.325796I$	$1.86029 + 1.50133I$	0
$u = 0.907107 + 0.368977I$ $a = 0.003374 + 0.536436I$ $b = 0.996077 + 0.719827I$	$2.52875 - 5.07198I$	$0. + 5.04657I$
$u = 0.907107 - 0.368977I$ $a = 0.003374 - 0.536436I$ $b = 0.996077 - 0.719827I$	$2.52875 + 5.07198I$	$0. - 5.04657I$
$u = -0.356608 + 0.816121I$ $a = -2.13895 - 0.43104I$ $b = -0.18337 - 1.74339I$	$5.65689 - 1.58228I$	$1.24832 + 4.02633I$
$u = -0.356608 - 0.816121I$ $a = -2.13895 + 0.43104I$ $b = -0.18337 + 1.74339I$	$5.65689 + 1.58228I$	$1.24832 - 4.02633I$
$u = -1.095570 + 0.198354I$ $a = 0.233026 - 0.198461I$ $b = 0.956905 - 0.609574I$	$0.61391 + 4.27272I$	0
$u = -1.095570 - 0.198354I$ $a = 0.233026 + 0.198461I$ $b = 0.956905 + 0.609574I$	$0.61391 - 4.27272I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.240390+0.821252I$ $a=2.21039+1.31573I$ $b=0.58012+2.00817I$	$5.37369-1.24991I$	$22.8222+0.I$
$u=-0.240390-0.821252I$ $a=2.21039-1.31573I$ $b=0.58012-2.00817I$	$5.37369+1.24991I$	$22.8222+0.I$
$u=0.032003+0.835790I$ $a=2.81387+0.94206I$ $b=2.43831+1.21196I$	$-1.48883I$	$0.+61.2020I$
$u=0.032003-0.835790I$ $a=2.81387-0.94206I$ $b=2.43831-1.21196I$	$1.48883I$	$0.-61.2020I$
$u=0.211984+1.160240I$ $a=0.993505+0.270519I$ $b=0.198906-0.875584I$	$-2.52875+5.07198I$	0
$u=0.211984-1.160240I$ $a=0.993505-0.270519I$ $b=0.198906+0.875584I$	$-2.52875-5.07198I$	0
$u=-0.020659+0.797030I$ $a=2.85189-0.82466I$ $b=0.625467-0.738945I$	$-0.61391-4.27272I$	$-4.19286+4.22900I$
$u=-0.020659-0.797030I$ $a=2.85189+0.82466I$ $b=0.625467+0.738945I$	$-0.61391+4.27272I$	$-4.19286-4.22900I$
$u=0.545877+1.078230I$ $a=0.841328+0.854468I$ $b=0.887782-0.502091I$	$7.72045I$	0
$u=0.545877-1.078230I$ $a=0.841328-0.854468I$ $b=0.887782+0.502091I$	$-7.72045I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.146259 + 0.755112I$ $a = -0.110399 - 0.524730I$ $b = 0.485242 + 0.903904I$	$-1.04033 - 1.08972I$	$-3.09207 - 1.70469I$
$u = 0.146259 - 0.755112I$ $a = -0.110399 + 0.524730I$ $b = 0.485242 - 0.903904I$	$-1.04033 + 1.08972I$	$-3.09207 + 1.70469I$
$u = 0.097264 + 0.755879I$ $a = 2.44408 + 0.57719I$ $b = 0.290134 + 0.930218I$	$2.88926 + 10.40610I$	$0.76823 - 6.65907I$
$u = 0.097264 - 0.755879I$ $a = 2.44408 - 0.57719I$ $b = 0.290134 - 0.930218I$	$2.88926 - 10.40610I$	$0.76823 + 6.65907I$
$u = -0.204868 + 1.308530I$ $a = 1.269090 + 0.056230I$ $b = 0.450539 + 0.728378I$	$0.15598 - 10.57640I$	0
$u = -0.204868 - 1.308530I$ $a = 1.269090 - 0.056230I$ $b = 0.450539 - 0.728378I$	$0.15598 + 10.57640I$	0
$u = 0.652018 + 0.143335I$ $a = 0.714930 + 0.984113I$ $b = 0.683299 + 0.165764I$	$1.04033 - 1.08972I$	$3.09207 - 1.70469I$
$u = 0.652018 - 0.143335I$ $a = 0.714930 - 0.984113I$ $b = 0.683299 - 0.165764I$	$1.04033 + 1.08972I$	$3.09207 + 1.70469I$
$u = 0.582410 + 1.213340I$ $a = -1.57657 - 0.32174I$ $b = -1.49349 + 0.82909I$	$-0.15598 + 10.57640I$	0
$u = 0.582410 - 1.213340I$ $a = -1.57657 + 0.32174I$ $b = -1.49349 - 0.82909I$	$-0.15598 - 10.57640I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.224510+1.341080I$ $a=-1.055600+0.771513I$ $b=-0.630317-0.107338I$	$-5.39208-0.88635I$	0
$u=-0.224510-1.341080I$ $a=-1.055600-0.771513I$ $b=-0.630317+0.107338I$	$-5.39208+0.88635I$	0
$u=-0.421835+1.318850I$ $a=-1.42912+0.07292I$ $b=-1.48875-0.98977I$	$-7.11396-5.51202I$	0
$u=-0.421835-1.318850I$ $a=-1.42912-0.07292I$ $b=-1.48875+0.98977I$	$-7.11396+5.51202I$	0
$u=-0.467480+0.393127I$ $a=-1.137130-0.536307I$ $b=\ \ 0.562822+0.582338I$	$-1.86029-1.50133I$	$-2.99719+1.66971I$
$u=-0.467480-0.393127I$ $a=-1.137130+0.536307I$ $b=\ \ 0.562822-0.582338I$	$-1.86029+1.50133I$	$-2.99719-1.66971I$
$u=-0.61070+1.31483I$ $a=-1.54316+0.29090I$ $b=-1.30660-0.71962I$	$-2.88926-10.40610I$	0
$u=-0.61070-1.31483I$ $a=-1.54316-0.29090I$ $b=-1.30660+0.71962I$	$-2.88926+10.40610I$	0
$u=-0.199142+0.456811I$ $a=\ \ 2.71322+0.69043I$ $b=\ \ 0.338009+1.252450I$	$5.39208-0.88635I$	$8.74073-0.14571I$
$u=-0.199142-0.456811I$ $a=\ \ 2.71322-0.69043I$ $b=\ \ 0.338009-1.252450I$	$5.39208+0.88635I$	$8.74073+0.14571I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.04406 + 1.52310I$ $a = -1.68732 + 0.03883I$ $b = -0.784410 + 0.063393I$	$-5.65689 + 1.58228I$	0
$u = \ 0.04406 - 1.52310I$ $a = -1.68732 - 0.03883I$ $b = -0.784410 - 0.063393I$	$-5.65689 - 1.58228I$	0
$u = -0.372068 + 0.247158I$ $a = \ 1.35938 - 1.91135I$ $b = \ 0.943349 - 0.637837I$	$1.78642 + 2.75945I$	$5.95732 - 3.28494I$
$u = -0.372068 - 0.247158I$ $a = \ 1.35938 + 1.91135I$ $b = \ 0.943349 + 0.637837I$	$1.78642 - 2.75945I$	$5.95732 + 3.28494I$
$u = -1.55688 + 0.12336I$ $a = -0.062594 + 0.147782I$ $b = -0.279473 + 0.044237I$	$7.11396 - 5.51202I$	0
$u = -1.55688 - 0.12336I$ $a = -0.062594 - 0.147782I$ $b = -0.279473 - 0.044237I$	$7.11396 + 5.51202I$	0
$u = -0.16314 + 1.64890I$ $a = -1.057790 + 0.188889I$ $b = -0.694132 + 0.003175I$	$-5.37369 - 1.24991I$	0
$u = -0.16314 - 1.64890I$ $a = -1.057790 - 0.188889I$ $b = -0.694132 - 0.003175I$	$-5.37369 + 1.24991I$	0
$u = \ 0.11168 + 2.17380I$ $a = -0.058667 + 0.136987I$ $b = -0.156236 + 0.559901I$	$-0.666867I$	0
$u = \ 0.11168 - 2.17380I$ $a = -0.058667 - 0.136987I$ $b = -0.156236 - 0.559901I$	$0.666867I$	0

III. $I_3^u = \langle b+u,\ a+u,\ u^2-u+1 \rangle$

(i) Arc colorings

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

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

$$a_9 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

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

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

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

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

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

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

$$a_7 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -0.500000 - 0.866025I$ $b = -0.500000 - 0.866025I$	$4.05977I$	$0. - 6.92820I$
$u = 0.500000 - 0.866025I$ $a = -0.500000 + 0.866025I$ $b = -0.500000 + 0.866025I$	$-4.05977I$	$0. + 6.92820I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$16(u^2-u+1)(4u^{50}+30u^{49}+\cdots-35u+3)$ $\cdot(4u^{204}-110u^{203}+\cdots-2861790u+86273)$
c_2	$(u^2-u+1)(u^{50}+3u^{49}+\cdots+13u+3)$ $\cdot(u^{204}+3u^{203}+\cdots+4840u+3551)$
c_3	$16(u^2+u+1)(4u^{50}-18u^{49}+\cdots+22u+3)$ $\cdot(4u^{204}-26u^{203}+\cdots-45164211u+19281501)$
c_4	$(u^2+u+1)(u^{50}-3u^{49}+\cdots-13u+3)$ $\cdot(u^{204}-3u^{203}+\cdots-4840u+3551)$
c_5	$u^2(u^{50}-3u^{49}+\cdots-42u+196)$ $\cdot(u^{204}+2u^{203}+\cdots+3563896u+160336)$
c_6	$(u^2+u+1)(u^{50}-3u^{49}+\cdots-13u+3)$ $\cdot(u^{204}+3u^{203}+\cdots+4840u+3551)$
c_7	$16(u^2+u+1)(4u^{50}-30u^{49}+\cdots+35u+3)$ $\cdot(4u^{204}+110u^{203}+\cdots+2861790u+86273)$
c_8	$(u^2-u+1)(u^{50}+3u^{49}+\cdots+13u+3)$ $\cdot(u^{204}-3u^{203}+\cdots-4840u+3551)$
c_9	$(u^2-u+1)(u^{50}-20u^{49}+\cdots-55u+3)$ $\cdot(u^{204}+10u^{203}+\cdots+6000u+2125)$
c_{10}	$u^2(u^{50}+3u^{49}+\cdots+42u+196)$ $\cdot(u^{204}-2u^{203}+\cdots-3563896u+160336)$
c_{11}	$(u^2+u+1)(u^{50}+20u^{49}+\cdots+55u+3)$ $\cdot(u^{204}-10u^{203}+\cdots-6000u+2125)$
c_{12}	$16(u^2-u+1)(4u^{50}+18u^{49}+\cdots-22u+3)$ $\cdot(4u^{204}+26u^{203}+\cdots+45164211u+19281501)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$256(y^2+y+1)(16y^{50}-556y^{49}+\cdots-37y+9)$ $\cdot(16y^{204}-12y^{203}+\cdots+4270910140y+7443030529)$
c_2, c_4, c_6 c_8	$(y^2+y+1)(y^{50}+37y^{49}+\cdots+161y+9)$ $\cdot(y^{204}+131y^{203}+\cdots+1159746294y+12609601)$
c_3, c_{12}	$256(y^2+y+1)(16y^{50}-76y^{49}+\cdots-178y+9)$ $\cdot(16y^{204}-748y^{203}+\cdots+42675043546023867y+371776280813001)$
c_5, c_{10}	$y^2(y^{50}+19y^{49}+\cdots+243236y+38416)$ $\cdot(y^{204}-16y^{203}+\cdots+2207655010624y+25707632896)$
c_9, c_{11}	$(y^2+y+1)(y^{50}-40y^{49}+\cdots+527y+9)$ $\cdot(y^{204}-46y^{203}+\cdots+487217500y+4515625)$