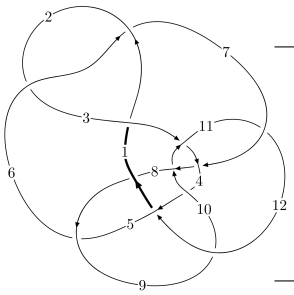
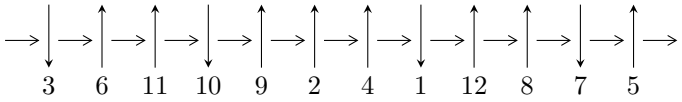
$12a_{0483}$ $(K12a_{0483})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 3.39637 \times 10^{102} u^{49} + 9.37271 \times 10^{101} u^{48} + \cdots + 4.22304 \times 10^{102} b - 4.54172 \times 10^{103},$$
$$5.05934 \times 10^{103} u^{49} - 2.24413 \times 10^{104} u^{48} + \cdots + 2.06929 \times 10^{104} a - 6.26286 \times 10^{105},\ u^{50} + u^{49} + \cdots - 13u$$
$$I_2^u = \langle 1.21305 \times 10^{1409} u^{169} - 2.95236 \times 10^{1409} u^{168} + \cdots + 2.55035 \times 10^{1408} b - 2.02591 \times 10^{1409},$$
$$- 1.12706 \times 10^{1409} u^{169} + 2.73180 \times 10^{1409} u^{168} + \cdots + 2.55035 \times 10^{1408} a + 3.50626 \times 10^{1409},$$
$$u^{170} - 3u^{169} + \cdots - 4u + 1\rangle$$
$$I_3^u = \langle 1.74194 \times 10^{110} u^{45} - 1.94041 \times 10^{110} u^{44} + \cdots + 1.58393 \times 10^{111} b - 1.73190 \times 10^{111},$$
$$- 5.80551 \times 10^{111} u^{45} + 4.76976 \times 10^{111} u^{44} + \cdots + 1.10875 \times 10^{112} a + 7.13483 \times 10^{112},\ u^{46} - u^{45} + \cdots - 7$$
$$I_4^u = \langle -u^8 + 2u^6 + 2u^5 - u^4 - u^3 - 4u^2 + b + 3,\ -u^8 + 2u^6 + 2u^5 - u^4 - u^3 - 4u^2 + a + 4,$$
$$u^9 + u^8 - u^7 - 3u^6 - 2u^5 - u^4 + 3u^3 + 3u^2 - u - 1\rangle$$
$$I_5^u = \langle b - 1,\ a - 1,\ u^2 + u + 1\rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 277 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. $\boldsymbol{I_1^u = \langle 3.40 \times 10^{102} u^{49} + 9.37 \times 10^{101} u^{48} + \cdots + 4.22 \times 10^{102} b - 4.54 \times 10^{103},\ 5.06 \times 10^{103} u^{49} - 2.24 \times 10^{104} u^{48} + \cdots + 2.07 \times 10^{104} a - 6.26 \times 10^{105},\ u^{50} + u^{49} + \cdots - 13u + 7 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -0.244496u^{49} + 1.08449u^{48} + \cdots - 64.7799u + 30.2657 \\ -0.804246u^{49} - 0.221942u^{48} + \cdots - 39.0383u + 10.7546 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.559750u^{49} + 1.30643u^{48} + \cdots - 25.7416u + 19.5111 \\ -0.804246u^{49} - 0.221942u^{48} + \cdots - 39.0383u + 10.7546 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.61778u^{49} - 5.22963u^{48} + \cdots - 7.96421u - 42.2363 \\ -0.982837u^{49} - 1.60843u^{48} + \cdots + 10.0119u - 14.6152 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.482332u^{49} + 1.62160u^{48} + \cdots - 44.7299u + 28.8140 \\ -0.567388u^{49} - 0.0819737u^{48} + \cdots - 31.4842u + 9.42658 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -4.54858u^{49} - 5.81641u^{48} + \cdots - 47.1344u - 34.9858 \\ -0.558867u^{49} - 1.04551u^{48} + \cdots + 11.4296u - 12.7931 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.82758u^{49} + 1.26871u^{48} + \cdots + 68.3757u - 12.3290 \\ -0.317601u^{49} + 0.0639091u^{48} + \cdots - 18.9800u + 6.84255 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.627463u^{49} + 3.27508u^{48} + \cdots - 105.094u + 60.7596 \\ -0.269618u^{49} + 0.509041u^{48} + \cdots - 44.5208u + 16.3153 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.01281u^{49} - 2.50341u^{48} + \cdots - 25.2865u - 15.7923 \\ 1.38953u^{49} + 1.23474u^{48} + \cdots + 34.4210u - 4.49427 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0910837u^{49} + 0.454900u^{48} + \cdots - 18.0495u + 11.5917 \\ -0.652183u^{49} + 0.424567u^{48} + \cdots - 50.4902u + 19.4551 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.91113u^{49} - 0.862109u^{48} + \cdots - 86.2208u + 16.6705$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{50} + 26u^{49} + \cdots + 10532u + 1296$
c_2, c_6	$u^{50} - 4u^{49} + \cdots - 94u + 36$
c_3, c_5	$7(7u^{50} - u^{49} + \cdots - u + 1)$
c_4	$7(7u^{50} - 29u^{49} + \cdots - 10240u + 2048)$
c_7, c_{12}	$u^{50} + u^{49} + \cdots - 13u + 7$
c_8, c_{11}	$u^{50} - 12u^{49} + \cdots - 800u + 56$
c_9, c_{10}	$u^{50} - 7u^{49} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{50} - 2y^{49} + \cdots + 8736656y + 1679616$
c_2, c_6	$y^{50} + 26y^{49} + \cdots + 10532y + 1296$
c_3, c_5	$49(49y^{50} - 771y^{49} + \cdots + 7y + 1)$
c_4	$49(49y^{50} - 379y^{49} + \cdots + 1.30023 \times 10^8 y + 4194304)$
c_7, c_{12}	$y^{50} + 11y^{49} + \cdots + 545y + 49$
c_8, c_{11}	$y^{50} + 2y^{49} + \cdots + 69184y + 3136$
c_9, c_{10}	$y^{50} + 3y^{49} + \cdots - 13y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.896598 + 0.225500I$ $a = -0.780358 - 0.128987I$ $b = -0.183649 - 0.899545I$	$1.31909 + 6.48073I$	$9.60802 - 9.06692I$
$u = 0.896598 - 0.225500I$ $a = -0.780358 + 0.128987I$ $b = -0.183649 + 0.899545I$	$1.31909 - 6.48073I$	$9.60802 + 9.06692I$
$u = 0.587053 + 0.920652I$ $a = -1.48929 + 0.43644I$ $b = -0.699778 + 0.870114I$	$-0.79150 + 7.68128I$	$1.82344 - 9.07192I$
$u = 0.587053 - 0.920652I$ $a = -1.48929 - 0.43644I$ $b = -0.699778 - 0.870114I$	$-0.79150 - 7.68128I$	$1.82344 + 9.07192I$
$u = -0.650166 + 0.908574I$ $a = -1.62557 - 0.20441I$ $b = -0.824128 - 0.959289I$	$-3.16337 - 13.32280I$	$0. + 12.11892I$
$u = -0.650166 - 0.908574I$ $a = -1.62557 + 0.20441I$ $b = -0.824128 + 0.959289I$	$-3.16337 + 13.32280I$	$0. - 12.11892I$
$u = 0.390507 + 1.111150I$ $a = -0.138073 - 0.218677I$ $b = -0.924397 - 0.924224I$	$-0.151526 + 1.007590I$	0
$u = 0.390507 - 1.111150I$ $a = -0.138073 + 0.218677I$ $b = -0.924397 + 0.924224I$	$-0.151526 - 1.007590I$	0
$u = 0.201424 + 0.796208I$ $a = -0.48677 + 1.73037I$ $b = -0.217057 + 0.628022I$	$1.68069 + 3.72688I$	$0.72867 - 11.46445I$
$u = 0.201424 - 0.796208I$ $a = -0.48677 - 1.73037I$ $b = -0.217057 - 0.628022I$	$1.68069 - 3.72688I$	$0.72867 + 11.46445I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.217536+1.210190I$ $a=-0.294866+0.348219I$ $b=-1.43371+1.09461I$	$-1.98809+4.07284I$	0
$u=-0.217536-1.210190I$ $a=-0.294866-0.348219I$ $b=-1.43371-1.09461I$	$-1.98809-4.07284I$	0
$u=-0.578213+1.092660I$ $a=-0.950662-0.265934I$ $b=-0.754719-0.548695I$	$-6.65501-4.42416I$	0
$u=-0.578213-1.092660I$ $a=-0.950662+0.265934I$ $b=-0.754719+0.548695I$	$-6.65501+4.42416I$	0
$u=-0.703946+0.215017I$ $a=-1.157320-0.212380I$ $b=-0.387036+0.904155I$	$3.43084-2.52625I$	$14.5793+4.3406I$
$u=-0.703946-0.215017I$ $a=-1.157320+0.212380I$ $b=-0.387036-0.904155I$	$3.43084+2.52625I$	$14.5793-4.3406I$
$u=-0.039429+0.676536I$ $a=1.108780+0.614567I$ $b=0.74487+1.35597I$	$-2.15722-7.10901I$	$-1.75060+10.31895I$
$u=-0.039429-0.676536I$ $a=1.108780-0.614567I$ $b=0.74487-1.35597I$	$-2.15722+7.10901I$	$-1.75060-10.31895I$
$u=0.104668+0.657602I$ $a=1.015970-0.352637I$ $b=0.440762-1.095320I$	$0.03228+2.37617I$	$2.05698-5.41529I$
$u=0.104668-0.657602I$ $a=1.015970+0.352637I$ $b=0.440762+1.095320I$	$0.03228-2.37617I$	$2.05698+5.41529I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.425932 + 0.502432I$ $a = 0.218708 + 0.840394I$ $b = -0.260537 - 0.727531I$	$0.65061 + 1.83401I$	$2.77271 - 2.66351I$
$u = 0.425932 - 0.502432I$ $a = 0.218708 - 0.840394I$ $b = -0.260537 + 0.727531I$	$0.65061 - 1.83401I$	$2.77271 + 2.66351I$
$u = -0.032968 + 1.352720I$ $a = -0.600335 + 0.087933I$ $b = -2.30156 + 0.26457I$	$-4.21497 - 1.45791I$	0
$u = -0.032968 - 1.352720I$ $a = -0.600335 - 0.087933I$ $b = -2.30156 - 0.26457I$	$-4.21497 + 1.45791I$	0
$u = -0.033602 + 0.587650I$ $a = 1.41694 + 0.29361I$ $b = 0.970954 + 0.649194I$	$-3.92153 + 0.23254I$	$-2.51689 + 2.55719I$
$u = -0.033602 - 0.587650I$ $a = 1.41694 - 0.29361I$ $b = 0.970954 - 0.649194I$	$-3.92153 - 0.23254I$	$-2.51689 - 2.55719I$
$u = 1.15136 + 0.83842I$ $a = 0.378166 - 0.327378I$ $b = -0.565487 - 0.444689I$	$1.99652 + 0.43267I$	0
$u = 1.15136 - 0.83842I$ $a = 0.378166 + 0.327378I$ $b = -0.565487 + 0.444689I$	$1.99652 - 0.43267I$	0
$u = -0.548514 + 0.133009I$ $a = -2.08340 - 0.61728I$ $b = -0.673485 + 0.793936I$	$3.75232 - 1.50137I$	$11.49576 + 2.69889I$
$u = -0.548514 - 0.133009I$ $a = -2.08340 + 0.61728I$ $b = -0.673485 - 0.793936I$	$3.75232 + 1.50137I$	$11.49576 - 2.69889I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.013356+0.533801I$ $a=\ 1.72298-2.56125I$ $b=-0.050304-0.503806I$	$1.49160+1.65153I$	$-4.74713-1.23852I$
$u=-0.013356-0.533801I$ $a=\ 1.72298+2.56125I$ $b=-0.050304+0.503806I$	$1.49160-1.65153I$	$-4.74713+1.23852I$
$u=-0.81574+1.23486I$ $a=-0.257474+0.032226I$ $b=-0.607824+0.343957I$	$-5.73972-3.90228I$	0
$u=-0.81574-1.23486I$ $a=-0.257474-0.032226I$ $b=-0.607824-0.343957I$	$-5.73972+3.90228I$	0
$u=\ 0.484055+0.071183I$ $a=-3.03028+0.60100I$ $b=-0.924312-0.588508I$	$2.19104-2.78946I$	$2.06202+2.65818I$
$u=\ 0.484055-0.071183I$ $a=-3.03028-0.60100I$ $b=-0.924312+0.588508I$	$2.19104+2.78946I$	$2.06202-2.65818I$
$u=\ 1.18638+1.01584I$ $a=\ 1.047690+0.160806I$ $b=\ 1.20084-1.34273I$	$0.3645+22.4198I$	0
$u=\ 1.18638-1.01584I$ $a=\ 1.047690-0.160806I$ $b=\ 1.20084+1.34273I$	$0.3645-22.4198I$	0
$u=-1.19437+1.02640I$ $a=\ 0.999670-0.103934I$ $b=\ 1.04609+1.32397I$	$2.9161-16.6430I$	0
$u=-1.19437-1.02640I$ $a=\ 0.999670+0.103934I$ $b=\ 1.04609-1.32397I$	$2.9161+16.6430I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.22683 + 1.02462I$ $a = 0.857192 + 0.139921I$ $b = 0.950039 - 1.040830I$	$-2.99524 + 13.00340I$	0
$u = 1.22683 - 1.02462I$ $a = 0.857192 - 0.139921I$ $b = 0.950039 + 1.040830I$	$-2.99524 - 13.00340I$	0
$u = -0.95568 + 1.28588I$ $a = 0.372125 + 0.282409I$ $b = -0.096825 + 0.533539I$	$-4.39828 - 4.21209I$	0
$u = -0.95568 - 1.28588I$ $a = 0.372125 - 0.282409I$ $b = -0.096825 - 0.533539I$	$-4.39828 + 4.21209I$	0
$u = -1.19497 + 1.08383I$ $a = 0.808624 + 0.146162I$ $b = 0.407539 + 1.244690I$	$5.84680 - 11.93900I$	0
$u = -1.19497 - 1.08383I$ $a = 0.808624 - 0.146162I$ $b = 0.407539 - 1.244690I$	$5.84680 + 11.93900I$	0
$u = 1.17365 + 1.11011I$ $a = 0.692252 - 0.242791I$ $b = 0.127090 - 1.119270I$	$5.62915 + 5.55517I$	0
$u = 1.17365 - 1.11011I$ $a = 0.692252 + 0.242791I$ $b = 0.127090 + 1.119270I$	$5.62915 - 5.55517I$	0
$u = -1.34998 + 1.18237I$ $a = 0.102241 + 0.382380I$ $b = -0.983384 + 0.387249I$	$-0.88229 + 5.54652I$	0
$u = -1.34998 - 1.18237I$ $a = 0.102241 - 0.382380I$ $b = -0.983384 - 0.387249I$	$-0.88229 - 5.54652I$	0

II. $\boldsymbol{I_2^u = \langle 1.21 \times 10^{1409} u^{169} - 2.95 \times 10^{1409} u^{168} + \cdots + 2.55 \times 10^{1408} b - 2.03 \times 10^{1409},\ -1.13 \times 10^{1409} u^{169} + 2.73 \times 10^{1409} u^{168} + \cdots + 2.55 \times 10^{1408} a + 3.51 \times 10^{1409},\ u^{170} - 3u^{169} + \cdots - 4u + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 4.41922u^{169} - 10.7115u^{168} + \cdots + 33.8521u - 13.7481 \\ -4.75640u^{169} + 11.5763u^{168} + \cdots - 12.6675u + 7.94363 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 9.17561u^{169} - 22.2878u^{168} + \cdots + 46.5195u - 21.6918 \\ -4.75640u^{169} + 11.5763u^{168} + \cdots - 12.6675u + 7.94363 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -6.62580u^{169} + 18.1648u^{168} + \cdots - 86.8606u + 24.0352 \\ 2.37647u^{169} - 5.90898u^{168} + \cdots + 10.5334u - 4.55519 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 7.85716u^{169} - 18.9524u^{168} + \cdots + 40.7541u - 19.1456 \\ -5.98437u^{169} + 14.5434u^{168} + \cdots - 17.5214u + 10.0166 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -7.85674u^{169} + 21.1384u^{168} + \cdots - 91.0839u + 25.3133 \\ -0.647227u^{169} + 0.933675u^{168} + \cdots - 2.21501u - 0.867296 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -12.1111u^{169} + 30.3758u^{168} + \cdots + 8.99007u + 19.7552 \\ 3.83118u^{169} - 9.20539u^{168} + \cdots + 20.5805u - 5.14637 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 10.1660u^{169} - 25.3071u^{168} + \cdots + 90.3787u - 19.6312 \\ -0.789997u^{169} + 1.86097u^{168} + \cdots - 1.96231u + 1.29485 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -6.73253u^{169} + 17.5113u^{168} + \cdots + 5.11940u + 14.4188 \\ 2.30544u^{169} - 5.73845u^{168} + \cdots + 9.14831u - 4.82983 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -5.15895u^{169} + 12.6503u^{168} + \cdots - 10.5187u + 0.649363 \\ 1.73527u^{169} - 4.49019u^{168} + \cdots + 15.0515u - 3.97751 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -23.4560u^{169} + 59.5743u^{168} + \cdots - 90.8411u + 52.8733$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{85}+40u^{84}+\cdots-47871u-2916)^2$
c_2, c_6	$(u^{85}+20u^{83}+\cdots-81u-54)^2$
c_3, c_5	$u^{170}+19u^{168}+\cdots-253u+289$
c_4	$(u^{85}+2u^{84}+\cdots-787u-599)^2$
c_7, c_{12}	$u^{170}-3u^{169}+\cdots-4u+1$
c_8, c_{11}	$u^{170}+7u^{169}+\cdots-1269144u+86248$
c_9, c_{10}	$u^{170}-4u^{169}+\cdots-53u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{85}+12y^{84}+\cdots-81349839y-8503056)^2$
c_2, c_6	$(y^{85}+40y^{84}+\cdots-47871y-2916)^2$
c_3, c_5	$y^{170}+38y^{169}+\cdots-5724363y+83521$
c_4	$(y^{85}+48y^{84}+\cdots-11759565y-358801)^2$
c_7, c_{12}	$y^{170}-39y^{169}+\cdots+50y+1$
c_8, c_{11}	$y^{170}-19y^{169}+\cdots+814647305408y+7438717504$
c_9, c_{10}	$y^{170}-26y^{169}+\cdots-21y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.707466+0.725533I$ $a=\ 1.376120+0.167394I$ $b=\ 1.098880+0.556764I$	$-3.65569-8.86351I$	0
$u=-0.707466-0.725533I$ $a=\ 1.376120-0.167394I$ $b=\ 1.098880-0.556764I$	$-3.65569+8.86351I$	0
$u=\ 0.717601+0.725477I$ $a=\ 1.63889-0.02492I$ $b=\ 0.727253-0.595148I$	$-4.98097+3.09268I$	0
$u=\ 0.717601-0.725477I$ $a=\ 1.63889+0.02492I$ $b=\ 0.727253+0.595148I$	$-4.98097-3.09268I$	0
$u=\ 1.022270+0.022586I$ $a=\ 0.78083+1.27743I$ $b=-0.238534-1.160670I$	$4.26591+3.51898I$	0
$u=\ 1.022270-0.022586I$ $a=\ 0.78083-1.27743I$ $b=-0.238534+1.160670I$	$4.26591-3.51898I$	0
$u=-1.019450+0.195672I$ $a=\ 0.563385+0.797749I$ $b=-0.231634-0.109490I$	$-2.29030+4.49704I$	0
$u=-1.019450-0.195672I$ $a=\ 0.563385-0.797749I$ $b=-0.231634+0.109490I$	$-2.29030-4.49704I$	0
$u=\ 1.000880+0.279774I$ $a=-0.266347+0.749124I$ $b=\ 0.438690-0.996210I$	$0.84379+6.05179I$	0
$u=\ 1.000880-0.279774I$ $a=-0.266347-0.749124I$ $b=\ 0.438690+0.996210I$	$0.84379-6.05179I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.034520+0.167481I$ $a=\ 0.047280-1.165770I$ $b=\ 0.393891+1.279900I$	$0.97875-3.15850I$	0
$u=-1.034520-0.167481I$ $a=\ 0.047280+1.165770I$ $b=\ 0.393891-1.279900I$	$0.97875+3.15850I$	0
$u=-1.051970+0.047768I$ $a=\ 0.60247-1.44862I$ $b=-0.124781+1.397230I$	$2.93801-8.48774I$	0
$u=-1.051970-0.047768I$ $a=\ 0.60247+1.44862I$ $b=-0.124781-1.397230I$	$2.93801+8.48774I$	0
$u=\ 0.554156+0.908079I$ $a=\ 1.038000+0.007680I$ $b=\ 0.751967-1.000150I$	$-0.22052+2.83304I$	0
$u=\ 0.554156-0.908079I$ $a=\ 1.038000-0.007680I$ $b=\ 0.751967+1.000150I$	$-0.22052-2.83304I$	0
$u=\ 0.631461+0.861797I$ $a=\ 1.103500-0.019952I$ $b=\ 1.70093-0.43490I$	$-0.40332+5.45093I$	0
$u=\ 0.631461-0.861797I$ $a=\ 1.103500+0.019952I$ $b=\ 1.70093+0.43490I$	$-0.40332-5.45093I$	0
$u=-0.587243+0.917955I$ $a=\ 1.123610+0.009736I$ $b=\ 0.96539+1.20824I$	$-2.48128-7.59677I$	0
$u=-0.587243-0.917955I$ $a=\ 1.123610-0.009736I$ $b=\ 0.96539-1.20824I$	$-2.48128+7.59677I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.902753 + 0.098594I$ $a = 1.59134 + 0.63848I$ $b = -0.605445 - 0.705869I$	$2.68619 + 0.42422I$	0
$u = 0.902753 - 0.098594I$ $a = 1.59134 - 0.63848I$ $b = -0.605445 + 0.705869I$	$2.68619 - 0.42422I$	0
$u = 0.371168 + 0.823360I$ $a = 0.861168 + 0.137449I$ $b = 2.18604 + 0.66200I$	$0.70779 + 6.93221I$	0
$u = 0.371168 - 0.823360I$ $a = 0.861168 - 0.137449I$ $b = 2.18604 - 0.66200I$	$0.70779 - 6.93221I$	0
$u = 0.872449 + 0.666991I$ $a = -0.782409 - 0.292912I$ $b = -1.263420 - 0.360431I$	$0.84379 + 6.05179I$	0
$u = 0.872449 - 0.666991I$ $a = -0.782409 + 0.292912I$ $b = -1.263420 + 0.360431I$	$0.84379 - 6.05179I$	0
$u = -0.003639 + 0.871571I$ $a = 0.466877 + 0.169396I$ $b = 1.31502 + 0.97647I$	$-4.83628 - 2.41052I$	0
$u = -0.003639 - 0.871571I$ $a = 0.466877 - 0.169396I$ $b = 1.31502 - 0.97647I$	$-4.83628 + 2.41052I$	0
$u = 0.733256 + 0.857857I$ $a = 1.42630 + 0.35722I$ $b = 1.202740 - 0.465680I$	$-4.98097 - 3.09268I$	0
$u = 0.733256 - 0.857857I$ $a = 1.42630 - 0.35722I$ $b = 1.202740 + 0.465680I$	$-4.98097 + 3.09268I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.861341 + 0.074963I$ $a = -2.07196 - 0.25460I$ $b = 0.041460 + 0.402922I$	$3.82122 - 2.58920I$	0
$u = 0.861341 - 0.074963I$ $a = -2.07196 + 0.25460I$ $b = 0.041460 - 0.402922I$	$3.82122 + 2.58920I$	0
$u = -0.779635 + 0.827535I$ $a = 1.168480 - 0.155554I$ $b = 1.47186 + 0.78037I$	$-3.55010 - 1.12219I$	0
$u = -0.779635 - 0.827535I$ $a = 1.168480 + 0.155554I$ $b = 1.47186 - 0.78037I$	$-3.55010 + 1.12219I$	0
$u = -0.294604 + 0.810744I$ $a = 0.794197 - 0.306572I$ $b = 2.33732 - 1.09972I$	$-0.95456 - 11.66910I$	0
$u = -0.294604 - 0.810744I$ $a = 0.794197 + 0.306572I$ $b = 2.33732 + 1.09972I$	$-0.95456 + 11.66910I$	0
$u = -0.593829 + 0.994954I$ $a = 1.020360 - 0.201825I$ $b = 1.190300 + 0.620629I$	$-4.32285 - 0.32478I$	0
$u = -0.593829 - 0.994954I$ $a = 1.020360 + 0.201825I$ $b = 1.190300 - 0.620629I$	$-4.32285 + 0.32478I$	0
$u = -0.647765 + 0.974393I$ $a = 1.027480 - 0.333129I$ $b = 1.182350 + 0.128451I$	$-3.53334 - 0.16345I$	0
$u = -0.647765 - 0.974393I$ $a = 1.027480 + 0.333129I$ $b = 1.182350 - 0.128451I$	$-3.53334 + 0.16345I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.607482+0.563434I$ $a=\ \ 0.71086-2.05895I$ $b=\ \ 0.612941+0.355423I$	$0.59694-1.80771I$	0
$u=-0.607482-0.563434I$ $a=\ \ 0.71086+2.05895I$ $b=\ \ 0.612941-0.355423I$	$0.59694+1.80771I$	0
$u=\ \ 0.815667+0.061426I$ $a=-1.186990+0.205748I$ $b=-0.908364+0.821721I$	$4.75469-1.64630I$	0
$u=\ \ 0.815667-0.061426I$ $a=-1.186990-0.205748I$ $b=-0.908364-0.821721I$	$4.75469+1.64630I$	0
$u=-0.541209+0.608679I$ $a=\ \ 1.288540+0.509810I$ $b=\ \ 0.433292+0.032030I$	$-3.53334+0.16345I$	0
$u=-0.541209-0.608679I$ $a=\ \ 1.288540-0.509810I$ $b=\ \ 0.433292-0.032030I$	$-3.53334-0.16345I$	0
$u=-0.066431+1.188580I$ $a=\ \ 0.847197+0.086267I$ $b=\ \ 2.47839+0.40279I$	$-3.51283+2.49990I$	0
$u=-0.066431-1.188580I$ $a=\ \ 0.847197-0.086267I$ $b=\ \ 2.47839-0.40279I$	$-3.51283-2.49990I$	0
$u=\ \ 1.189660+0.090780I$ $a=-0.363147-0.199928I$ $b=-0.386612-0.733232I$	$2.61279+2.50785I$	0
$u=\ \ 1.189660-0.090780I$ $a=-0.363147+0.199928I$ $b=-0.386612+0.733232I$	$2.61279-2.50785I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.061940+0.546792I$ $a=-0.046457+0.143672I$ $b=-0.687971+0.761937I$	$-0.71349+1.56333I$	0
$u=-1.061940-0.546792I$ $a=-0.046457-0.143672I$ $b=-0.687971-0.761937I$	$-0.71349-1.56333I$	0
$u=-0.900133+0.790123I$ $a=-0.936545+0.196359I$ $b=-1.61202-0.27579I$	$0.97875-3.15850I$	0
$u=-0.900133-0.790123I$ $a=-0.936545-0.196359I$ $b=-1.61202+0.27579I$	$0.97875+3.15850I$	0
$u=0.599379+0.519758I$ $a=1.024210-0.956937I$ $b=0.379836+0.284625I$	$-1.80919+6.66685I$	0
$u=0.599379-0.519758I$ $a=1.024210+0.956937I$ $b=0.379836-0.284625I$	$-1.80919-6.66685I$	0
$u=-0.789221+0.073999I$ $a=1.90671+1.05967I$ $b=-0.635728-0.531201I$	$0.75825-5.33737I$	0
$u=-0.789221-0.073999I$ $a=1.90671-1.05967I$ $b=-0.635728+0.531201I$	$0.75825+5.33737I$	0
$u=-0.779338+0.122535I$ $a=-1.97581+0.54803I$ $b=-0.227606-0.667752I$	$4.75469-1.64630I$	0
$u=-0.779338-0.122535I$ $a=-1.97581-0.54803I$ $b=-0.227606+0.667752I$	$4.75469+1.64630I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.687758 + 0.381500I$ $a = 0.214309 - 0.384876I$ $b = -0.09474 - 1.85409I$	$2.45746 + 0.35447I$	0
$u = 0.687758 - 0.381500I$ $a = 0.214309 + 0.384876I$ $b = -0.09474 + 1.85409I$	$2.45746 - 0.35447I$	0
$u = 1.100410 + 0.527345I$ $a = -1.064830 + 0.093664I$ $b = 0.070307 + 0.286705I$	$2.45746 + 0.35447I$	0
$u = 1.100410 - 0.527345I$ $a = -1.064830 - 0.093664I$ $b = 0.070307 - 0.286705I$	$2.45746 - 0.35447I$	0
$u = 0.713753 + 0.307830I$ $a = 1.62890 - 2.05386I$ $b = -0.579718 + 0.456755I$	$1.67970 + 13.09240I$	0
$u = 0.713753 - 0.307830I$ $a = 1.62890 + 2.05386I$ $b = -0.579718 - 0.456755I$	$1.67970 - 13.09240I$	0
$u = 0.615564 + 0.449351I$ $a = 1.06217 + 2.26269I$ $b = 0.487924 - 0.673530I$	$0.59694 - 1.80771I$	0
$u = 0.615564 - 0.449351I$ $a = 1.06217 - 2.26269I$ $b = 0.487924 + 0.673530I$	$0.59694 + 1.80771I$	0
$u = 0.512068 + 0.544018I$ $a = 0.940604 + 0.531165I$ $b = -0.075139 - 0.737408I$	$1.15176 + 1.61274I$	0
$u = 0.512068 - 0.544018I$ $a = 0.940604 - 0.531165I$ $b = -0.075139 + 0.737408I$	$1.15176 - 1.61274I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.742002+0.053382I$ $a=-1.54182-0.20863I$ $b=-1.35600-0.56285I$	$3.82122-2.58920I$	0
$u=-0.742002-0.053382I$ $a=-1.54182+0.20863I$ $b=-1.35600+0.56285I$	$3.82122+2.58920I$	0
$u=-1.114560+0.589322I$ $a=-1.089760+0.113115I$ $b=-0.262209-0.562439I$	$3.96463-5.08139I$	0
$u=-1.114560-0.589322I$ $a=-1.089760-0.113115I$ $b=-0.262209+0.562439I$	$3.96463+5.08139I$	0
$u=-0.672865+0.277833I$ $a=0.580598+0.158676I$ $b=0.44525+1.79406I$	$3.96463-5.08139I$	0
$u=-0.672865-0.277833I$ $a=0.580598-0.158676I$ $b=0.44525-1.79406I$	$3.96463+5.08139I$	0
$u=-0.665652+0.273065I$ $a=1.40219+2.27907I$ $b=-0.502932-0.640546I$	$3.45688-7.77461I$	0
$u=-0.665652-0.273065I$ $a=1.40219-2.27907I$ $b=-0.502932+0.640546I$	$3.45688+7.77461I$	0
$u=-0.299734+0.645509I$ $a=0.304065-0.114949I$ $b=1.44545-1.41454I$	$-2.75017-5.29922I$	0
$u=-0.299734-0.645509I$ $a=0.304065+0.114949I$ $b=1.44545+1.41454I$	$-2.75017+5.29922I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.324410 + 0.136577I$ $a = 0.023573 - 0.664756I$ $b = 0.0464696 + 0.1114620I$	$-3.55010 + 1.12219I$	0
$u = 1.324410 - 0.136577I$ $a = 0.023573 + 0.664756I$ $b = 0.0464696 - 0.1114620I$	$-3.55010 - 1.12219I$	0
$u = -0.962717 + 0.924268I$ $a = -0.873443 - 0.122715I$ $b = -1.33138 - 1.07264I$	$2.93801 - 8.48774I$	0
$u = -0.962717 - 0.924268I$ $a = -0.873443 + 0.122715I$ $b = -1.33138 + 1.07264I$	$2.93801 + 8.48774I$	0
$u = 1.173900 + 0.641465I$ $a = -0.530530 - 0.757496I$ $b = -0.827935 + 0.060846I$	$-3.65569 + 8.86351I$	0
$u = 1.173900 - 0.641465I$ $a = -0.530530 + 0.757496I$ $b = -0.827935 - 0.060846I$	$-3.65569 - 8.86351I$	0
$u = -1.166760 + 0.657000I$ $a = -1.148130 + 0.409265I$ $b = -0.680807 - 1.020770I$	$3.18015 - 7.10294I$	0
$u = -1.166760 - 0.657000I$ $a = -1.148130 - 0.409265I$ $b = -0.680807 + 1.020770I$	$3.18015 + 7.10294I$	0
$u = 0.586710 + 1.204890I$ $a = 0.724825 + 0.360081I$ $b = 1.55626 - 0.00978I$	$-4.83628 + 2.41052I$	0
$u = 0.586710 - 1.204890I$ $a = 0.724825 - 0.360081I$ $b = 1.55626 + 0.00978I$	$-4.83628 - 2.41052I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.658609 + 0.018940I$ $a = 1.106880 + 0.667417I$ $b = 1.23469 - 0.80461I$	$-1.21386 + 4.66904I$	0
$u = 0.658609 - 0.018940I$ $a = 1.106880 - 0.667417I$ $b = 1.23469 + 0.80461I$	$-1.21386 - 4.66904I$	0
$u = 1.146260 + 0.701642I$ $a = -0.949599 - 0.505932I$ $b = -1.013530 + 0.801829I$	$-1.21386 + 4.66904I$	0
$u = 1.146260 - 0.701642I$ $a = -0.949599 + 0.505932I$ $b = -1.013530 - 0.801829I$	$-1.21386 - 4.66904I$	0
$u = 1.186900 + 0.670882I$ $a = -1.189080 - 0.505118I$ $b = -0.80270 + 1.19367I$	$1.02158 + 12.06260I$	0
$u = 1.186900 - 0.670882I$ $a = -1.189080 + 0.505118I$ $b = -0.80270 - 1.19367I$	$1.02158 - 12.06260I$	0
$u = 0.473027 + 0.418360I$ $a = -2.94447 - 0.65538I$ $b = -0.666669 + 0.998228I$	$-0.66777 + 7.53403I$	0
$u = 0.473027 - 0.418360I$ $a = -2.94447 + 0.65538I$ $b = -0.666669 - 0.998228I$	$-0.66777 - 7.53403I$	0
$u = 1.026000 + 0.940796I$ $a = -0.697181 + 0.123971I$ $b = -1.003270 + 0.986753I$	$4.26591 + 3.51898I$	0
$u = 1.026000 - 0.940796I$ $a = -0.697181 - 0.123971I$ $b = -1.003270 - 0.986753I$	$4.26591 - 3.51898I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.588809+0.130625I$ $a=\ \ 1.260710-0.159720I$ $b=\ \ 1.38589+1.57909I$	$3.18015-7.10294I$	0
$u=-0.588809-0.130625I$ $a=\ \ 1.260710+0.159720I$ $b=\ \ 1.38589-1.57909I$	$3.18015+7.10294I$	0
$u=-0.608266+1.265690I$ $a=-0.003886-0.706107I$ $b=\ \ 0.230623-0.409008I$	$2.04184+1.83304I$	0
$u=-0.608266-1.265690I$ $a=-0.003886+0.706107I$ $b=\ \ 0.230623+0.409008I$	$2.04184-1.83304I$	0
$u=-1.243200+0.665266I$ $a=-0.232620+0.461335I$ $b=-0.843834-0.201133I$	$-2.29030-4.49704I$	0
$u=-1.243200-0.665266I$ $a=-0.232620-0.461335I$ $b=-0.843834+0.201133I$	$-2.29030+4.49704I$	0
$u=\ \ 1.42745$ $a=\ \ 0.896722$ $b=-1.27063$	2.32609	0
$u=-0.511132+0.226365I$ $a=-2.43815+1.37251I$ $b=-0.618527-0.926009I$	$2.61279-2.50785I$	0
$u=-0.511132-0.226365I$ $a=-2.43815-1.37251I$ $b=-0.618527+0.926009I$	$2.61279+2.50785I$	0
$u=\ \ 0.543382+0.097512I$ $a=\ \ 1.53419+0.24424I$ $b=\ \ 1.79468-1.52945I$	$1.02158+12.06260I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.543382 - 0.097512I$ $a = 1.53419 - 0.24424I$ $b = 1.79468 + 1.52945I$	$1.02158 - 12.06260I$	0
$u = 0.404547 + 0.355732I$ $a = -0.46334 - 1.53050I$ $b = -0.018967 + 1.213830I$	$-2.24225 + 6.74899I$	0
$u = 0.404547 - 0.355732I$ $a = -0.46334 + 1.53050I$ $b = -0.018967 - 1.213830I$	$-2.24225 - 6.74899I$	0
$u = -1.43830 + 0.29101I$ $a = -0.158780 - 0.406365I$ $b = 0.032128 - 0.673303I$	$-0.66777 + 7.53403I$	0
$u = -1.43830 - 0.29101I$ $a = -0.158780 + 0.406365I$ $b = 0.032128 + 0.673303I$	$-0.66777 - 7.53403I$	0
$u = -1.11753 + 0.95900I$ $a = -1.130530 + 0.081154I$ $b = -0.98735 - 1.07302I$	$1.67970 - 13.09240I$	0
$u = -1.11753 - 0.95900I$ $a = -1.130530 - 0.081154I$ $b = -0.98735 + 1.07302I$	$1.67970 + 13.09240I$	0
$u = -1.19639 + 0.86945I$ $a = -0.806690 + 0.451063I$ $b = -1.140680 - 0.570815I$	$-1.80919 - 6.66685I$	0
$u = -1.19639 - 0.86945I$ $a = -0.806690 - 0.451063I$ $b = -1.140680 + 0.570815I$	$-1.80919 + 6.66685I$	0
$u = 0.507972 + 0.091524I$ $a = 2.54845 + 3.12721I$ $b = -0.258176 - 0.964374I$	$2.04184 + 1.83304I$	$0. - 17.5757I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.507972 - 0.091524I$ $a = 2.54845 - 3.12721I$ $b = -0.258176 + 0.964374I$	$2.04184 - 1.83304I$	$0. + 17.5757I$
$u = -0.505847 + 0.085913I$ $a = 1.40722 + 3.90034I$ $b = -0.410751 - 0.973277I$	$3.34715 - 4.11663I$	$30.2495 + 17.8764I$
$u = -0.505847 - 0.085913I$ $a = 1.40722 - 3.90034I$ $b = -0.410751 + 0.973277I$	$3.34715 + 4.11663I$	$30.2495 - 17.8764I$
$u = -1.10509 + 1.01293I$ $a = 0.813822 - 0.028533I$ $b = 0.534994 + 1.043230I$	$-4.88805 - 4.07124I$	0
$u = -1.10509 - 1.01293I$ $a = 0.813822 + 0.028533I$ $b = 0.534994 - 1.043230I$	$-4.88805 + 4.07124I$	0
$u = 1.13172 + 0.98562I$ $a = -0.994479 + 0.009662I$ $b = -0.810147 + 0.963410I$	$3.45688 + 7.77461I$	0
$u = 1.13172 - 0.98562I$ $a = -0.994479 - 0.009662I$ $b = -0.810147 - 0.963410I$	$3.45688 - 7.77461I$	0
$u = -1.11008 + 1.03693I$ $a = 1.029620 - 0.123660I$ $b = 1.21425 + 1.46269I$	$-0.71242 - 13.91810I$	0
$u = -1.11008 - 1.03693I$ $a = 1.029620 + 0.123660I$ $b = 1.21425 - 1.46269I$	$-0.71242 + 13.91810I$	0
$u = 1.12165 + 1.03878I$ $a = 0.991395 + 0.072532I$ $b = 1.02388 - 1.52399I$	$1.82247 + 7.89171I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.12165 - 1.03878I$ $a = 0.991395 - 0.072532I$ $b = 1.02388 + 1.52399I$	$1.82247 - 7.89171I$	0
$u = -0.88065 + 1.27148I$ $a = 0.191482 - 0.421198I$ $b = 0.466016 - 0.610014I$	$0.75825 + 5.33737I$	0
$u = -0.88065 - 1.27148I$ $a = 0.191482 + 0.421198I$ $b = 0.466016 + 0.610014I$	$0.75825 - 5.33737I$	0
$u = 1.19746 + 0.98265I$ $a = 0.775288 - 0.040160I$ $b = 0.61263 - 1.40422I$	$6.06799 + 2.98106I$	0
$u = 1.19746 - 0.98265I$ $a = 0.775288 + 0.040160I$ $b = 0.61263 + 1.40422I$	$6.06799 - 2.98106I$	0
$u = -1.26536 + 0.91219I$ $a = -0.557579 + 0.309343I$ $b = -1.056020 - 0.308851I$	$-2.24225 - 6.74899I$	0
$u = -1.26536 - 0.91219I$ $a = -0.557579 - 0.309343I$ $b = -1.056020 + 0.308851I$	$-2.24225 + 6.74899I$	0
$u = 1.27100 + 0.94327I$ $a = -0.746151 - 0.440228I$ $b = -1.35826 + 0.90912I$	$-2.75017 + 5.29922I$	0
$u = 1.27100 - 0.94327I$ $a = -0.746151 + 0.440228I$ $b = -1.35826 - 0.90912I$	$-2.75017 - 5.29922I$	0
$u = 0.345424 + 0.123472I$ $a = -2.37649 - 2.26612I$ $b = -1.005730 + 0.946737I$	$-0.71349 - 1.56333I$	$4.16705 + 2.28191I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.345424 - 0.123472I$ $a = -2.37649 + 2.26612I$ $b = -1.005730 - 0.946737I$	$-0.71349 + 1.56333I$	$4.16705 - 2.28191I$
$u = -1.51604 + 0.62013I$ $a = -0.336207 + 0.432280I$ $b = -0.368399 - 0.504591I$	$-0.40332 - 5.45093I$	0
$u = -1.51604 - 0.62013I$ $a = -0.336207 - 0.432280I$ $b = -0.368399 + 0.504591I$	$-0.40332 + 5.45093I$	0
$u = -1.31351 + 0.99282I$ $a = 0.609220 + 0.068338I$ $b = 0.319377 + 1.239690I$	$6.06799 + 2.98106I$	0
$u = -1.31351 - 0.99282I$ $a = 0.609220 - 0.068338I$ $b = 0.319377 - 1.239690I$	$6.06799 - 2.98106I$	0
$u = 0.013755 + 0.331309I$ $a = -1.46555 + 0.75817I$ $b = 0.165210 - 1.124440I$	$-4.32285 + 0.32478I$	$-3.42898 - 2.12669I$
$u = 0.013755 - 0.331309I$ $a = -1.46555 - 0.75817I$ $b = 0.165210 + 1.124440I$	$-4.32285 - 0.32478I$	$-3.42898 + 2.12669I$
$u = 1.33022 + 1.00938I$ $a = -0.803246 - 0.268950I$ $b = -1.05262 + 1.39263I$	$-0.95456 + 11.66910I$	0
$u = 1.33022 - 1.00938I$ $a = -0.803246 + 0.268950I$ $b = -1.05262 - 1.39263I$	$-0.95456 - 11.66910I$	0
$u = -0.209057 + 0.240854I$ $a = 1.27634 - 3.11560I$ $b = -0.485328 - 0.080308I$	$1.15176 + 1.61274I$	$5.29000 - 5.55204I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.209057-0.240854I$ $a=\ \ 1.27634+3.11560I$ $b=-0.485328+0.080308I$	$1.15176-1.61274I$	$5.29000+5.55204I$
$u=-1.38265+0.97541I$ $a=-0.691094+0.258212I$ $b=-0.81570-1.19448I$	$0.70779-6.93221I$	0
$u=-1.38265-0.97541I$ $a=-0.691094-0.258212I$ $b=-0.81570+1.19448I$	$0.70779+6.93221I$	0
$u=\ \ 1.12532+1.29558I$ $a=-0.414823+0.308716I$ $b=-0.188578+0.500748I$	$3.34715+4.11663I$	0
$u=\ \ 1.12532-1.29558I$ $a=-0.414823-0.308716I$ $b=-0.188578-0.500748I$	$3.34715-4.11663I$	0
$u=\ \ 0.96190+1.48395I$ $a=-0.180895-0.453992I$ $b=-1.019240-0.586081I$	$-0.71242-13.91810I$	0
$u=\ \ 0.96190-1.48395I$ $a=-0.180895+0.453992I$ $b=-1.019240+0.586081I$	$-0.71242+13.91810I$	0
$u=\ \ 1.14070+1.38048I$ $a=-0.013619+0.173475I$ $b=-0.042976+0.486202I$	$2.68619+0.42422I$	0
$u=\ \ 1.14070-1.38048I$ $a=-0.013619-0.173475I$ $b=-0.042976-0.486202I$	$2.68619-0.42422I$	0
$u=\ \ 0.32675+1.77602I$ $a=-0.276906+0.027077I$ $b=-0.638864-0.031570I$	$-4.88805-4.07124I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.32675 - 1.77602I$ $a = -0.276906 - 0.027077I$ $b = -0.638864 + 0.031570I$	$-4.88805 + 4.07124I$	0
$u = 0.114810 + 0.099944I$ $a = -5.26466 - 2.95208I$ $b = -0.42295 - 1.51858I$	$-2.48128 + 7.59677I$	$-3.30037 - 8.04952I$
$u = 0.114810 - 0.099944I$ $a = -5.26466 + 2.95208I$ $b = -0.42295 + 1.51858I$	$-2.48128 - 7.59677I$	$-3.30037 + 8.04952I$
$u = -0.0455659 + 0.0803338I$ $a = -9.95410 + 0.54766I$ $b = -0.447487 + 1.161560I$	$-0.22052 - 2.83304I$	$1.25413 + 3.46220I$
$u = -0.0455659 - 0.0803338I$ $a = -9.95410 - 0.54766I$ $b = -0.447487 - 1.161560I$	$-0.22052 + 2.83304I$	$1.25413 - 3.46220I$
$u = -1.02590 + 1.63808I$ $a = -0.105323 + 0.319976I$ $b = -0.781786 + 0.563146I$	$1.82247 + 7.89171I$	0
$u = -1.02590 - 1.63808I$ $a = -0.105323 - 0.319976I$ $b = -0.781786 - 0.563146I$	$1.82247 - 7.89171I$	0
$u = 0.41195 + 1.93468I$ $a = 0.279508 + 0.142578I$ $b = 1.231250 + 0.201253I$	$-3.51283 - 2.49990I$	0
$u = 0.41195 - 1.93468I$ $a = 0.279508 - 0.142578I$ $b = 1.231250 - 0.201253I$	$-3.51283 + 2.49990I$	0
$u = 3.02767$ $a = 0.0241991$ $b = -0.358010$	2.32609	0

III. $I_3^u = \langle 1.74\times 10^{110}u^{45} - 1.94\times 10^{110}u^{44} + \cdots + 1.58\times 10^{111}b - 1.73\times 10^{111},\ -5.81\times 10^{111}u^{45} + 4.77\times 10^{111}u^{44} + \cdots + 1.11\times 10^{112}a + 7.13\times 10^{112},\ u^{46} - u^{45} + \cdots - 7u + 7\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 0.523608u^{45} - 0.430192u^{44} + \cdots - 17.5423u - 6.43502 \\ -0.109976u^{45} + 0.122506u^{44} + \cdots + 3.53507u + 1.09342 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.633584u^{45} - 0.552698u^{44} + \cdots - 21.0774u - 7.52843 \\ -0.109976u^{45} + 0.122506u^{44} + \cdots + 3.53507u + 1.09342 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.637126u^{45} - 0.211021u^{44} + \cdots - 14.1210u - 18.9389 \\ -0.0000153220u^{45} - 0.0621569u^{44} + \cdots - 1.34942u + 2.83956 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.560092u^{45} - 0.483599u^{44} + \cdots - 18.0661u - 6.87452 \\ -0.124963u^{45} + 0.137084u^{44} + \cdots + 3.90891u + 0.974956 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.466303u^{45} - 0.0502892u^{44} + \cdots - 6.82535u - 18.5444 \\ 0.0539277u^{45} - 0.125118u^{44} + \cdots - 2.11703u + 2.66075 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.474264u^{45} + 0.519316u^{44} + \cdots + 20.4149u + 2.64172 \\ 0.105379u^{45} - 0.126276u^{44} + \cdots - 5.27465u - 0.211973 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.383048u^{45} - 0.170966u^{44} + \cdots - 13.5914u - 11.8587 \\ -0.0310204u^{45} - 0.00853691u^{44} + \cdots + 1.48342u + 2.14892 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.633227u^{45} - 0.257110u^{44} + \cdots - 18.5193u - 17.0721 \\ -0.0566482u^{45} - 0.00540781u^{44} + \cdots + 0.210902u + 1.86803 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.160229u^{45} - 0.174039u^{44} + \cdots - 6.61005u + 0.185827 \\ -0.0150516u^{45} + 0.0125663u^{44} + \cdots + 2.55567u - 0.635786 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -0.703254u^{45} + 0.466094u^{44} + \cdots + 34.0941u + 17.7324$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{23} - 13u^{22} + \cdots - 48u + 4)^2$
c_2	$(u^{23} + u^{22} + \cdots + 2u + 2)^2$
c_3	$7(7u^{46} + 34u^{44} + \cdots - 8u + 1)$
c_4	$7(7u^{46} + 76u^{44} + \cdots - 2904u^2 - 3239)$
c_5	$7(7u^{46} + 34u^{44} + \cdots + 8u + 1)$
c_6	$(u^{23} - u^{22} + \cdots + 2u - 2)^2$
c_7	$u^{46} - u^{45} + \cdots - 7u + 7$
c_8	$u^{46} - 14u^{44} + \cdots - 448u + 56$
c_9	$u^{46} + 6u^{45} + \cdots + 6u + 1$
c_{10}	$u^{46} - 6u^{45} + \cdots - 6u + 1$
c_{11}	$u^{46} - 14u^{44} + \cdots + 448u + 56$
c_{12}	$u^{46} + u^{45} + \cdots + 7u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{23} - 7y^{22} + \cdots + 152y - 16)^2$
c_2, c_6	$(y^{23} + 13y^{22} + \cdots - 48y - 4)^2$
c_3, c_5	$49(49y^{46} + 476y^{45} + \cdots - 28y + 1)$
c_4	$49(7y^{23} + 76y^{22} + \cdots - 2904y - 3239)^2$
c_7, c_{12}	$y^{46} - 3y^{45} + \cdots - 553y + 49$
c_8, c_{11}	$y^{46} - 28y^{45} + \cdots - 22400y + 3136$
c_9, c_{10}	$y^{46} - 6y^{45} + \cdots - 22y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.364394+0.927960I$ $a=\ 0.157939-1.321920I$ $b=\ 0.124649-0.398645I$	$1.99637+1.52649I$	$11.08369+7.89540I$
$u=-0.364394-0.927960I$ $a=\ 0.157939+1.321920I$ $b=\ 0.124649+0.398645I$	$1.99637-1.52649I$	$11.08369-7.89540I$
$u=-0.574618+0.790246I$ $a=\ 0.970956-0.233658I$ $b=\ 1.047370-0.249245I$	$-4.64991-0.97906I$	$-4.01571+2.00801I$
$u=-0.574618-0.790246I$ $a=\ 0.970956+0.233658I$ $b=\ 1.047370+0.249245I$	$-4.64991+0.97906I$	$-4.01571-2.00801I$
$u=-0.981568+0.321625I$ $a=\ 0.478071-0.631328I$ $b=\ 0.290575+1.199520I$	$1.68798-4.30076I$	$8.39887+6.49406I$
$u=-0.981568-0.321625I$ $a=\ 0.478071+0.631328I$ $b=\ 0.290575-1.199520I$	$1.68798+4.30076I$	$8.39887-6.49406I$
$u=\ 0.433713+0.815703I$ $a=\ 1.227750-0.053910I$ $b=\ 1.183030-0.163686I$	$-4.64991-0.97906I$	$-4.01571+2.00801I$
$u=\ 0.433713-0.815703I$ $a=\ 1.227750+0.053910I$ $b=\ 1.183030+0.163686I$	$-4.64991+0.97906I$	$-4.01571-2.00801I$
$u=\ 0.909437+0.669075I$ $a=-0.882197-0.289478I$ $b=-1.333570+0.086992I$	$1.68798+4.30076I$	$8.39887-6.49406I$
$u=\ 0.909437-0.669075I$ $a=-0.882197+0.289478I$ $b=-1.333570-0.086992I$	$1.68798-4.30076I$	$8.39887+6.49406I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.586110 + 0.542160I$ $a = 0.823162 - 0.164278I$ $b = 0.981564 + 0.825940I$	$-1.89480 + 7.56478I$	$2.3895 - 14.8243I$
$u = 0.586110 - 0.542160I$ $a = 0.823162 + 0.164278I$ $b = 0.981564 - 0.825940I$	$-1.89480 - 7.56478I$	$2.3895 + 14.8243I$
$u = 0.034679 + 1.241010I$ $a = -0.744697 - 0.140896I$ $b = -2.46759 - 0.29735I$	$-3.17020 + 2.27245I$	$7.01519 + 0.45211I$
$u = 0.034679 - 1.241010I$ $a = -0.744697 + 0.140896I$ $b = -2.46759 + 0.29735I$	$-3.17020 - 2.27245I$	$7.01519 - 0.45211I$
$u = -1.246700 + 0.224530I$ $a = -0.352303 + 0.484265I$ $b = -0.525061 + 0.491376I$	$-1.15255 - 7.43014I$	$0. + 11.24187I$
$u = -1.246700 - 0.224530I$ $a = -0.352303 - 0.484265I$ $b = -0.525061 - 0.491376I$	$-1.15255 + 7.43014I$	$0. - 11.24187I$
$u = -0.174557 + 0.695258I$ $a = -0.347438 - 0.841944I$ $b = 1.138180 - 0.607574I$	$2.22203 + 6.73517I$	$6.37975 - 4.77522I$
$u = -0.174557 - 0.695258I$ $a = -0.347438 + 0.841944I$ $b = 1.138180 + 0.607574I$	$2.22203 - 6.73517I$	$6.37975 + 4.77522I$
$u = 0.544023 + 0.455561I$ $a = 1.86183 + 0.89731I$ $b = 0.647386 - 1.168610I$	$-1.15255 + 7.43014I$	$0.10244 - 11.24187I$
$u = 0.544023 - 0.455561I$ $a = 1.86183 - 0.89731I$ $b = 0.647386 + 1.168610I$	$-1.15255 - 7.43014I$	$0.10244 + 11.24187I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.352247+0.525488I$ $a=\ \ 0.956622+0.645346I$ $b=\ \ 1.51872-0.59314I$	$-2.24740-5.48764I$	$4.87090+6.72746I$
$u=-0.352247-0.525488I$ $a=\ \ 0.956622-0.645346I$ $b=\ \ 1.51872+0.59314I$	$-2.24740+5.48764I$	$4.87090-6.72746I$
$u=\ \ 1.40588$ $a=-0.864369$ $b=\ \ 1.15450$	2.35695	113.740
$u=\ \ 1.02240+1.01173I$ $a=-0.612938+0.312370I$ $b=-0.290732+0.456249I$	$3.11469+3.97191I$	0
$u=\ \ 1.02240-1.01173I$ $a=-0.612938-0.312370I$ $b=-0.290732-0.456249I$	$3.11469-3.97191I$	0
$u=\ \ 1.15264+0.86563I$ $a=-1.011300-0.186030I$ $b=-0.753227+1.145390I$	$2.22203+6.73517I$	0
$u=\ \ 1.15264-0.86563I$ $a=-1.011300+0.186030I$ $b=-0.753227-1.145390I$	$2.22203-6.73517I$	0
$u=-1.18884+0.83065I$ $a=-1.078130+0.333273I$ $b=-0.88277-1.25897I$	$0.26816-11.94840I$	0
$u=-1.18884-0.83065I$ $a=-1.078130-0.333273I$ $b=-0.88277+1.25897I$	$0.26816+11.94840I$	0
$u=\ \ 0.016935+0.536666I$ $a=-0.01726+1.46129I$ $b=\ \ 1.65557+0.56649I$	$0.26816-11.94840I$	$2.54259+10.09660I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.016935 - 0.536666I$ $a = -0.01726 - 1.46129I$ $b = \quad 1.65557 - 0.56649I$	$0.26816 + 11.94840I$	$2.54259 - 10.09660I$
$u = -1.05517 + 1.03118I$ $a = -0.723916 - 0.153920I$ $b = -0.115381 - 0.874969I$	$-4.75506 - 4.44410I$	0
$u = -1.05517 - 1.03118I$ $a = -0.723916 + 0.153920I$ $b = -0.115381 + 0.874969I$	$-4.75506 + 4.44410I$	0
$u = -1.25677 + 0.84768I$ $a = -0.784133 + 0.522451I$ $b = -1.20940 - 0.84141I$	$-2.24740 - 5.48764I$	0
$u = -1.25677 - 0.84768I$ $a = -0.784133 - 0.522451I$ $b = -1.20940 + 0.84141I$	$-2.24740 + 5.48764I$	0
$u = -0.472964 + 0.033897I$ $a = -1.82809 + 2.53432I$ $b = \quad 0.373690 - 1.090790I$	$3.11469 + 3.97191I$	$3.19252 - 1.47300I$
$u = -0.472964 - 0.033897I$ $a = -1.82809 - 2.53432I$ $b = \quad 0.373690 + 1.090790I$	$3.11469 - 3.97191I$	$3.19252 + 1.47300I$
$u = \quad 1.30096 + 0.84220I$ $a = -0.596835 - 0.499243I$ $b = -1.125490 + 0.508696I$	$-1.89480 + 7.56478I$	0
$u = \quad 1.30096 - 0.84220I$ $a = -0.596835 + 0.499243I$ $b = -1.125490 - 0.508696I$	$-1.89480 - 7.56478I$	0
$u = \quad 0.366293 + 0.033494I$ $a = -3.53374 + 4.32627I$ $b = \quad 0.084444 - 0.851387I$	$1.99637 - 1.52649I$	$11.08369 - 7.89540I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.366293 - 0.033494I$ $a = -3.53374 - 4.32627I$ $b = 0.084444 + 0.851387I$	$1.99637 + 1.52649I$	$11.08369 + 7.89540I$
$u = 0.29488 + 1.68151I$ $a = -0.260760 - 0.135198I$ $b = -1.51239 - 0.32667I$	$-3.17020 - 2.27245I$	0
$u = 0.29488 - 1.68151I$ $a = -0.260760 + 0.135198I$ $b = -1.51239 + 0.32667I$	$-3.17020 + 2.27245I$	0
$u = -0.56441 + 1.82448I$ $a = 0.125878 + 0.114541I$ $b = 0.419461 + 0.056238I$	$-4.75506 - 4.44410I$	0
$u = -0.56441 - 1.82448I$ $a = 0.125878 - 0.114541I$ $b = 0.419461 - 0.056238I$	$-4.75506 + 4.44410I$	0
$u = 2.73445$ $a = -0.0782825$ $b = 0.347439$	2.35695	0

IV. $I_4^u = \langle -u^8+2u^6+2u^5-u^4-u^3-4u^2+b+3,\ -u^8+2u^6+2u^5-u^4-u^3-4u^2+a+4,\ u^9+u^8+\cdots-u-1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} u^8-2u^6-2u^5+u^4+u^3+4u^2-4 \\ u^8-2u^6-2u^5+u^4+u^3+4u^2-3 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1 \\ u^8-2u^6-2u^5+u^4+u^3+4u^2-3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4u^8-3u^7+4u^6+10u^5+6u^4+5u^3-11u^2-8u+4 \\ -3u^8-2u^7+3u^6+7u^5+4u^4+4u^3-8u^2-4u+3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u^8-2u^6-2u^5+u^4+u^3+4u^2-4 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -1 \\ u^8-2u^6-2u^5+u^4+u^3+5u^2-3 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -12u^8-3u^7+16u^6+26u^5+4u^4+5u^3-44u^2-8u+19 \\ -4u^8-2u^7+4u^6+9u^5+4u^4+5u^3-12u^2-4u+4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 4u^8+3u^7-4u^6-10u^5-6u^4-5u^3+11u^2+8u-4 \\ 4u^8+2u^7-4u^6-9u^5-4u^4-4u^3+12u^2+4u-5 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^8+2u^6+2u^5-u^4-u^3-4u^2+4 \\ -2u^8+3u^6+4u^5-9u^2-u+4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -28u^8-u^7+45u^6+57u^5-7u^4-4u^3-109u^2-4u+64$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^9-5u^8+13u^7-18u^6+12u^5+3u^4-12u^3+10u^2-4u+1$
c_2	$u^9+u^8+3u^7+2u^6+4u^5+3u^4+2u^3+2u^2+1$
c_3	$u^9+u^8-3u^7-3u^6+u^5+2u^4+3u^3+u^2-u-1$
c_4	u^9
c_5	$u^9-u^8-3u^7+3u^6+u^5-2u^4+3u^3-u^2-u+1$
c_6	$u^9-u^8+3u^7-2u^6+4u^5-3u^4+2u^3-2u^2-1$
c_7	$u^9+u^8-u^7-3u^6-2u^5-u^4+3u^3+3u^2-u-1$
c_8	$u^9-2u^8-3u^7+6u^6+4u^5-7u^4-2u^3+4u^2+u-1$
c_9	$u^9+7u^8+17u^7+13u^6-9u^5-16u^4-3u^3+3u^2+3u+1$
c_{10}	$u^9-7u^8+17u^7-13u^6-9u^5+16u^4-3u^3-3u^2+3u-1$
c_{11}	$u^9+2u^8-3u^7-6u^6+4u^5+7u^4-2u^3-4u^2+u+1$
c_{12}	$u^9-u^8-u^7+3u^6-2u^5+u^4+3u^3-3u^2-u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^9 + y^8 + 13y^7 - 6y^6 + 32y^5 - 31y^4 + 24y^3 - 10y^2 - 4y - 1$
c_2, c_6	$y^9 + 5y^8 + 13y^7 + 18y^6 + 12y^5 - 3y^4 - 12y^3 - 10y^2 - 4y - 1$
c_3, c_5	$y^9 - 7y^8 + 17y^7 - 13y^6 - 9y^5 + 16y^4 - 3y^3 - 3y^2 + 3y - 1$
c_4	y^9
c_7, c_{12}	$y^9 - 3y^8 + 3y^7 + 3y^6 - 16y^5 + 9y^4 + 13y^3 - 17y^2 + 7y - 1$
c_8, c_{11}	$y^9 - 10y^8 + 41y^7 - 92y^6 + 130y^5 - 123y^4 + 80y^3 - 34y^2 + 9y - 1$
c_9, c_{10}	$y^9 - 15y^8 + 89y^7 - 257y^6 + 359y^5 - 192y^4 + 25y^3 + 5y^2 + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.123876+1.145400I$ $a=\ 0.735991-0.161080I$ $b=\ 1.73599-0.16108I$	$-5.14657-1.15296I$	$-9.08558-1.07056I$
$u=-0.123876-1.145400I$ $a=\ 0.735991+0.161080I$ $b=\ 1.73599+0.16108I$	$-5.14657+1.15296I$	$-9.08558+1.07056I$
$u=\ 0.762208+0.080791I$ $a=-1.66434+0.35683I$ $b=-0.664341+0.356834I$	$4.15634-0.57166I$	$12.47240-4.89892I$
$u=\ 0.762208-0.080791I$ $a=-1.66434-0.35683I$ $b=-0.664341-0.356834I$	$4.15634+0.57166I$	$12.47240+4.89892I$
$u=-0.681649+0.048720I$ $a=-2.11947-0.30453I$ $b=-1.119470-0.304531I$	$2.64932-3.16170I$	$11.2708+8.9542I$
$u=-0.681649-0.048720I$ $a=-2.11947+0.30453I$ $b=-1.119470+0.304531I$	$2.64932+3.16170I$	$11.2708-8.9542I$
$u=-1.163090+0.768685I$ $a=-0.201679-0.473322I$ $b=\ 0.798321-0.473322I$	$-1.15114+5.45727I$	$-3.97184-7.60742I$
$u=-1.163090-0.768685I$ $a=-0.201679+0.473322I$ $b=\ 0.798321+0.473322I$	$-1.15114-5.45727I$	$-3.97184+7.60742I$
$u=\ 1.41281$ $a=-0.500997$ $b=\ 0.499003$	2.27396	24.6280

V. $I_5^u = \langle b-1,\ a-1,\ u^2+u+1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u+1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u+1 \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u+1 \\ u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 1.00000$ $b = 1.00000$	-3.28987	0
$u = -0.500000 - 0.866025I$ $a = 1.00000$ $b = 1.00000$	-3.28987	0

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^2(u^9-5u^8+13u^7-18u^6+12u^5+3u^4-12u^3+10u^2-4u+1)$ $\cdot((u^{23}-13u^{22}+\cdots-48u+4)^2)(u^{50}+26u^{49}+\cdots+10532u+1296)$ $\cdot(u^{85}+40u^{84}+\cdots-47871u-2916)^2$
c_2	$u^2(u^9+u^8+3u^7+2u^6+4u^5+3u^4+2u^3+2u^2+1)$ $\cdot((u^{23}+u^{22}+\cdots+2u+2)^2)(u^{50}-4u^{49}+\cdots-94u+36)$ $\cdot(u^{85}+20u^{83}+\cdots-81u-54)^2$
c_3	$49(u^2+u+1)(u^9+u^8-3u^7-3u^6+u^5+2u^4+3u^3+u^2-u-1)$ $\cdot(7u^{46}+34u^{44}+\cdots-8u+1)(7u^{50}-u^{49}+\cdots-u+1)$ $\cdot(u^{170}+19u^{168}+\cdots-253u+289)$
c_4	$49u^9(u+1)^2(7u^{46}+76u^{44}+\cdots-2904u^2-3239)$ $\cdot(7u^{50}-29u^{49}+\cdots-10240u+2048)$ $\cdot(u^{85}+2u^{84}+\cdots-787u-599)^2$
c_5	$49(u^2+u+1)(u^9-u^8-3u^7+3u^6+u^5-2u^4+3u^3-u^2-u+1)$ $\cdot(7u^{46}+34u^{44}+\cdots+8u+1)(7u^{50}-u^{49}+\cdots-u+1)$ $\cdot(u^{170}+19u^{168}+\cdots-253u+289)$
c_6	$u^2(u^9-u^8+3u^7-2u^6+4u^5-3u^4+2u^3-2u^2-1)$ $\cdot((u^{23}-u^{22}+\cdots+2u-2)^2)(u^{50}-4u^{49}+\cdots-94u+36)$ $\cdot(u^{85}+20u^{83}+\cdots-81u-54)^2$
c_7	$(u^2+u+1)(u^9+u^8-u^7-3u^6-2u^5-u^4+3u^3+3u^2-u-1)$ $\cdot(u^{46}-u^{45}+\cdots-7u+7)(u^{50}+u^{49}+\cdots-13u+7)$ $\cdot(u^{170}-3u^{169}+\cdots-4u+1)$
c_8	$(u+1)^2(u^9-2u^8-3u^7+6u^6+4u^5-7u^4-2u^3+4u^2+u-1)$ $\cdot(u^{46}-14u^{44}+\cdots-448u+56)(u^{50}-12u^{49}+\cdots-800u+56)$ $\cdot(u^{170}+7u^{169}+\cdots-1269144u+86248)$
c_9	$(u^2+u+1)(u^9+7u^8+\cdots+3u+1)$ $\cdot(u^{46}+6u^{45}+\cdots+6u+1)(u^{50}-7u^{49}+\cdots+3u+1)$ $\cdot(u^{170}-4u^{169}+\cdots-53u-1)$
c_{10}	$(u^2+u+1)(u^9-7u^8+\cdots+3u-1)$ $\cdot(u^{46}-6u^{45}+\cdots-6u+1)(u^{50}-7u^{49}+\cdots+3u+1)$ $\cdot(u^{170}-4u^{169}+\cdots-53u-1)$
c_{11}	$(u+1)^2(u^9+2u^8-3u^7-6u^6+4u^5+7u^4-2u^3-4u^2+u+1)$ $\cdot(u^{46}-14u^{44}+\cdots+448u+56)(u^{50}-12u^{49}+\cdots-800u+56)$ $\cdot(u^{170}+7u^{169}+\cdots-1269144u+86248)$
c_{12}	$(u^2+u+1)(u^9-u^8-u^7+3u^6-2u^5+u^4+3u^3-3u^2-u+1)$ $\cdot(u^{46}+u^{45}+\cdots+7u+7)(u^{50}+u^{49}+\cdots-13u+7)$ $\cdot(u^{170}-3u^{169}+\cdots-4u+1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^2(y^9+y^8+13y^7-6y^6+32y^5-31y^4+24y^3-10y^2-4y-1)$ $\cdot(y^{23}-7y^{22}+\cdots+152y-16)^2$ $\cdot(y^{50}-2y^{49}+\cdots+8736656y+1679616)$ $\cdot(y^{85}+12y^{84}+\cdots-81349839y-8503056)^2$
c_2, c_6	$y^2(y^9+5y^8+13y^7+18y^6+12y^5-3y^4-12y^3-10y^2-4y-1)$ $\cdot((y^{23}+13y^{22}+\cdots-48y-4)^2)(y^{50}+26y^{49}+\cdots+10532y+1296)$ $\cdot(y^{85}+40y^{84}+\cdots-47871y-2916)^2$
c_3, c_5	$2401(y^2+y+1)$ $\cdot(y^9-7y^8+17y^7-13y^6-9y^5+16y^4-3y^3-3y^2+3y-1)$ $\cdot(49y^{46}+476y^{45}+\cdots-28y+1)(49y^{50}-771y^{49}+\cdots+7y+1)$ $\cdot(y^{170}+38y^{169}+\cdots-5724363y+83521)$
c_4	$2401y^9(y-1)^2(7y^{23}+76y^{22}+\cdots-2904y-3239)^2$ $\cdot(49y^{50}-379y^{49}+\cdots+130023424y+4194304)$ $\cdot(y^{85}+48y^{84}+\cdots-11759565y-358801)^2$
c_7, c_{12}	$(y^2+y+1)(y^9-3y^8+\cdots+7y-1)$ $\cdot(y^{46}-3y^{45}+\cdots-553y+49)(y^{50}+11y^{49}+\cdots+545y+49)$ $\cdot(y^{170}-39y^{169}+\cdots+50y+1)$
c_8, c_{11}	$(y-1)^2$ $\cdot(y^9-10y^8+41y^7-92y^6+130y^5-123y^4+80y^3-34y^2+9y-1)$ $\cdot(y^{46}-28y^{45}+\cdots-22400y+3136)$ $\cdot(y^{50}+2y^{49}+\cdots+69184y+3136)$ $\cdot(y^{170}-19y^{169}+\cdots+814647305408y+7438717504)$
c_9, c_{10}	(y^2+y+1) $\cdot(y^9-15y^8+89y^7-257y^6+359y^5-192y^4+25y^3+5y^2+3y-1)$ $\cdot(y^{46}-6y^{45}+\cdots-22y+1)(y^{50}+3y^{49}+\cdots-13y+1)$ $\cdot(y^{170}-26y^{169}+\cdots-21y+1)$