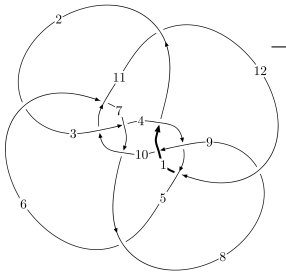
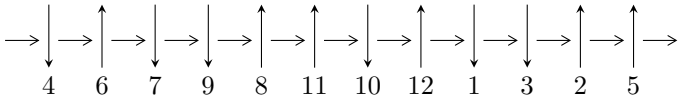
$12a_{0868}$ $(K12a_{0868})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -5.34907 \times 10^{25} u^{25} - 1.80642 \times 10^{26} u^{24} + \cdots + 7.92164 \times 10^{25} b + 4.11760 \times 10^{26},$$
$$3.95167 \times 10^{23} u^{25} + 1.51546 \times 10^{24} u^{24} + \cdots + 2.64055 \times 10^{25} a - 6.82923 \times 10^{25},\ u^{26} + 3u^{25} + \cdots - 15u +$$
$$I_2^u = \langle 2.73334 \times 10^{2858} u^{227} - 1.92123 \times 10^{2858} u^{226} + \cdots + 4.27537 \times 10^{2861} b + 2.16549 \times 10^{2863},$$
$$4.43607 \times 10^{2844} u^{227} + 8.55713 \times 10^{2844} u^{226} + \cdots + 8.30905 \times 10^{2847} a + 4.47338 \times 10^{2849},$$
$$u^{228} - 2u^{227} + \cdots - 120069u + 8487 \rangle$$
$$I_3^u = \langle 1.77876 \times 10^{199} u^{59} - 4.11117 \times 10^{199} u^{58} + \cdots + 4.10975 \times 10^{201} b - 1.03369 \times 10^{201},$$
$$- 1.12963 \times 10^{195} u^{59} + 3.04187 \times 10^{195} u^{58} + \cdots + 3.32182 \times 10^{196} a + 1.29221 \times 10^{197},$$
$$u^{60} - 3u^{59} + \cdots - 405u + 81 \rangle$$
$$I_4^u = \langle -u^5 - 3u^4 - 4u^3 - 3u^2 + b - u - 1,\ -u^4 - 2u^3 - 3u^2 + a - 2u - 1,\ u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1 \rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 320 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. $\boldsymbol{I_1^u = \langle -5.35 \times 10^{25} u^{25} - 1.81 \times 10^{26} u^{24} + \cdots + 7.92 \times 10^{25} b + 4.12 \times 10^{26},\ 3.95 \times 10^{23} u^{25} + 1.52 \times 10^{24} u^{24} + \cdots + 2.64 \times 10^{25} a - 6.83 \times 10^{25},\ u^{26} + 3u^{25} + \cdots - 15u + 3 \rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.0149653u^{25} - 0.0573920u^{24} + \cdots - 5.13455u + 2.58629 \\ 0.675248u^{25} + 2.28036u^{24} + \cdots + 14.2808u - 5.19791 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.632801u^{25} - 2.22531u^{24} + \cdots - 19.2728u + 7.74671 \\ 0.825829u^{25} + 2.74001u^{24} + \cdots + 17.1435u - 6.14114 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.674011u^{25} - 2.06149u^{24} + \cdots - 0.724059u + 0.371443 \\ 0.0748759u^{25} + 0.392514u^{24} + \cdots + 2.78632u - 1.21956 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.757263u^{25} - 2.08651u^{24} + \cdots - 10.3107u + 2.23996 \\ 0.267117u^{25} + 0.978083u^{24} + \cdots + 2.56900u - 2.07064 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.690213u^{25} - 2.33776u^{24} + \cdots - 19.4154u + 7.78420 \\ 0.675248u^{25} + 2.28036u^{24} + \cdots + 14.2808u - 5.19791 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.851189u^{25} - 2.96069u^{24} + \cdots - 6.06101u + 2.28294 \\ 0.102302u^{25} + 0.506686u^{24} + \cdots + 4.55063u - 0.691938 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.424070u^{25} - 1.10116u^{24} + \cdots - 17.7829u + 3.92612 \\ 0.166509u^{25} + 0.680241u^{24} + \cdots + 0.997296u + 0.529442 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.815413u^{25} + 2.85812u^{24} + \cdots + 23.5628u - 11.7902 \\ -1.40196u^{25} - 4.61527u^{24} + \cdots - 26.5088u + 11.0509 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.547726u^{25} - 1.21606u^{24} + \cdots + 8.21515u - 3.50603 \\ -0.407127u^{25} - 1.15717u^{24} + \cdots - 10.4849u + 2.55357 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{126097776141821821009550 4584}{23764932108519781695300 7317}u^{25} + \frac{139585771829838270782495 7472}{79216440361732605651002439}u^{24} + \cdots + \frac{360598358260676693335416717074}{23764932108519781695300 7317}u - \frac{40856646000308929944730003 76}{79216440361732605651002439}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{26} - u^{25} + \cdots + 21u + 7$
c_2, c_8	$3(3u^{26} - 3u^{25} + \cdots - u + 1)$
c_3, c_9	$3(3u^{26} + 3u^{25} + \cdots + u + 1)$
c_4, c_{10}	$u^{26} + 3u^{25} + \cdots - 15u + 3$
c_5, c_{11}	$u^{26} + u^{25} + \cdots - 21u + 7$
c_6, c_{12}	$u^{26} - 3u^{25} + \cdots + 15u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7 c_{11}	$y^{26} + 15y^{25} + \cdots + 777y + 49$
c_2, c_3, c_8 c_9	$9(9y^{26} + 123y^{25} + \cdots - 3y + 1)$
c_4, c_6, c_{10} c_{12}	$y^{26} + 3y^{25} + \cdots - 39y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.845489 + 0.535083I$ $a = 0.02844 + 1.51551I$ $b = 0.335856 + 0.179407I$	$3.75175 + 7.29916I$	$7.10463 - 6.60908I$
$u = 0.845489 - 0.535083I$ $a = 0.02844 - 1.51551I$ $b = 0.335856 - 0.179407I$	$3.75175 - 7.29916I$	$7.10463 + 6.60908I$
$u = -0.412083 + 0.907598I$ $a = -1.229110 + 0.268720I$ $b = -0.327018 - 0.255373I$	$-1.031450 - 0.731362I$	$-5.81274 + 5.12436I$
$u = -0.412083 - 0.907598I$ $a = -1.229110 - 0.268720I$ $b = -0.327018 + 0.255373I$	$-1.031450 + 0.731362I$	$-5.81274 - 5.12436I$
$u = 0.815740 + 0.766504I$ $a = 0.037856 + 1.304310I$ $b = 0.95346 + 1.24193I$	$3.90122 + 10.59870I$	$3.57222 - 11.00535I$
$u = 0.815740 - 0.766504I$ $a = 0.037856 - 1.304310I$ $b = 0.95346 - 1.24193I$	$3.90122 - 10.59870I$	$3.57222 + 11.00535I$
$u = 0.262607 + 1.226280I$ $a = -0.776479 + 0.169761I$ $b = -0.677732 + 0.488296I$	$1.031450 - 0.731362I$	$5.81274 + 5.12436I$
$u = 0.262607 - 1.226280I$ $a = -0.776479 - 0.169761I$ $b = -0.677732 - 0.488296I$	$1.031450 + 0.731362I$	$5.81274 - 5.12436I$
$u = 0.483028 + 0.515672I$ $a = -0.11814 - 2.27233I$ $b = -0.207260 - 0.904960I$	$1.45995 + 7.35605I$	$-7.17269 - 6.50998I$
$u = 0.483028 - 0.515672I$ $a = -0.11814 + 2.27233I$ $b = -0.207260 + 0.904960I$	$1.45995 - 7.35605I$	$-7.17269 + 6.50998I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.167410+0.663095I$ $a=\ \ 1.65128+2.17905I$ $b=-0.329021+0.860688I$	$-2.74535-5.73210I$	$-12.7377+11.1594I$
$u=-0.167410-0.663095I$ $a=\ \ 1.65128-2.17905I$ $b=-0.329021-0.860688I$	$-2.74535+5.73210I$	$-12.7377-11.1594I$
$u=-0.291479+0.576161I$ $a=-0.592442+0.805613I$ $b=-0.208461+0.489857I$	$-1.28045I$	$0.+5.59729I$
$u=-0.291479-0.576161I$ $a=-0.592442-0.805613I$ $b=-0.208461-0.489857I$	$1.28045I$	$0.-5.59729I$
$u=-0.96888+1.09299I$ $a=\ \ 0.022234-0.766044I$ $b=\ \ 0.67467-1.39088I$	$-3.90122-10.59870I$	$-3.57222+11.00535I$
$u=-0.96888-1.09299I$ $a=\ \ 0.022234+0.766044I$ $b=\ \ 0.67467+1.39088I$	$-3.90122+10.59870I$	$-3.57222-11.00535I$
$u=-0.78688+1.29657I$ $a=\ \ 0.012380-0.659611I$ $b=\ \ 1.023210-0.854597I$	$-3.75175-7.29916I$	$-7.10463+6.60908I$
$u=-0.78688-1.29657I$ $a=\ \ 0.012380+0.659611I$ $b=\ \ 1.023210+0.854597I$	$-3.75175+7.29916I$	$-7.10463-6.60908I$
$u=-1.03954+1.20307I$ $a=-0.145069+0.989422I$ $b=-1.26401+1.10023I$	$-23.4387I$	$0.+11.88508I$
$u=-1.03954-1.20307I$ $a=-0.145069-0.989422I$ $b=-1.26401-1.10023I$	$23.4387I$	$0.-11.88508I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.11471 + 1.15852I$ $a = -0.022818 - 0.438890I$ $b = -0.928596 - 0.889733I$	$-1.45995 + 7.35605I$	$7.17269 - 6.50998I$
$u = 1.11471 - 1.15852I$ $a = -0.022818 + 0.438890I$ $b = -0.928596 + 0.889733I$	$-1.45995 - 7.35605I$	$7.17269 + 6.50998I$
$u = 0.366048 + 0.079011I$ $a = 0.910967 - 0.412479I$ $b = -0.07012 + 2.08604I$	$-3.95888I$	$0. + 19.3379I$
$u = 0.366048 - 0.079011I$ $a = 0.910967 + 0.412479I$ $b = -0.07012 - 2.08604I$	$3.95888I$	$0. - 19.3379I$
$u = -1.72136 + 0.73016I$ $a = 0.220907 - 0.291513I$ $b = 0.525012 + 0.402973I$	$2.74535 + 5.73210I$	$12.7377 - 11.1594I$
$u = -1.72136 - 0.73016I$ $a = 0.220907 + 0.291513I$ $b = 0.525012 - 0.402973I$	$2.74535 - 5.73210I$	$12.7377 + 11.1594I$

II. $I_2^u = \langle 2.73 \times 10^{2858} u^{227} - 1.92 \times 10^{2858} u^{226} + \cdots + 4.28 \times 10^{2861} b + 2.17 \times 10^{2863},\ 4.44 \times 10^{2844} u^{227} + 8.56 \times 10^{2844} u^{226} + \cdots + 8.31 \times 10^{2847} a + 4.47 \times 10^{2849},\ u^{228} - 2u^{227} + \cdots - 120069u + 8487 \rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.000533884u^{227} - 0.00102986u^{226} + \cdots + 509.800u - 53.8374 \\ -0.000639322u^{227} + 0.000449372u^{226} + \cdots + 665.496u - 50.6504 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.000973408u^{227} - 0.00355423u^{226} + \cdots + 91.6330u - 20.9896 \\ -0.000312050u^{227} - 0.0000481389u^{226} + \cdots + 619.429u - 46.4900 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00260219u^{227} + 0.00541797u^{226} + \cdots - 591.763u + 39.6752 \\ -0.000294906u^{227} - 0.000314458u^{226} + \cdots + 350.080u - 26.3569 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00943454u^{227} - 0.0189153u^{226} + \cdots + 1354.50u - 84.5624 \\ 0.00101777u^{227} - 0.00171219u^{226} + \cdots - 78.1751u + 8.76891 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.000105438u^{227} - 0.00147923u^{226} + \cdots - 155.696u - 3.18704 \\ -0.000639322u^{227} + 0.000449372u^{226} + \cdots + 665.496u - 50.6504 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00317145u^{227} + 0.00769773u^{226} + \cdots - 1569.89u + 108.053 \\ 0.000864162u^{227} - 0.00196531u^{226} + \cdots + 630.046u - 42.0209 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.00844623u^{227} + 0.0132865u^{226} + \cdots + 77.7048u - 39.3309 \\ 0.000578702u^{227} - 0.00216850u^{226} + \cdots + 752.583u - 48.3559 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.00876827u^{227} - 0.0152721u^{226} + \cdots - 650.077u + 79.1653 \\ -0.00279035u^{227} + 0.00568240u^{226} + \cdots - 389.402u + 6.90679 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00684100u^{227} - 0.0134311u^{226} + \cdots + 611.474u - 13.4745 \\ 0.00135278u^{227} - 0.00106211u^{226} + \cdots - 388.490u + 29.0289 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00480003u^{227} - 0.00745917u^{226} + \cdots - 106.584u - 13.9909$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{228} + 8u^{227} + \cdots - 11192067647u + 984049733$
c_2, c_8	$9(9u^{228} - 54u^{227} + \cdots - 9395u + 1619)$
c_3, c_9	$9(9u^{228} + 54u^{227} + \cdots + 9395u + 1619)$
c_4, c_{10}	$u^{228} - 2u^{227} + \cdots - 120069u + 8487$
c_5, c_{11}	$u^{228} - 8u^{227} + \cdots + 11192067647u + 984049733$
c_6, c_{12}	$u^{228} + 2u^{227} + \cdots + 120069u + 8487$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7 c_{11}	$y^{228} + 20y^{227} + \cdots + 4.78 \times 10^{19}y + 9.68 \times 10^{17}$
c_2, c_3, c_8 c_9	$81(81y^{228} + 2052y^{227} + \cdots + 8.92055 \times 10^7 y + 2621161)$
c_4, c_6, c_{10} c_{12}	$y^{228} + 12y^{227} + \cdots + 6749419149y + 72029169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.472631+0.876801I$ $a=-0.270968+1.060490I$ $b=\ \ 0.104155+1.397710I$	$-0.17902-4.15433I$	0
$u=-0.472631-0.876801I$ $a=-0.270968-1.060490I$ $b=\ \ 0.104155-1.397710I$	$-0.17902+4.15433I$	0
$u=\ \ 0.700933+0.696420I$ $a=\ \ 0.16116-1.40722I$ $b=-1.09140-1.19241I$	$2.61654+5.18045I$	0
$u=\ \ 0.700933-0.696420I$ $a=\ \ 0.16116+1.40722I$ $b=-1.09140+1.19241I$	$2.61654-5.18045I$	0
$u=-0.887697+0.424622I$ $a=-0.244267+0.750770I$ $b=-1.07432+1.25389I$	$0.71894-5.15211I$	0
$u=-0.887697-0.424622I$ $a=-0.244267-0.750770I$ $b=-1.07432-1.25389I$	$0.71894+5.15211I$	0
$u=\ \ 0.614351+0.767456I$ $a=-0.14177-1.76236I$ $b=-0.91137-1.10218I$	$1.72572+7.49064I$	0
$u=\ \ 0.614351-0.767456I$ $a=-0.14177+1.76236I$ $b=-0.91137+1.10218I$	$1.72572-7.49064I$	0
$u=\ \ 0.405452+0.887384I$ $a=\ \ 0.458615-0.144400I$ $b=\ \ 1.196280-0.210695I$	$-1.17272-3.22672I$	0
$u=\ \ 0.405452-0.887384I$ $a=\ \ 0.458615+0.144400I$ $b=\ \ 1.196280+0.210695I$	$-1.17272+3.22672I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.437652+0.926858I$ $a=-0.111817-0.254381I$ $b=-1.227690-0.425841I$	$-2.15015-8.23570I$	0
$u=-0.437652-0.926858I$ $a=-0.111817+0.254381I$ $b=-1.227690+0.425841I$	$-2.15015+8.23570I$	0
$u=-0.563747+0.865746I$ $a=-0.47100+1.56851I$ $b=-1.12449+1.24533I$	$2.77141-2.42490I$	0
$u=-0.563747-0.865746I$ $a=-0.47100-1.56851I$ $b=-1.12449-1.24533I$	$2.77141+2.42490I$	0
$u=0.303668+0.909247I$ $a=-0.144875+0.536056I$ $b=0.974296+0.848762I$	$-4.07623-0.75664I$	0
$u=0.303668-0.909247I$ $a=-0.144875-0.536056I$ $b=0.974296-0.848762I$	$-4.07623+0.75664I$	0
$u=0.808370+0.673531I$ $a=0.09053+1.41138I$ $b=1.255900+0.646328I$	$4.14980-4.96562I$	0
$u=0.808370-0.673531I$ $a=0.09053-1.41138I$ $b=1.255900-0.646328I$	$4.14980+4.96562I$	0
$u=-0.025731+0.947303I$ $a=-1.56751-0.39571I$ $b=-0.208138-0.172320I$	$-2.91798+1.45918I$	0
$u=-0.025731-0.947303I$ $a=-1.56751+0.39571I$ $b=-0.208138+0.172320I$	$-2.91798-1.45918I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.948463+0.456251I$ $a=-0.176635-1.187010I$ $b=\ \ 0.574232-0.241509I$	$4.07623-0.75664I$	0
$u=-0.948463-0.456251I$ $a=-0.176635+1.187010I$ $b=\ \ 0.574232+0.241509I$	$4.07623+0.75664I$	0
$u=-0.077732+0.942885I$ $a=-0.966354+0.671156I$ $b=\ \ 0.018451+0.708666I$	$-1.53101-2.78696I$	0
$u=-0.077732-0.942885I$ $a=-0.966354-0.671156I$ $b=\ \ 0.018451-0.708666I$	$-1.53101+2.78696I$	0
$u=\ \ 0.903835+0.275047I$ $a=\ \ 0.021923-0.746122I$ $b=-1.054210-0.744065I$	$4.18899+2.61263I$	0
$u=\ \ 0.903835-0.275047I$ $a=\ \ 0.021923+0.746122I$ $b=-1.054210+0.744065I$	$4.18899-2.61263I$	0
$u=\ \ 0.308872+0.865220I$ $a=-0.889294+0.058440I$ $b=-0.991086+0.494295I$	$1.17272-3.22672I$	0
$u=\ \ 0.308872-0.865220I$ $a=-0.889294-0.058440I$ $b=-0.991086-0.494295I$	$1.17272+3.22672I$	0
$u=\ \ 0.626212+0.671141I$ $a=\ \ 1.298530+0.548758I$ $b=-0.051458-0.690948I$	$-2.61654+5.18045I$	0
$u=\ \ 0.626212-0.671141I$ $a=\ \ 1.298530-0.548758I$ $b=-0.051458+0.690948I$	$-2.61654-5.18045I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.801773+0.738807I$ $a=-0.226171+0.885169I$ $b=-1.13088+1.04390I$	$0.17902-4.15433I$	0
$u=-0.801773-0.738807I$ $a=-0.226171-0.885169I$ $b=-1.13088-1.04390I$	$0.17902+4.15433I$	0
$u=-0.698841+0.580141I$ $a=-0.083419-1.356350I$ $b=\ \ 0.402780-1.316530I$	3.12185	0
$u=-0.698841-0.580141I$ $a=-0.083419+1.356350I$ $b=\ \ 0.402780+1.316530I$	3.12185	0
$u=\ \ 0.819062+0.385256I$ $a=\ \ 0.147418+0.730746I$ $b=\ \ 1.32930+1.44019I$	$1.35038+13.87800I$	0
$u=\ \ 0.819062-0.385256I$ $a=\ \ 0.147418-0.730746I$ $b=\ \ 1.32930-1.44019I$	$1.35038-13.87800I$	0
$u=\ \ 0.803943+0.408919I$ $a=-0.073299-0.595618I$ $b=-1.33268-1.32831I$	$2.04342+5.79434I$	0
$u=\ \ 0.803943-0.408919I$ $a=-0.073299+0.595618I$ $b=-1.33268+1.32831I$	$2.04342-5.79434I$	0
$u=-0.557707+0.963331I$ $a=-0.698086+0.484838I$ $b=-0.970114+0.257695I$	$1.53101-2.78696I$	0
$u=-0.557707-0.963331I$ $a=-0.698086-0.484838I$ $b=-0.970114-0.257695I$	$1.53101+2.78696I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.108000+0.112943I$ $a=-1.153980+0.300686I$ $b=\ \ 0.618423-0.131290I$	$2.60879+0.44068I$	0
$u=-1.108000-0.112943I$ $a=-1.153980-0.300686I$ $b=\ \ 0.618423+0.131290I$	$2.60879-0.44068I$	0
$u=-0.746845+0.835267I$ $a=-0.314149+1.255640I$ $b=-1.055150+0.906055I$	$1.87947-2.48342I$	0
$u=-0.746845-0.835267I$ $a=-0.314149-1.255640I$ $b=-1.055150-0.906055I$	$1.87947+2.48342I$	0
$u=\ \ 0.518135+0.704618I$ $a=\ \ 0.78564-1.43143I$ $b=-0.739334-1.016840I$	$-0.60074+2.45623I$	0
$u=\ \ 0.518135-0.704618I$ $a=\ \ 0.78564+1.43143I$ $b=-0.739334+1.016840I$	$-0.60074-2.45623I$	0
$u=\ \ 0.834142+0.776731I$ $a=-0.05376-1.42955I$ $b=-1.42961-0.52630I$	$4.82565+3.73868I$	0
$u=\ \ 0.834142-0.776731I$ $a=-0.05376+1.42955I$ $b=-1.42961+0.52630I$	$4.82565-3.73868I$	0
$u=-0.067870+1.141420I$ $a=\ \ 1.093080-0.538926I$ $b=\ \ 0.257586-0.486612I$	$-2.38963-10.26740I$	0
$u=-0.067870-1.141420I$ $a=\ \ 1.093080+0.538926I$ $b=\ \ 0.257586+0.486612I$	$-2.38963+10.26740I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.968849 + 0.621161I$ $a = 0.233354 - 1.368620I$ $b = -1.235180 - 0.223540I$	$4.85343 + 3.93548I$	0
$u = 0.968849 - 0.621161I$ $a = 0.233354 + 1.368620I$ $b = -1.235180 + 0.223540I$	$4.85343 - 3.93548I$	0
$u = 0.058371 + 1.151600I$ $a = -0.994776 - 0.435515I$ $b = -1.350760 - 0.323809I$	$2.60879 - 0.44068I$	0
$u = 0.058371 - 1.151600I$ $a = -0.994776 + 0.435515I$ $b = -1.350760 + 0.323809I$	$2.60879 + 0.44068I$	0
$u = -1.041020 + 0.520143I$ $a = 0.46904 + 1.34296I$ $b = -0.997382 + 0.195084I$	$3.12392 - 13.47560I$	0
$u = -1.041020 - 0.520143I$ $a = 0.46904 - 1.34296I$ $b = -0.997382 - 0.195084I$	$3.12392 + 13.47560I$	0
$u = -0.228041 + 0.804162I$ $a = 0.49599 + 1.58544I$ $b = -0.742664 + 0.931101I$	$0.00371 - 6.56432I$	0
$u = -0.228041 - 0.804162I$ $a = 0.49599 - 1.58544I$ $b = -0.742664 - 0.931101I$	$0.00371 + 6.56432I$	0
$u = -0.325241 + 0.751385I$ $a = -1.119650 + 0.073578I$ $b = 0.441430 - 0.019191I$	$-1.17272 - 3.22672I$	0
$u = -0.325241 - 0.751385I$ $a = -1.119650 - 0.073578I$ $b = 0.441430 + 0.019191I$	$-1.17272 + 3.22672I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.651445 + 0.464860I$ $a = -0.23568 + 2.32218I$ $b = 0.545026 + 0.283692I$	$0.00371 + 6.56432I$	0
$u = 0.651445 - 0.464860I$ $a = -0.23568 - 2.32218I$ $b = 0.545026 - 0.283692I$	$0.00371 - 6.56432I$	0
$u = 0.345017 + 0.721530I$ $a = 0.000148 - 0.490667I$ $b = 1.068660 - 0.225560I$	$-3.83972 - 0.00597I$	0
$u = 0.345017 - 0.721530I$ $a = 0.000148 + 0.490667I$ $b = 1.068660 + 0.225560I$	$-3.83972 + 0.00597I$	0
$u = 0.256364 + 0.746911I$ $a = 0.11222 + 1.81000I$ $b = 0.161700 + 0.852665I$	$-3.83972 + 0.00597I$	0
$u = 0.256364 - 0.746911I$ $a = 0.11222 - 1.81000I$ $b = 0.161700 - 0.852665I$	$-3.83972 - 0.00597I$	0
$u = 1.212950 + 0.055932I$ $a = 0.108097 + 0.606132I$ $b = 0.545998 + 0.782799I$	$5.53095 - 4.51811I$	0
$u = 1.212950 - 0.055932I$ $a = 0.108097 - 0.606132I$ $b = 0.545998 - 0.782799I$	$5.53095 + 4.51811I$	0
$u = -0.101959 + 0.770178I$ $a = -0.391879 + 1.204470I$ $b = 0.65678 + 1.89428I$	$-0.71894 - 5.15211I$	0
$u = -0.101959 - 0.770178I$ $a = -0.391879 - 1.204470I$ $b = 0.65678 - 1.89428I$	$-0.71894 + 5.15211I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.310814+0.708120I$ $a=-1.85423-1.06698I$ $b=\ \ 0.261803-0.692954I$	$-2.04342-5.79434I$	0
$u=-0.310814-0.708120I$ $a=-1.85423+1.06698I$ $b=\ \ 0.261803+0.692954I$	$-2.04342+5.79434I$	0
$u=\ \ 0.845172+0.899480I$ $a=-0.045173+0.734493I$ $b=\ \ 0.70969+1.45480I$	-3.12185	0
$u=\ \ 0.845172-0.899480I$ $a=-0.045173-0.734493I$ $b=\ \ 0.70969-1.45480I$	-3.12185	0
$u=\ \ 0.063660+0.759691I$ $a=\ \ 0.69239-2.18408I$ $b=-0.12076-1.51380I$	$-5.33805+4.64735I$	0
$u=\ \ 0.063660-0.759691I$ $a=\ \ 0.69239+2.18408I$ $b=-0.12076+1.51380I$	$-5.33805-4.64735I$	0
$u=\ \ 0.443471+1.171000I$ $a=-0.843565-0.369314I$ $b=-0.0236436+0.1185380I$	$-2.60879-0.44068I$	0
$u=\ \ 0.443471-1.171000I$ $a=-0.843565+0.369314I$ $b=-0.0236436-0.1185380I$	$-2.60879+0.44068I$	0
$u=\ \ 0.097214+0.741255I$ $a=\ \ 0.28515-1.59895I$ $b=-0.62245-1.68734I$	$-5.53095+4.51811I$	0
$u=\ \ 0.097214-0.741255I$ $a=\ \ 0.28515+1.59895I$ $b=-0.62245+1.68734I$	$-5.53095-4.51811I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.709105 + 1.045240I$ $a = -0.122648 + 0.824205I$ $b = 0.575220 + 0.909352I$	$-4.07623 + 0.75664I$	0
$u = 0.709105 - 1.045240I$ $a = -0.122648 - 0.824205I$ $b = 0.575220 - 0.909352I$	$-4.07623 - 0.75664I$	0
$u = 0.181283 + 0.709561I$ $a = 1.33655 + 1.70911I$ $b = 0.104052 + 0.466709I$	$-4.18899 + 2.61263I$	0
$u = 0.181283 - 0.709561I$ $a = 1.33655 - 1.70911I$ $b = 0.104052 - 0.466709I$	$-4.18899 - 2.61263I$	0
$u = 0.378988 + 0.611519I$ $a = 2.06491 - 1.07749I$ $b = -0.579564 - 0.939308I$	$6.42431I$	0
$u = 0.378988 - 0.611519I$ $a = 2.06491 + 1.07749I$ $b = -0.579564 + 0.939308I$	$-6.42431I$	0
$u = 0.327824 + 0.629608I$ $a = -2.24418 + 1.40919I$ $b = 0.487100 + 0.895188I$	$-1.1515 + 14.6381I$	0
$u = 0.327824 - 0.629608I$ $a = -2.24418 - 1.40919I$ $b = 0.487100 - 0.895188I$	$-1.1515 - 14.6381I$	0
$u = -0.708349 + 0.012911I$ $a = 0.105577 - 0.805741I$ $b = 0.77099 - 2.01412I$	$-3.40915I$	0
$u = -0.708349 - 0.012911I$ $a = 0.105577 + 0.805741I$ $b = 0.77099 + 2.01412I$	$3.40915I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.444863 + 1.215140I$ $a = 0.653408 - 0.276129I$ $b = 0.588408 - 0.368551I$	$2.61654 - 5.18045I$	0
$u = 0.444863 - 1.215140I$ $a = 0.653408 + 0.276129I$ $b = 0.588408 + 0.368551I$	$2.61654 + 5.18045I$	0
$u = 0.225033 + 0.668341I$ $a = 0.039346 - 1.339110I$ $b = 0.66699 - 1.28624I$	$-4.18899 + 2.61263I$	0
$u = 0.225033 - 0.668341I$ $a = 0.039346 + 1.339110I$ $b = 0.66699 + 1.28624I$	$-4.18899 - 2.61263I$	0
$u = -1.099790 + 0.685941I$ $a = 0.439880 + 0.898056I$ $b = -0.840026 + 0.161775I$	$2.94328I$	0
$u = -1.099790 - 0.685941I$ $a = 0.439880 - 0.898056I$ $b = -0.840026 - 0.161775I$	$-2.94328I$	0
$u = -1.017870 + 0.802700I$ $a = -0.003911 - 1.128620I$ $b = 1.261700 - 0.468281I$	$5.53095 - 4.51811I$	0
$u = -1.017870 - 0.802700I$ $a = -0.003911 + 1.128620I$ $b = 1.261700 + 0.468281I$	$5.53095 + 4.51811I$	0
$u = 1.079760 + 0.720570I$ $a = 0.311109 + 0.138789I$ $b = 0.725983 - 0.258704I$	$-1.53101 - 2.78696I$	0
$u = 1.079760 - 0.720570I$ $a = 0.311109 - 0.138789I$ $b = 0.725983 + 0.258704I$	$-1.53101 + 2.78696I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.116331 + 1.311190I$ $a = 0.187972 + 0.069699I$ $b = 1.210540 + 0.473338I$	$0.60074 - 2.45623I$	0
$u = 0.116331 - 1.311190I$ $a = 0.187972 - 0.069699I$ $b = 1.210540 - 0.473338I$	$0.60074 + 2.45623I$	0
$u = 0.780577 + 1.063120I$ $a = 0.278422 + 1.152030I$ $b = 0.878367 + 1.008520I$	$-2.15015 + 8.23570I$	0
$u = 0.780577 - 1.063120I$ $a = 0.278422 - 1.152030I$ $b = 0.878367 - 1.008520I$	$-2.15015 - 8.23570I$	0
$u = -0.160779 + 0.655320I$ $a = 0.265273 - 1.314950I$ $b = -0.94515 - 1.91500I$	$-1.35038 - 13.87800I$	0
$u = -0.160779 - 0.655320I$ $a = 0.265273 + 1.314950I$ $b = -0.94515 + 1.91500I$	$-1.35038 + 13.87800I$	0
$u = 1.244640 + 0.463493I$ $a = -0.811474 + 0.211442I$ $b = 0.708285 + 0.522831I$	$-2.60879 + 0.44068I$	0
$u = 1.244640 - 0.463493I$ $a = -0.811474 - 0.211442I$ $b = 0.708285 - 0.522831I$	$-2.60879 - 0.44068I$	0
$u = 0.097447 + 0.653506I$ $a = -0.68614 + 2.07705I$ $b = 0.47400 + 1.75742I$	$-4.85343 - 3.93548I$	0
$u = 0.097447 - 0.653506I$ $a = -0.68614 - 2.07705I$ $b = 0.47400 - 1.75742I$	$-4.85343 + 3.93548I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.159960+0.701632I$ $a=-0.187181-1.052110I$ $b=\ \ 1.199210-0.163349I$	$5.33805-4.64735I$	0
$u=-1.159960-0.701632I$ $a=-0.187181+1.052110I$ $b=\ \ 1.199210+0.163349I$	$5.33805+4.64735I$	0
$u=-1.388060+0.037314I$ $a=\ \ 0.179732-0.574511I$ $b=\ \ 0.456136+0.193633I$	$-0.00371+6.56432I$	0
$u=-1.388060-0.037314I$ $a=\ \ 0.179732+0.574511I$ $b=\ \ 0.456136-0.193633I$	$-0.00371-6.56432I$	0
$u=\ \ 0.540951+1.284230I$ $a=\ \ 0.735951+0.362851I$ $b=\ \ 1.244970-0.043677I$	$2.38963+10.26740I$	0
$u=\ \ 0.540951-1.284230I$ $a=\ \ 0.735951-0.362851I$ $b=\ \ 1.244970+0.043677I$	$2.38963-10.26740I$	0
$u=\ \ 1.092980+0.874135I$ $a=\ \ 0.080327-0.701422I$ $b=-0.283472-1.043950I$	$-2.61654+5.18045I$	0
$u=\ \ 1.092980-0.874135I$ $a=\ \ 0.080327+0.701422I$ $b=-0.283472+1.043950I$	$-2.61654-5.18045I$	0
$u=\ \ 0.069902+0.594546I$ $a=-1.68174+2.77788I$ $b=\ \ 0.031018+1.351510I$	$-4.82565-3.73868I$	0
$u=\ \ 0.069902-0.594546I$ $a=-1.68174-2.77788I$ $b=\ \ 0.031018-1.351510I$	$-4.82565+3.73868I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.596105+0.027599I$ $a=\ \ 2.46432+2.26971I$ $b=-0.206906-0.045241I$	$2.77141+2.42490I$	0
$u=-0.596105-0.027599I$ $a=\ \ 2.46432-2.26971I$ $b=-0.206906+0.045241I$	$2.77141-2.42490I$	0
$u=-0.358464+0.460113I$ $a=-3.28279-0.91764I$ $b=\ \ 0.281771-0.832596I$	$0.71894-5.15211I$	0
$u=-0.358464-0.460113I$ $a=-3.28279+0.91764I$ $b=\ \ 0.281771+0.832596I$	$0.71894+5.15211I$	0
$u=-0.064383+0.572109I$ $a=\ \ 0.159877+1.220150I$ $b=-0.80921+2.42021I$	$3.40915I$	0
$u=-0.064383-0.572109I$ $a=\ \ 0.159877-1.220150I$ $b=-0.80921-2.42021I$	$-3.40915I$	0
$u=\ \ 1.41568+0.18810I$ $a=\ \ 0.294665-0.536877I$ $b=-0.126713-0.116788I$	$0.60074+2.45623I$	0
$u=\ \ 1.41568-0.18810I$ $a=\ \ 0.294665+0.536877I$ $b=-0.126713+0.116788I$	$0.60074-2.45623I$	0
$u=-1.32314+0.54784I$ $a=\ \ 0.034124-0.550370I$ $b=\ \ 0.586694-0.004843I$	$3.83972-0.00597I$	0
$u=-1.32314-0.54784I$ $a=\ \ 0.034124+0.550370I$ $b=\ \ 0.586694+0.004843I$	$3.83972+0.00597I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.77688+1.20866I$ $a=\ \ 0.357204-1.071890I$ $b=\ \ 1.24406-1.13957I$	$-3.12392-13.47560I$	0
$u=-0.77688-1.20866I$ $a=\ \ 0.357204+1.071890I$ $b=\ \ 1.24406+1.13957I$	$-3.12392+13.47560I$	0
$u=\ \ 0.108511+0.546898I$ $a=-1.03168+2.62206I$ $b=\ \ 0.411387+0.469854I$	$1.87947-2.48342I$	0
$u=\ \ 0.108511-0.546898I$ $a=-1.03168-2.62206I$ $b=\ \ 0.411387-0.469854I$	$1.87947+2.48342I$	0
$u=-1.42422+0.24599I$ $a=-0.143396+0.434083I$ $b=-0.495974+0.802711I$	$4.85343-3.93548I$	0
$u=-1.42422-0.24599I$ $a=-0.143396-0.434083I$ $b=-0.495974-0.802711I$	$4.85343+3.93548I$	0
$u=-0.85503+1.16703I$ $a=-0.188598+1.032490I$ $b=-1.21317+1.16017I$	$-4.14980-4.96562I$	0
$u=-0.85503-1.16703I$ $a=-0.188598-1.032490I$ $b=-1.21317-1.16017I$	$-4.14980+4.96562I$	0
$u=\ \ 0.95532+1.08907I$ $a=-0.163910+0.921310I$ $b=\ \ 0.673038+0.756340I$	$-5.33805+4.64735I$	0
$u=\ \ 0.95532-1.08907I$ $a=-0.163910-0.921310I$ $b=\ \ 0.673038-0.756340I$	$-5.33805-4.64735I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.81417+1.20017I$ $a=-0.187515+0.749492I$ $b=-0.555370+1.122340I$	$-1.87947-2.48342I$	0
$u=-0.81417-1.20017I$ $a=-0.187515-0.749492I$ $b=-0.555370-1.122340I$	$-1.87947+2.48342I$	0
$u=\ \ 0.184631+0.508816I$ $a=-0.20353-1.65388I$ $b=\ \ 0.97618-1.66187I$	$-2.04342+5.79434I$	0
$u=\ \ 0.184631-0.508816I$ $a=-0.20353+1.65388I$ $b=\ \ 0.97618+1.66187I$	$-2.04342-5.79434I$	0
$u=\ \ 0.68904+1.28903I$ $a=-0.555528-0.831498I$ $b=-1.068190-0.685978I$	$2.94328I$	0
$u=\ \ 0.68904-1.28903I$ $a=-0.555528+0.831498I$ $b=-1.068190+0.685978I$	$-2.94328I$	0
$u=\ \ 0.90992+1.14564I$ $a=-0.003071+0.886030I$ $b=\ \ 0.584092+0.904002I$	$-5.53095+4.51811I$	0
$u=\ \ 0.90992-1.14564I$ $a=-0.003071-0.886030I$ $b=\ \ 0.584092-0.904002I$	$-5.53095-4.51811I$	0
$u=-0.531402+0.031056I$ $a=-0.46985-1.73849I$ $b=-0.784689-0.375017I$	$4.07623+0.75664I$	$7.36157+0.I$
$u=-0.531402-0.031056I$ $a=-0.46985+1.73849I$ $b=-0.784689+0.375017I$	$4.07623-0.75664I$	$7.36157+0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.96347 + 1.11269I$ $a = 0.095107 + 1.050690I$ $b = 1.22950 + 0.89397I$	$-2.38963 + 10.26740I$	0
$u = 0.96347 - 1.11269I$ $a = 0.095107 - 1.050690I$ $b = 1.22950 - 0.89397I$	$-2.38963 - 10.26740I$	0
$u = -0.87743 + 1.20189I$ $a = 0.045260 - 0.705623I$ $b = 0.262897 - 1.026930I$	$-4.14980 + 4.96562I$	0
$u = -0.87743 - 1.20189I$ $a = 0.045260 + 0.705623I$ $b = 0.262897 + 1.026930I$	$-4.14980 - 4.96562I$	0
$u = 1.00515 + 1.11771I$ $a = -0.101534 - 1.031100I$ $b = -1.28987 - 1.17149I$	$1.35038 + 13.87800I$	0
$u = 1.00515 - 1.11771I$ $a = -0.101534 + 1.031100I$ $b = -1.28987 + 1.17149I$	$1.35038 - 13.87800I$	0
$u = -1.04370 + 1.10291I$ $a = -0.171202 + 0.937257I$ $b = -0.966352 + 0.885152I$	$4.14980 - 4.96562I$	0
$u = -1.04370 - 1.10291I$ $a = -0.171202 - 0.937257I$ $b = -0.966352 - 0.885152I$	$4.14980 + 4.96562I$	0
$u = 0.99001 + 1.16493I$ $a = 0.179032 + 1.037710I$ $b = 1.16803 + 1.06035I$	$-1.1515 + 14.6381I$	0
$u = 0.99001 - 1.16493I$ $a = 0.179032 - 1.037710I$ $b = 1.16803 - 1.06035I$	$-1.1515 - 14.6381I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.314085 + 0.348420I$ $a = 1.98381 + 0.62462I$ $b = -1.014450 - 0.209286I$	$1.17272 + 3.22672I$	$6.75579 - 2.71059I$
$u = 0.314085 - 0.348420I$ $a = 1.98381 - 0.62462I$ $b = -1.014450 + 0.209286I$	$1.17272 - 3.22672I$	$6.75579 + 2.71059I$
$u = -0.250133 + 0.395887I$ $a = -0.530623 + 0.340491I$ $b = -1.57928 + 2.14816I$	0.0421355	$9.08507 + 0.I$
$u = -0.250133 - 0.395887I$ $a = -0.530623 - 0.340491I$ $b = -1.57928 - 2.14816I$	0.0421355	$9.08507 + 0.I$
$u = 0.41519 + 1.47473I$ $a = -0.599734 - 0.151400I$ $b = -1.178190 + 0.258939I$	$2.91798 + 1.45918I$	0
$u = 0.41519 - 1.47473I$ $a = -0.599734 + 0.151400I$ $b = -1.178190 - 0.258939I$	$2.91798 - 1.45918I$	0
$u = -0.185218 + 0.426857I$ $a = 3.90176 - 1.20430I$ $b = 0.196243 + 0.404075I$	$0.17902 + 4.15433I$	$-11.17322 + 2.41881I$
$u = -0.185218 - 0.426857I$ $a = 3.90176 + 1.20430I$ $b = 0.196243 - 0.404075I$	$0.17902 - 4.15433I$	$-11.17322 - 2.41881I$
$u = 0.319845 + 0.318752I$ $a = -1.70345 - 3.32209I$ $b = 0.433928 - 0.312556I$	$1.72572 + 7.49064I$	$7.19657 - 0.61552I$
$u = 0.319845 - 0.318752I$ $a = -1.70345 + 3.32209I$ $b = 0.433928 + 0.312556I$	$1.72572 - 7.49064I$	$7.19657 + 0.61552I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.07746+1.11814I$ $a=\ \ 0.085451-0.944017I$ $b=\ \ 1.052750-0.772378I$	$2.38963-10.26740I$	0
$u=-1.07746-1.11814I$ $a=\ \ 0.085451+0.944017I$ $b=\ \ 1.052750+0.772378I$	$2.38963+10.26740I$	0
$u=\ \ 1.05041+1.14989I$ $a=-0.094585-0.960527I$ $b=-1.05120-1.15324I$	$-1.35038+13.87800I$	0
$u=\ \ 1.05041-1.14989I$ $a=-0.094585+0.960527I$ $b=-1.05120+1.15324I$	$-1.35038-13.87800I$	0
$u=\ \ 0.235916+0.374034I$ $a=\ \ 2.68079-1.19593I$ $b=-0.711198-0.315157I$	$1.53101+2.78696I$	$3.49090-8.15462I$
$u=\ \ 0.235916-0.374034I$ $a=\ \ 2.68079+1.19593I$ $b=-0.711198+0.315157I$	$1.53101-2.78696I$	$3.49090+8.15462I$
$u=-1.00742+1.19525I$ $a=\ \ 0.198207-0.820128I$ $b=\ \ 1.17870-0.87048I$	$2.15015-8.23570I$	0
$u=-1.00742-1.19525I$ $a=\ \ 0.198207+0.820128I$ $b=\ \ 1.17870+0.87048I$	$2.15015+8.23570I$	0
$u=-1.54595+0.27970I$ $a=-0.129942+0.330253I$ $b=-0.396603-0.405971I$	$-1.87947-2.48342I$	0
$u=-1.54595-0.27970I$ $a=-0.129942-0.330253I$ $b=-0.396603+0.405971I$	$-1.87947+2.48342I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.97042+1.25819I$ $a=\ 0.283924-0.363068I$ $b=\ 0.964633-0.006223I$	$4.18899-2.61263I$	0
$u=-0.97042-1.25819I$ $a=\ 0.283924+0.363068I$ $b=\ 0.964633+0.006223I$	$4.18899+2.61263I$	0
$u=\ 1.07622+1.18104I$ $a=\ 0.121061-0.710020I$ $b=-0.541130-0.699281I$	$-4.85343+3.93548I$	0
$u=\ 1.07622-1.18104I$ $a=\ 0.121061+0.710020I$ $b=-0.541130+0.699281I$	$-4.85343-3.93548I$	0
$u=-0.094887+0.387658I$ $a=\ 3.51149+3.29191I$ $b=-0.479660+0.671504I$	$-2.91798-1.45918I$	$-13.20482+4.97769I$
$u=-0.094887-0.387658I$ $a=\ 3.51149-3.29191I$ $b=-0.479660-0.671504I$	$-2.91798+1.45918I$	$-13.20482-4.97769I$
$u=\ 0.354082+0.169181I$ $a=\ 0.00062-2.03804I$ $b=-1.312900-0.028450I$	$3.83972-0.00597I$	$10.79982-0.35314I$
$u=\ 0.354082-0.169181I$ $a=\ 0.00062+2.03804I$ $b=-1.312900+0.028450I$	$3.83972+0.00597I$	$10.79982+0.35314I$
$u=-1.03161+1.23590I$ $a=\ 0.161451-0.935808I$ $b=\ 1.29301-1.08215I$	$1.1515-14.6381I$	0
$u=-1.03161-1.23590I$ $a=\ 0.161451+0.935808I$ $b=\ 1.29301+1.08215I$	$1.1515+14.6381I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.01805 + 1.26448I$ $a = 0.279820 + 0.839681I$ $b = 1.075170 + 0.891451I$	$3.12392 + 13.47560I$	0
$u = 1.01805 - 1.26448I$ $a = 0.279820 - 0.839681I$ $b = 1.075170 - 0.891451I$	$3.12392 - 13.47560I$	0
$u = 1.06553 + 1.23421I$ $a = -0.026271 - 0.698532I$ $b = -0.417846 - 0.728174I$	$-4.82565 + 3.73868I$	0
$u = 1.06553 - 1.23421I$ $a = -0.026271 + 0.698532I$ $b = -0.417846 + 0.728174I$	$-4.82565 - 3.73868I$	0
$u = 1.33187 + 0.98139I$ $a = -0.405152 - 0.233137I$ $b = -0.542779 + 0.555203I$	$2.04342 - 5.79434I$	0
$u = 1.33187 - 0.98139I$ $a = -0.405152 + 0.233137I$ $b = -0.542779 - 0.555203I$	$2.04342 + 5.79434I$	0
$u = -1.18682 + 1.15409I$ $a = 0.231791 + 0.663668I$ $b = -0.838412 + 0.779203I$	$-3.12392 - 13.47560I$	0
$u = -1.18682 - 1.15409I$ $a = 0.231791 - 0.663668I$ $b = -0.838412 - 0.779203I$	$-3.12392 + 13.47560I$	0
$u = 1.44148 + 0.85438I$ $a = 0.380641 + 0.198622I$ $b = 0.555728 - 0.265983I$	$-6.42431I$	0
$u = 1.44148 - 0.85438I$ $a = 0.380641 - 0.198622I$ $b = 0.555728 + 0.265983I$	$6.42431I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.51408 + 1.60553I$ $a = -0.122216 - 0.238347I$ $b = -1.110120 - 0.662212I$	$-1.72572 + 7.49064I$	0
$u = 0.51408 - 1.60553I$ $a = -0.122216 + 0.238347I$ $b = -1.110120 + 0.662212I$	$-1.72572 - 7.49064I$	0
$u = -1.09241 + 1.29201I$ $a = -0.175609 + 0.584815I$ $b = -0.609899 + 1.027940I$	$-2.77141 - 2.42490I$	0
$u = -1.09241 - 1.29201I$ $a = -0.175609 - 0.584815I$ $b = -0.609899 - 1.027940I$	$-2.77141 + 2.42490I$	0
$u = -0.002070 + 0.295235I$ $a = -1.33492 + 0.85659I$ $b = 1.46188 + 2.22119I$	-0.0421355	$-9.08507 + 0.I$
$u = -0.002070 - 0.295235I$ $a = -1.33492 - 0.85659I$ $b = 1.46188 - 2.22119I$	-0.0421355	$-9.08507 + 0.I$
$u = 0.284712 + 0.007691I$ $a = -1.44817 + 3.29455I$ $b = 1.359420 + 0.165320I$	$2.15015 + 8.23570I$	$4.52846 - 7.12595I$
$u = 0.284712 - 0.007691I$ $a = -1.44817 - 3.29455I$ $b = 1.359420 - 0.165320I$	$2.15015 - 8.23570I$	$4.52846 + 7.12595I$
$u = -0.069521 + 0.254576I$ $a = 4.67692 - 1.73417I$ $b = -0.868654 - 0.411797I$	$-0.60074 + 2.45623I$	$0.66265 - 6.54800I$
$u = -0.069521 - 0.254576I$ $a = 4.67692 + 1.73417I$ $b = -0.868654 + 0.411797I$	$-0.60074 - 2.45623I$	$0.66265 + 6.54800I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.26544 + 1.19151I$ $a = -0.045352 - 0.563773I$ $b = -0.780485 - 0.863019I$	$-1.72572 + 7.49064I$	0
$u = 1.26544 - 1.19151I$ $a = -0.045352 + 0.563773I$ $b = -0.780485 + 0.863019I$	$-1.72572 - 7.49064I$	0
$u = 1.70330 + 0.38697I$ $a = 0.131895 + 0.416047I$ $b = 0.306306 + 0.195183I$	$5.33805 - 4.64735I$	0
$u = 1.70330 - 0.38697I$ $a = 0.131895 - 0.416047I$ $b = 0.306306 - 0.195183I$	$5.33805 + 4.64735I$	0
$u = -1.23302 + 1.40321I$ $a = -0.043260 - 0.426240I$ $b = 0.910516 - 0.624622I$	$-0.00371 - 6.56432I$	0
$u = -1.23302 - 1.40321I$ $a = -0.043260 + 0.426240I$ $b = 0.910516 + 0.624622I$	$-0.00371 + 6.56432I$	0
$u = -1.62293 + 0.95099I$ $a = -0.319586 + 0.200678I$ $b = -0.553813 - 0.438381I$	$1.1515 + 14.6381I$	0
$u = -1.62293 - 0.95099I$ $a = -0.319586 - 0.200678I$ $b = -0.553813 + 0.438381I$	$1.1515 - 14.6381I$	0
$u = -0.20861 + 1.88855I$ $a = 0.234002 + 0.072226I$ $b = 0.571260 + 0.034766I$	$-0.17902 - 4.15433I$	0
$u = -0.20861 - 1.88855I$ $a = 0.234002 - 0.072226I$ $b = 0.571260 - 0.034766I$	$-0.17902 + 4.15433I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.60933+1.04889I$ $a=\ \ 0.151571-0.142094I$ $b=\ \ 0.733566+0.051894I$	$2.91798+1.45918I$	0
$u=-1.60933-1.04889I$ $a=\ \ 0.151571+0.142094I$ $b=\ \ 0.733566-0.051894I$	$2.91798-1.45918I$	0
$u=-1.76913+0.80569I$ $a=-0.159485+0.263434I$ $b=-0.386375+0.243359I$	$4.82565-3.73868I$	0
$u=-1.76913-0.80569I$ $a=-0.159485-0.263434I$ $b=-0.386375-0.243359I$	$4.82565+3.73868I$	0
$u=\ \ 1.59898+1.18152I$ $a=-0.282542-0.078979I$ $b=-0.252226+0.326644I$	$-0.71894-5.15211I$	0
$u=\ \ 1.59898-1.18152I$ $a=-0.282542+0.078979I$ $b=-0.252226-0.326644I$	$-0.71894+5.15211I$	0
$u=-1.53164+1.28497I$ $a=\ \ 0.219549+0.202211I$ $b=-0.741575+0.678467I$	$-2.77141+2.42490I$	0
$u=-1.53164-1.28497I$ $a=\ \ 0.219549-0.202211I$ $b=-0.741575-0.678467I$	$-2.77141-2.42490I$	0

III. $I_3^u = \langle 1.78\times 10^{199}u^{59} - 4.11\times 10^{199}u^{58} + \cdots + 4.11\times 10^{201}b - 1.03\times 10^{201},\ -1.13\times 10^{195}u^{59} + 3.04\times 10^{195}u^{58} + \cdots + 3.32\times 10^{196}a + 1.29\times 10^{197},\ u^{60} - 3u^{59} + \cdots - 405u + 81\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 0.0340064u^{59} - 0.0915725u^{58} + \cdots + 20.1109u - 3.89008 \\ -0.00432816u^{59} + 0.0100035u^{58} + \cdots - 2.01849u + 0.251522 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0329468u^{59} - 0.0870163u^{58} + \cdots + 20.6530u - 3.29542 \\ -0.00446432u^{59} + 0.0101269u^{58} + \cdots - 2.66223u + 0.363106 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0380111u^{59} - 0.0975197u^{58} + \cdots + 26.3422u - 12.2411 \\ -0.00843735u^{59} + 0.0243849u^{58} + \cdots - 5.42827u + 2.56305 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0201182u^{59} - 0.0535896u^{58} + \cdots + 13.2332u - 0.907135 \\ -0.00666024u^{59} + 0.0168255u^{58} + \cdots - 3.93400u + 0.896569 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0383346u^{59} - 0.101576u^{58} + \cdots + 22.1294u - 4.14160 \\ -0.00432816u^{59} + 0.0100035u^{58} + \cdots - 2.01849u + 0.251522 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0571166u^{59} - 0.152365u^{58} + \cdots + 40.0236u - 17.7786 \\ -0.0106682u^{59} + 0.0304602u^{58} + \cdots - 6.25318u + 2.97448 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0419242u^{59} - 0.111437u^{58} + \cdots + 22.0932u - 8.20065 \\ -0.00486271u^{59} + 0.0142693u^{58} + \cdots - 4.90460u + 1.44464 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0609340u^{59} - 0.171286u^{58} + \cdots + 37.9487u - 22.2153 \\ -0.0104278u^{59} + 0.0297725u^{58} + \cdots - 6.53554u + 3.97156 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0544112u^{59} + 0.147777u^{58} + \cdots - 36.0986u + 13.4250 \\ 0.00825586u^{59} - 0.0230421u^{58} + \cdots + 5.45698u - 2.31264 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -0.0634322u^{59} + 0.162300u^{58} + \cdots - 46.3123u + 18.9761$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{60} - 13u^{59} + \cdots + 1249u + 127$
c_2, c_8	$81(81u^{60} + 567u^{59} + \cdots + 7u + 1)$
c_3, c_9	$81(81u^{60} - 567u^{59} + \cdots - 7u + 1)$
c_4, c_{10}	$u^{60} + 3u^{59} + \cdots + 405u + 81$
c_5, c_{11}	$u^{60} + 13u^{59} + \cdots - 1249u + 127$
c_6, c_{12}	$u^{60} - 3u^{59} + \cdots - 405u + 81$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7 c_{11}	$y^{60} - 3y^{59} + \cdots - 2004247y + 16129$
c_2, c_3, c_8 c_9	$6561(6561y^{60} + 88209y^{59} + \cdots + 41y + 1)$
c_4, c_6, c_{10} c_{12}	$y^{60} - 7y^{59} + \cdots - 95499y + 6561$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.672996+0.644045I$ $a=\ 0.202882-0.800309I$ $b=\ 1.26095-1.04967I$	$0.42397-4.54047I$	$1.41680+11.19246I$
$u=-0.672996-0.644045I$ $a=\ 0.202882+0.800309I$ $b=\ 1.26095+1.04967I$	$0.42397+4.54047I$	$1.41680-11.19246I$
$u=-0.612611+0.882756I$ $a=\ 0.47276-1.43991I$ $b=\ 1.05726-1.11579I$	$2.68342-2.20216I$	$1.62901-11.36162I$
$u=-0.612611-0.882756I$ $a=\ 0.47276+1.43991I$ $b=\ 1.05726+1.11579I$	$2.68342+2.20216I$	$1.62901+11.36162I$
$u=-0.845851+0.370106I$ $a=-0.620036-0.480563I$ $b=\ 0.733858-1.125670I$	$1.17531-5.50379I$	$2.72483+9.97648I$
$u=-0.845851-0.370106I$ $a=-0.620036+0.480563I$ $b=\ 0.733858+1.125670I$	$1.17531+5.50379I$	$2.72483-9.97648I$
$u=\ 0.536122+0.718184I$ $a=\ 0.08886+1.90031I$ $b=\ 0.74154+1.30092I$	$1.69146+7.79921I$	$4.9260-26.4100I$
$u=\ 0.536122-0.718184I$ $a=\ 0.08886-1.90031I$ $b=\ 0.74154-1.30092I$	$1.69146-7.79921I$	$4.9260+26.4100I$
$u=-0.067922+1.102530I$ $a=\ 1.169420+0.132080I$ $b=\ 0.115783+0.179827I$	$-2.22027+1.23412I$	$-2.04804-3.92232I$
$u=-0.067922-1.102530I$ $a=\ 1.169420-0.132080I$ $b=\ 0.115783-0.179827I$	$-2.22027-1.23412I$	$-2.04804+3.92232I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.810603 + 0.123514I$ $a = -1.36340 + 0.88837I$ $b = 0.514851 - 0.409112I$	$-2.22027 - 1.23412I$	$-2.04804 + 3.92232I$
$u = 0.810603 - 0.123514I$ $a = -1.36340 - 0.88837I$ $b = 0.514851 + 0.409112I$	$-2.22027 + 1.23412I$	$-2.04804 - 3.92232I$
$u = -0.330497 + 0.711546I$ $a = -1.61443 - 1.09197I$ $b = 0.344693 - 0.805106I$	$-1.17531 - 5.50379I$	$-2.72483 + 9.97648I$
$u = -0.330497 - 0.711546I$ $a = -1.61443 + 1.09197I$ $b = 0.344693 + 0.805106I$	$-1.17531 + 5.50379I$	$-2.72483 - 9.97648I$
$u = -0.903585 + 0.816215I$ $a = 0.052750 - 1.283090I$ $b = 1.46569 - 0.41316I$	$4.74340 - 3.56595I$	$0. - 19.3521I$
$u = -0.903585 - 0.816215I$ $a = 0.052750 + 1.283090I$ $b = 1.46569 + 0.41316I$	$4.74340 + 3.56595I$	$0. + 19.3521I$
$u = -0.775298 + 0.025567I$ $a = 0.997827 + 0.065882I$ $b = -0.300870 + 1.154900I$	$- 13.6095I$	$0. + 9.25017I$
$u = -0.775298 - 0.025567I$ $a = 0.997827 - 0.065882I$ $b = -0.300870 - 1.154900I$	$13.6095I$	$0. - 9.25017I$
$u = 0.378896 + 0.669270I$ $a = 0.297632 + 1.174070I$ $b = -0.574914 + 1.256060I$	$-0.42397 + 4.54047I$	$-1.41680 - 11.19246I$
$u = 0.378896 - 0.669270I$ $a = 0.297632 - 1.174070I$ $b = -0.574914 - 1.256060I$	$-0.42397 - 4.54047I$	$-1.41680 + 11.19246I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.702317 + 0.177006I$ $a = -1.007560 + 0.780914I$ $b = -0.074291 + 1.015460I$	$-1.17531 + 5.50379I$	$-2.72483 - 9.97648I$
$u = 0.702317 - 0.177006I$ $a = -1.007560 - 0.780914I$ $b = -0.074291 - 1.015460I$	$-1.17531 - 5.50379I$	$-2.72483 + 9.97648I$
$u = -0.225051 + 1.280350I$ $a = 0.844352 - 0.095365I$ $b = 1.280560 + 0.155262I$	$2.22027 - 1.23412I$	0
$u = -0.225051 - 1.280350I$ $a = 0.844352 + 0.095365I$ $b = 1.280560 - 0.155262I$	$2.22027 + 1.23412I$	0
$u = -0.099193 + 0.688067I$ $a = -0.54138 - 2.34954I$ $b = 0.09895 - 1.92778I$	$-4.83302 - 4.71436I$	$3.16224 + 12.50775I$
$u = -0.099193 - 0.688067I$ $a = -0.54138 + 2.34954I$ $b = 0.09895 + 1.92778I$	$-4.83302 + 4.71436I$	$3.16224 - 12.50775I$
$u = -1.214900 + 0.551712I$ $a = -0.514869 - 0.335480I$ $b = 0.538095 + 0.111950I$	$2.22027 + 1.23412I$	0
$u = -1.214900 - 0.551712I$ $a = -0.514869 + 0.335480I$ $b = 0.538095 - 0.111950I$	$2.22027 - 1.23412I$	0
$u = 0.347628 + 1.330100I$ $a = 0.152301 - 0.182658I$ $b = 0.661726 + 0.088373I$	$-0.42397 - 4.54047I$	0
$u = 0.347628 - 1.330100I$ $a = 0.152301 + 0.182658I$ $b = 0.661726 - 0.088373I$	$-0.42397 + 4.54047I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.088346+0.618364I$ $a=\ 1.21677+2.81590I$ $b=\ 0.08136+1.50343I$	$-4.74340+3.56595I$	$0.1294+19.3521I$
$u=-0.088346-0.618364I$ $a=\ 1.21677-2.81590I$ $b=\ 0.08136-1.50343I$	$-4.74340-3.56595I$	$0.1294-19.3521I$
$u=\ 1.170450+0.730983I$ $a=\ 0.193385-1.055630I$ $b=-1.346560-0.157819I$	$4.83302+4.71436I$	0
$u=\ 1.170450-0.730983I$ $a=\ 0.193385+1.055630I$ $b=-1.346560+0.157819I$	$4.83302-4.71436I$	0
$u=\ 0.456006+0.401313I$ $a=-0.70412-3.25445I$ $b=-0.173343-0.280588I$	$1.69146+7.79921I$	$4.9260-26.4100I$
$u=\ 0.456006-0.401313I$ $a=-0.70412+3.25445I$ $b=-0.173343+0.280588I$	$1.69146-7.79921I$	$4.9260+26.4100I$
$u=-0.543305+0.112334I$ $a=\ 2.44950+2.34858I$ $b=-0.333032+0.314810I$	$2.68342+2.20216I$	$1.62901+11.36162I$
$u=-0.543305-0.112334I$ $a=\ 2.44950-2.34858I$ $b=-0.333032-0.314810I$	$2.68342-2.20216I$	$1.62901-11.36162I$
$u=\ 0.99799+1.09420I$ $a=\ 0.167905-0.916544I$ $b=-0.621393-0.709016I$	$-4.83302+4.71436I$	0
$u=\ 0.99799-1.09420I$ $a=\ 0.167905+0.916544I$ $b=-0.621393+0.709016I$	$-4.83302-4.71436I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.31055 + 0.78785I$ $a = -0.424986 - 0.287453I$ $b = -0.472150 + 0.387795I$	$1.17531 - 5.50379I$	0
$u = 1.31055 - 0.78785I$ $a = -0.424986 + 0.287453I$ $b = -0.472150 - 0.387795I$	$1.17531 + 5.50379I$	0
$u = 0.99721 + 1.16715I$ $a = -0.156069 - 0.987746I$ $b = -1.17834 - 1.12844I$	$13.6095I$	0
$u = 0.99721 - 1.16715I$ $a = -0.156069 + 0.987746I$ $b = -1.17834 + 1.12844I$	$-13.6095I$	0
$u = 0.99962 + 1.20244I$ $a = 0.031987 + 0.778051I$ $b = 0.418993 + 0.683764I$	$-4.74340 + 3.56595I$	0
$u = 0.99962 - 1.20244I$ $a = 0.031987 - 0.778051I$ $b = 0.418993 - 0.683764I$	$-4.74340 - 3.56595I$	0
$u = 0.98147 + 1.29944I$ $a = 0.205831 + 0.626907I$ $b = 0.691083 + 1.045440I$	$-2.68342 + 2.20216I$	0
$u = 0.98147 - 1.29944I$ $a = 0.205831 - 0.626907I$ $b = 0.691083 - 1.045440I$	$-2.68342 - 2.20216I$	0
$u = 0.295898 + 0.139079I$ $a = 2.69276 + 3.22949I$ $b = -0.579600 - 0.530295I$	$0.42397 + 4.54047I$	$1.41680 - 11.19246I$
$u = 0.295898 - 0.139079I$ $a = 2.69276 - 3.22949I$ $b = -0.579600 + 0.530295I$	$0.42397 - 4.54047I$	$1.41680 + 11.19246I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.67034 + 0.13945I$ $a = -0.093126 - 0.404157I$ $b = -0.029210 - 0.764645I$	$4.83302 - 4.71436I$	0
$u = \quad 1.67034 - 0.13945I$ $a = -0.093126 + 0.404157I$ $b = -0.029210 + 0.764645I$	$4.83302 + 4.71436I$	0
$u = -1.31713 + 1.08261I$ $a = \quad 0.024552 - 0.525082I$ $b = \quad 0.742114 - 0.935385I$	$-1.69146 - 7.79921I$	0
$u = -1.31713 - 1.08261I$ $a = \quad 0.024552 + 0.525082I$ $b = \quad 0.742114 + 0.935385I$	$-1.69146 + 7.79921I$	0
$u = -1.59465 + 1.00083I$ $a = \quad 0.212707 + 0.203943I$ $b = -0.645775 + 0.679433I$	$-2.68342 + 2.20216I$	0
$u = -1.59465 - 1.00083I$ $a = \quad 0.212707 - 0.203943I$ $b = -0.645775 - 0.679433I$	$-2.68342 - 2.20216I$	0
$u = -1.84875 + 0.50363I$ $a = \quad 0.129309 - 0.299252I$ $b = \quad 0.066736 - 0.315741I$	$4.74340 - 3.56595I$	0
$u = -1.84875 - 0.50363I$ $a = \quad 0.129309 + 0.299252I$ $b = \quad 0.066736 + 0.315741I$	$4.74340 + 3.56595I$	0
$u = \quad 0.98497 + 1.76662I$ $a = -0.063507 - 0.293531I$ $b = -0.984779 - 0.690897I$	$-1.69146 + 7.79921I$	0
$u = \quad 0.98497 - 1.76662I$ $a = -0.063507 + 0.293531I$ $b = -0.984779 + 0.690897I$	$-1.69146 - 7.79921I$	0

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

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^4 + 2u^3 + 3u^2 + 2u + 1 \\ u^5 + 3u^4 + 4u^3 + 3u^2 + u + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^2 + 2u + 1 \\ u^2 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^5 + 2u^4 + 2u^3 - u \\ -u^5 - 3u^4 - 4u^3 - 3u^2 - u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^5 - 2u^4 - 2u^3 + u \\ u^5 + 3u^4 + 4u^3 + 3u^2 + u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^4 - 2u^3 - 3u^2 - 2u - 1 \\ -u^5 - 3u^4 - 4u^3 - 3u^2 - u - 1 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u^5 + 24u^4 + 32u^3 + 16u^2 + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_5, c_7, c_8 c_9, c_{11}	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_4, c_6, c_{10} c_{12}	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.917045+0.592379I$ $a=\ \ 0.084211-0.566250I$ $b=\ \ 1.002190-0.295542I$	$3.78121-1.84861I$	$7.43343+1.58845I$
$u=-0.917045-0.592379I$ $a=\ \ 0.084211+0.566250I$ $b=\ \ 1.002190+0.295542I$	$3.78121+1.84861I$	$7.43343-1.58845I$
$u=\ \ 0.258209+0.569162I$ $a=\ \ 0.25695+1.72779I$ $b=-0.428243+0.664531I$	$-3.78121+1.84861I$	$-7.43343-1.58845I$
$u=\ \ 0.258209-0.569162I$ $a=\ \ 0.25695-1.72779I$ $b=-0.428243-0.664531I$	$-3.78121-1.84861I$	$-7.43343+1.58845I$
$u=-0.84116+1.20014I$ $a=-0.341164+0.940004I$ $b=-1.073950+0.558752I$	$-11.3860I$	$0.+11.02114I$
$u=-0.84116-1.20014I$ $a=-0.341164-0.940004I$ $b=-1.073950-0.558752I$	$11.3860I$	$0.-11.02114I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^6+u^5-u^4-2u^3+u+1)(u^{26}-u^{25}+\cdots+21u+7)$ $\cdot(u^{60}-13u^{59}+\cdots+1249u+127)$ $\cdot(u^{228}+8u^{227}+\cdots-11192067647u+984049733)$
c_2, c_8	$2187(u^6-u^5+\cdots-u+1)(3u^{26}-3u^{25}+\cdots-u+1)$ $\cdot(81u^{60}+567u^{59}+\cdots+7u+1)(9u^{228}-54u^{227}+\cdots-9395u+1619)$
c_3, c_9	$2187(u^6+u^5+\cdots+u+1)(3u^{26}+3u^{25}+\cdots+u+1)$ $\cdot(81u^{60}-567u^{59}+\cdots-7u+1)(9u^{228}+54u^{227}+\cdots+9395u+1619)$
c_4, c_{10}	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)(u^{26}+3u^{25}+\cdots-15u+3)$ $\cdot(u^{60}+3u^{59}+\cdots+405u+81)(u^{228}-2u^{227}+\cdots-120069u+8487)$
c_5, c_{11}	$(u^6-u^5-u^4+2u^3-u+1)(u^{26}+u^{25}+\cdots-21u+7)$ $\cdot(u^{60}+13u^{59}+\cdots-1249u+127)$ $\cdot(u^{228}-8u^{227}+\cdots+11192067647u+984049733)$
c_6, c_{12}	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)(u^{26}-3u^{25}+\cdots+15u+3)$ $\cdot(u^{60}-3u^{59}+\cdots-405u+81)(u^{228}+2u^{227}+\cdots+120069u+8487)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7 c_{11}	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)(y^{26}+15y^{25}+\cdots+777y+49)$ $\cdot(y^{60}-3y^{59}+\cdots-2004247y+16129)$ $\cdot(y^{228}+20y^{227}+\cdots+4.78\times10^{19}y+9.68\times10^{17})$
c_2, c_3, c_8 c_9	$4782969(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(9y^{26}+123y^{25}+\cdots-3y+1)(6561y^{60}+88209y^{59}+\cdots+41y+1)$ $\cdot(81y^{228}+2052y^{227}+\cdots+89205517y+2621161)$
c_4, c_6, c_{10} c_{12}	$(y^6+y^5+5y^4+6y^2+3y+1)(y^{26}+3y^{25}+\cdots-39y+9)$ $\cdot(y^{60}-7y^{59}+\cdots-95499y+6561)$ $\cdot(y^{228}+12y^{227}+\cdots+6749419149y+72029169)$