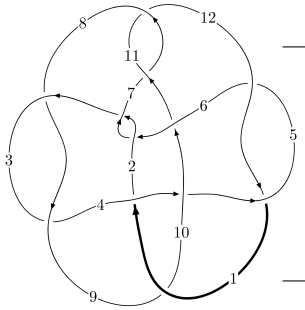
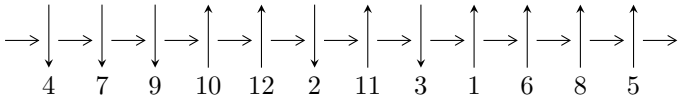
$12a_{1053}$ $(K12a_{1053})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 6.26301 \times 10^{781} u^{160} + 2.05461 \times 10^{782} u^{159} + \cdots + 7.41094 \times 10^{783} b + 8.17872 \times 10^{783},$$
$$- 3.42248 \times 10^{785} u^{160} - 8.64272 \times 10^{785} u^{159} + \cdots + 1.13610 \times 10^{787} a - 1.23563 \times 10^{787},$$
$$u^{161} + 2u^{160} + \cdots - 1987u - 511 \rangle$$
$$I_2^u = \langle 1.17622 \times 10^{28} u^{40} - 7.67187 \times 10^{28} u^{39} + \cdots + 9.79273 \times 10^{25} b - 2.12717 \times 10^{28},$$
$$1.01705 \times 10^{28} u^{40} - 7.04668 \times 10^{28} u^{39} + \cdots + 9.79273 \times 10^{25} a - 3.82093 \times 10^{28},\ u^{41} - 7u^{40} + \cdots - 11u +$$
$$I_3^u = \langle 24a^3 - 33a^2 + 111b + 101a - 11,\ 3a^4 - 6a^3 + 10a^2 - 11a + 13,\ u + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 206 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. $\boldsymbol{I_1^u = \langle 6.26 \times 10^{781} u^{160} + 2.05 \times 10^{782} u^{159} + \cdots + 7.41 \times 10^{783} b + 8.18 \times 10^{783},\ -3.42 \times 10^{785} u^{160} - 8.64 \times 10^{785} u^{159} + \cdots + 1.14 \times 10^{787} a - 1.24 \times 10^{787},\ u^{161} + 2u^{160} + \cdots - 1987u - 511 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 0.0301249u^{160} + 0.0760738u^{159} + \cdots + 110.911u + 1.08761 \\ -0.00845103u^{160} - 0.0277240u^{159} + \cdots + 5.96229u - 1.10360 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.00881064u^{160} - 0.0336941u^{159} + \cdots + 219.424u + 43.1613 \\ 0.00976562u^{160} + 0.0203462u^{159} + \cdots + 92.4712u + 16.6248 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0730709u^{160} + 0.216943u^{159} + \cdots + 146.481u + 13.8907 \\ 0.00217044u^{160} + 0.0192015u^{159} + \cdots - 88.0122u - 12.4822 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0216739u^{160} + 0.0483497u^{159} + \cdots + 116.873u - 0.0159891 \\ -0.00845103u^{160} - 0.0277240u^{159} + \cdots + 5.96229u - 1.10360 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0460419u^{160} + 0.109056u^{159} + \cdots + 312.046u + 70.7585 \\ 0.00383581u^{160} + 0.0169844u^{159} + \cdots - 64.9393u - 8.15623 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00323035u^{160} - 0.0113517u^{159} + \cdots - 118.318u - 22.2817 \\ -5.42712 \times 10^{-6} u^{160} + 0.00842361u^{159} + \cdots - 64.3455u - 9.81544 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.00906781u^{160} - 0.0286508u^{159} + \cdots - 135.009u - 26.5200 \\ -0.00307313u^{160} - 0.00221306u^{159} + \cdots - 66.8784u - 11.1797 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00399479u^{160} + 0.0136284u^{159} + \cdots - 191.412u - 46.1352 \\ 0.00595955u^{160} + 0.0160355u^{159} + \cdots + 22.3939u + 4.62095 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.447878u^{160} - 1.11569u^{159} + \cdots - 2252.93u - 423.424$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{161} - 9u^{160} + \cdots - 7368u + 1008$
c_2, c_6	$u^{161} - 2u^{160} + \cdots + 1477u - 211$
c_3, c_8	$3(3u^{161} + 3u^{160} + \cdots - 1617931u - 688369)$
c_4	$3(3u^{161} - 3u^{160} + \cdots - 360u - 67)$
c_5, c_{12}	$u^{161} - 3u^{160} + \cdots + 72893u + 10561$
c_7, c_{11}	$u^{161} + 2u^{160} + \cdots - 1987u - 511$
c_9	$u^{161} - 6u^{160} + \cdots - 971313u - 191967$
c_{10}	$3(3u^{161} - 6u^{160} + \cdots + 53653u - 3073)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{161} - 19y^{160} + \cdots - 34239168y - 1016064$
c_2, c_6	$y^{161} - 96y^{160} + \cdots + 8727171y - 44521$
c_3, c_8	$9(9y^{161} - 993y^{160} + \cdots + 6.36274 \times 10^{12}y - 4.73852 \times 10^{11})$
c_4	$9(9y^{161} + 375y^{160} + \cdots - 456918y - 4489)$
c_5, c_{12}	$y^{161} + 125y^{160} + \cdots - 2360486615y - 111534721$
c_7, c_{11}	$y^{161} - 72y^{160} + \cdots + 12901911y - 261121$
c_9	$y^{161} + 66y^{160} + \cdots - 2734308592791y - 36851329089$
c_{10}	$9(9y^{161} + 240y^{160} + \cdots - 7.15932 \times 10^{9}y - 9443329)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.307620+0.952167I$ $a=\ \ 0.866623-0.790009I$ $b=\ \ 1.012620+0.071160I$	$-6.60700+2.07406I$	0
$u=-0.307620-0.952167I$ $a=\ \ 0.866623+0.790009I$ $b=\ \ 1.012620-0.071160I$	$-6.60700-2.07406I$	0
$u=-0.694056+0.721930I$ $a=-0.330278+0.483316I$ $b=\ \ 1.239190-0.345554I$	$-9.53706-1.18119I$	0
$u=-0.694056-0.721930I$ $a=-0.330278-0.483316I$ $b=\ \ 1.239190+0.345554I$	$-9.53706+1.18119I$	0
$u=\ \ 0.757194+0.665062I$ $a=-0.886099-0.367909I$ $b=-0.913713+0.411469I$	$-0.86721+3.70442I$	0
$u=\ \ 0.757194-0.665062I$ $a=-0.886099+0.367909I$ $b=-0.913713-0.411469I$	$-0.86721-3.70442I$	0
$u=\ \ 1.000180+0.136656I$ $a=-1.48453-0.76706I$ $b=\ \ 0.696245+0.987721I$	$2.08414-2.27177I$	0
$u=\ \ 1.000180-0.136656I$ $a=-1.48453+0.76706I$ $b=\ \ 0.696245-0.987721I$	$2.08414+2.27177I$	0
$u=-1.010580+0.202660I$ $a=\ \ 0.14322+1.42243I$ $b=-0.353449-1.049120I$	$1.54662-3.90229I$	0
$u=-1.010580-0.202660I$ $a=\ \ 0.14322-1.42243I$ $b=-0.353449+1.049120I$	$1.54662+3.90229I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.937649+0.480925I$ $a=-0.55660+1.64914I$ $b=-0.051191-1.321570I$	$0.65918-4.35120I$	0
$u=-0.937649-0.480925I$ $a=-0.55660-1.64914I$ $b=-0.051191+1.321570I$	$0.65918+4.35120I$	0
$u=-0.858875+0.384915I$ $a=\ \ 0.726945-0.833196I$ $b=-0.821170+0.835424I$	$-0.825469+0.869464I$	0
$u=-0.858875-0.384915I$ $a=\ \ 0.726945+0.833196I$ $b=-0.821170-0.835424I$	$-0.825469-0.869464I$	0
$u=-0.419403+0.975159I$ $a=\ \ 0.057520-0.189889I$ $b=\ \ 1.41069-0.39658I$	$-6.64563+5.26029I$	0
$u=-0.419403-0.975159I$ $a=\ \ 0.057520+0.189889I$ $b=\ \ 1.41069+0.39658I$	$-6.64563-5.26029I$	0
$u=-0.859602+0.324491I$ $a=\ \ 0.250764+1.122800I$ $b=-1.182960-0.369855I$	$-1.51059-1.54088I$	0
$u=-0.859602-0.324491I$ $a=\ \ 0.250764-1.122800I$ $b=-1.182960+0.369855I$	$-1.51059+1.54088I$	0
$u=-0.808002+0.437102I$ $a=\ \ 1.14632-1.42956I$ $b=-0.60913+1.29036I$	$0.161696+0.583000I$	0
$u=-0.808002-0.437102I$ $a=\ \ 1.14632+1.42956I$ $b=-0.60913-1.29036I$	$0.161696-0.583000I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.985990 + 0.448382I$ $a = 0.51871 + 1.55479I$ $b = -0.393892 - 1.326190I$	$0.70368 + 6.58930I$	0
$u = 0.985990 - 0.448382I$ $a = 0.51871 - 1.55479I$ $b = -0.393892 + 1.326190I$	$0.70368 - 6.58930I$	0
$u = -0.455529 + 0.790509I$ $a = 0.320006 + 0.168144I$ $b = -1.339760 + 0.406077I$	$-4.19116 + 1.49970I$	0
$u = -0.455529 - 0.790509I$ $a = 0.320006 - 0.168144I$ $b = -1.339760 - 0.406077I$	$-4.19116 - 1.49970I$	0
$u = 0.803804 + 0.418287I$ $a = 0.592060 + 0.658989I$ $b = 0.592812 - 0.098081I$	$1.26994 + 0.65097I$	0
$u = 0.803804 - 0.418287I$ $a = 0.592060 - 0.658989I$ $b = 0.592812 + 0.098081I$	$1.26994 - 0.65097I$	0
$u = 0.955278 + 0.547579I$ $a = -0.663249 - 1.208280I$ $b = -1.327180 + 0.459083I$	$-2.03806 + 5.71043I$	0
$u = 0.955278 - 0.547579I$ $a = -0.663249 + 1.208280I$ $b = -1.327180 - 0.459083I$	$-2.03806 - 5.71043I$	0
$u = -0.191812 + 0.875991I$ $a = -1.139400 - 0.259186I$ $b = -1.000060 + 0.426340I$	$-4.71556 + 7.72629I$	0
$u = -0.191812 - 0.875991I$ $a = -1.139400 + 0.259186I$ $b = -1.000060 - 0.426340I$	$-4.71556 - 7.72629I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.184694+1.096180I$ $a=\ \ 0.939637-0.544248I$ $b=\ \ 0.936750+0.091000I$	$-6.60534+2.09068I$	0
$u=-0.184694-1.096180I$ $a=\ \ 0.939637+0.544248I$ $b=\ \ 0.936750-0.091000I$	$-6.60534-2.09068I$	0
$u=\ \ 0.003922+1.111630I$ $a=-0.010112+0.157415I$ $b=\ \ 1.272180+0.011915I$	$-7.46914+2.60399I$	0
$u=\ \ 0.003922-1.111630I$ $a=-0.010112-0.157415I$ $b=\ \ 1.272180-0.011915I$	$-7.46914-2.60399I$	0
$u=\ \ 0.854194+0.217676I$ $a=-0.94349-1.76774I$ $b=-1.052330+0.212840I$	$-0.385901+0.880521I$	0
$u=\ \ 0.854194-0.217676I$ $a=-0.94349+1.76774I$ $b=-1.052330-0.212840I$	$-0.385901-0.880521I$	0
$u=\ \ 0.032139+1.119890I$ $a=-1.158780+0.171505I$ $b=-0.396381+0.036617I$	$-6.87436-0.19637I$	0
$u=\ \ 0.032139-1.119890I$ $a=-1.158780-0.171505I$ $b=-0.396381-0.036617I$	$-6.87436+0.19637I$	0
$u=\ \ 0.695042+0.536591I$ $a=-0.46289-1.57307I$ $b=-1.040120-0.236485I$	$-2.85536-1.30798I$	0
$u=\ \ 0.695042-0.536591I$ $a=-0.46289+1.57307I$ $b=-1.040120+0.236485I$	$-2.85536+1.30798I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.985279 + 0.538650I$ $a = \quad 0.76199 - 1.93563I$ $b = -1.36833 + 0.52170I$	$-9.89158 - 2.57237I$	0
$u = \quad 0.985279 - 0.538650I$ $a = \quad 0.76199 + 1.93563I$ $b = -1.36833 - 0.52170I$	$-9.89158 + 2.57237I$	0
$u = -1.022010 + 0.467580I$ $a = \quad 0.91171 + 2.08493I$ $b = -1.294080 - 0.239306I$	$-9.30991 - 8.55394I$	0
$u = -1.022010 - 0.467580I$ $a = \quad 0.91171 - 2.08493I$ $b = -1.294080 + 0.239306I$	$-9.30991 + 8.55394I$	0
$u = \quad 0.851820 + 0.169769I$ $a = -0.67708 + 4.78281I$ $b = \quad 0.965814 - 0.093885I$	$-5.31714 + 0.40817I$	0
$u = \quad 0.851820 - 0.169769I$ $a = -0.67708 - 4.78281I$ $b = \quad 0.965814 + 0.093885I$	$-5.31714 - 0.40817I$	0
$u = -0.921455 + 0.656767I$ $a = -0.38602 + 1.51307I$ $b = -0.640684 - 0.634913I$	$-0.44077 - 4.98095I$	0
$u = -0.921455 - 0.656767I$ $a = -0.38602 - 1.51307I$ $b = -0.640684 + 0.634913I$	$-0.44077 + 4.98095I$	0
$u = -0.271216 + 0.819246I$ $a = -1.24613 + 0.85630I$ $b = \quad 0.041868 - 0.347528I$	$-6.88233 - 0.33258I$	0
$u = -0.271216 - 0.819246I$ $a = -1.24613 - 0.85630I$ $b = \quad 0.041868 + 0.347528I$	$-6.88233 + 0.33258I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.693972 + 0.509299I$ $a = \quad 0.507902 - 0.115093I$ $b = -1.70331 - 0.29314I$	$-10.85730 + 6.84553I$	0
$u = \quad 0.693972 - 0.509299I$ $a = \quad 0.507902 + 0.115093I$ $b = -1.70331 + 0.29314I$	$-10.85730 - 6.84553I$	0
$u = \quad 1.117250 + 0.227880I$ $a = \quad 0.766964 + 0.706263I$ $b = \quad 0.007454 - 0.728885I$	$2.12196 + 1.12457I$	0
$u = \quad 1.117250 - 0.227880I$ $a = \quad 0.766964 - 0.706263I$ $b = \quad 0.007454 + 0.728885I$	$2.12196 - 1.12457I$	0
$u = -1.033530 + 0.481715I$ $a = -0.472882 + 0.393165I$ $b = -1.003090 - 0.207258I$	$0.402697 + 0.643428I$	0
$u = -1.033530 - 0.481715I$ $a = -0.472882 - 0.393165I$ $b = -1.003090 + 0.207258I$	$0.402697 - 0.643428I$	0
$u = \quad 0.017597 + 0.857790I$ $a = -0.231783 + 0.317848I$ $b = -0.284232 - 0.556968I$	$-2.74068 + 3.84729I$	0
$u = \quad 0.017597 - 0.857790I$ $a = -0.231783 - 0.317848I$ $b = -0.284232 + 0.556968I$	$-2.74068 - 3.84729I$	0
$u = -0.950675 + 0.647649I$ $a = -0.33656 - 1.86089I$ $b = \quad 1.006750 + 0.574344I$	$-8.74792 - 4.04244I$	0
$u = -0.950675 - 0.647649I$ $a = -0.33656 + 1.86089I$ $b = \quad 1.006750 - 0.574344I$	$-8.74792 + 4.04244I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.735215+0.409795I$ $a=-0.23133+1.79689I$ $b=\ \ 0.104232-0.269080I$	$-0.76863-4.77869I$	0
$u=-0.735215-0.409795I$ $a=-0.23133-1.79689I$ $b=\ \ 0.104232+0.269080I$	$-0.76863+4.77869I$	0
$u=-1.158840+0.039032I$ $a=\ \ 0.316449-0.934287I$ $b=\ \ 0.760558+0.517548I$	$-0.93293+5.77134I$	0
$u=-1.158840-0.039032I$ $a=\ \ 0.316449+0.934287I$ $b=\ \ 0.760558-0.517548I$	$-0.93293-5.77134I$	0
$u=-0.804022+0.239785I$ $a=\ \ 0.48327+2.11877I$ $b=-1.032630-0.793721I$	$-1.20518-3.26420I$	0
$u=-0.804022-0.239785I$ $a=\ \ 0.48327-2.11877I$ $b=-1.032630+0.793721I$	$-1.20518+3.26420I$	0
$u=\ \ 0.269887+1.141870I$ $a=\ \ 0.1198000-0.0223834I$ $b=-1.275770-0.373104I$	$-5.53964-7.31871I$	0
$u=\ \ 0.269887-1.141870I$ $a=\ \ 0.1198000+0.0223834I$ $b=-1.275770+0.373104I$	$-5.53964+7.31871I$	0
$u=\ \ 0.420657+0.703984I$ $a=\ \ 1.50506+1.07916I$ $b=-0.079209-0.914598I$	$-6.04723-8.13513I$	0
$u=\ \ 0.420657-0.703984I$ $a=\ \ 1.50506-1.07916I$ $b=-0.079209+0.914598I$	$-6.04723+8.13513I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.165150+0.193425I$ $a=-0.548727+1.055140I$ $b=\ \ 0.356427-0.913261I$	$5.40078-2.71520I$	0
$u=-1.165150-0.193425I$ $a=-0.548727-1.055140I$ $b=\ \ 0.356427+0.913261I$	$5.40078+2.71520I$	0
$u=\ \ 1.140350+0.318627I$ $a=\ \ 0.282837-0.522051I$ $b=-0.314726-0.123081I$	$0.686846+0.619169I$	0
$u=\ \ 1.140350-0.318627I$ $a=\ \ 0.282837+0.522051I$ $b=-0.314726+0.123081I$	$0.686846-0.619169I$	0
$u=\ \ 1.096020+0.467989I$ $a=\ \ 0.560109+1.252580I$ $b=\ \ 1.207030-0.201722I$	$-3.23869+2.03875I$	0
$u=\ \ 1.096020-0.467989I$ $a=\ \ 0.560109-1.252580I$ $b=\ \ 1.207030+0.201722I$	$-3.23869-2.03875I$	0
$u=\ \ 0.721328+0.359732I$ $a=\ \ 0.77747+1.67740I$ $b=\ \ 1.067260-0.771280I$	$0.71088+4.08799I$	0
$u=\ \ 0.721328-0.359732I$ $a=\ \ 0.77747-1.67740I$ $b=\ \ 1.067260+0.771280I$	$0.71088-4.08799I$	0
$u=-0.962638+0.706744I$ $a=-0.597389+0.508482I$ $b=\ \ 0.767042-1.071850I$	$-1.83931+0.56339I$	0
$u=-0.962638-0.706744I$ $a=-0.597389-0.508482I$ $b=\ \ 0.767042+1.071850I$	$-1.83931-0.56339I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.172650 + 0.226323I$ $a = 0.784130 - 1.062820I$ $b = -0.709586 + 0.108836I$	$0.764169 + 0.726900I$	0
$u = 1.172650 - 0.226323I$ $a = 0.784130 + 1.062820I$ $b = -0.709586 - 0.108836I$	$0.764169 - 0.726900I$	0
$u = 0.734739 + 0.326705I$ $a = -0.51537 - 2.07800I$ $b = 0.350819 + 1.184560I$	$-0.29875 - 3.16720I$	0
$u = 0.734739 - 0.326705I$ $a = -0.51537 + 2.07800I$ $b = 0.350819 - 1.184560I$	$-0.29875 + 3.16720I$	0
$u = -0.675750 + 0.432473I$ $a = -0.380087 + 0.086928I$ $b = -1.62283 + 0.12770I$	$-10.51280 + 4.76884I$	0
$u = -0.675750 - 0.432473I$ $a = -0.380087 - 0.086928I$ $b = -1.62283 - 0.12770I$	$-10.51280 - 4.76884I$	0
$u = -1.107660 + 0.467400I$ $a = 0.15975 - 1.49382I$ $b = 1.177430 + 0.577761I$	$2.81006 - 8.16039I$	0
$u = -1.107660 - 0.467400I$ $a = 0.15975 + 1.49382I$ $b = 1.177430 - 0.577761I$	$2.81006 + 8.16039I$	0
$u = -0.485771 + 0.624507I$ $a = 0.098286 + 0.452985I$ $b = 1.361420 + 0.036756I$	$-9.89815 - 1.88335I$	0
$u = -0.485771 - 0.624507I$ $a = 0.098286 - 0.452985I$ $b = 1.361420 - 0.036756I$	$-9.89815 + 1.88335I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.879991+0.835503I$ $a=\ 0.71539-1.39669I$ $b=\ 0.888029+0.924356I$	$-2.24651-6.45118I$	0
$u=-0.879991-0.835503I$ $a=\ 0.71539+1.39669I$ $b=\ 0.888029-0.924356I$	$-2.24651+6.45118I$	0
$u=\ 1.088000+0.543624I$ $a=\ 0.041343+1.136390I$ $b=-0.057012-1.033290I$	$-4.10644+4.81745I$	0
$u=\ 1.088000-0.543624I$ $a=\ 0.041343-1.136390I$ $b=-0.057012+1.033290I$	$-4.10644-4.81745I$	0
$u=\ 1.142840+0.458145I$ $a=-0.81265+1.69244I$ $b=\ 1.18734-0.86096I$	$-6.70805+4.94301I$	0
$u=\ 1.142840-0.458145I$ $a=-0.81265-1.69244I$ $b=\ 1.18734+0.86096I$	$-6.70805-4.94301I$	0
$u=\ 1.085870+0.600474I$ $a=-0.520902-1.258190I$ $b=\ 0.234438+1.302790I$	$-4.13261+13.19360I$	0
$u=\ 1.085870-0.600474I$ $a=-0.520902+1.258190I$ $b=\ 0.234438-1.302790I$	$-4.13261-13.19360I$	0
$u=\ 1.032770+0.719144I$ $a=\ 0.418032+1.133370I$ $b=\ 0.984478-0.525327I$	$2.05779+4.30128I$	0
$u=\ 1.032770-0.719144I$ $a=\ 0.418032-1.133370I$ $b=\ 0.984478+0.525327I$	$2.05779-4.30128I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.095300+0.624979I$ $a=-0.54811-1.43698I$ $b=\ \ 0.930832+0.131515I$	$-8.06950-3.11695I$	0
$u=-1.095300-0.624979I$ $a=-0.54811+1.43698I$ $b=\ \ 0.930832-0.131515I$	$-8.06950+3.11695I$	0
$u=-1.099820+0.623025I$ $a=\ \ 0.23410+1.70065I$ $b=-1.29773-0.76663I$	$-2.26951-6.82849I$	0
$u=-1.099820-0.623025I$ $a=\ \ 0.23410-1.70065I$ $b=-1.29773+0.76663I$	$-2.26951+6.82849I$	0
$u=\ \ 1.26971$ $a=\ \ 0.495882$ $b=\ \ 0.0792004$	2.35694	0
$u=-1.094260+0.656736I$ $a=\ \ 0.039155-0.780404I$ $b=\ \ 1.329630+0.241308I$	$-4.54665-7.77977I$	0
$u=-1.094260-0.656736I$ $a=\ \ 0.039155+0.780404I$ $b=\ \ 1.329630-0.241308I$	$-4.54665+7.77977I$	0
$u=-1.114320+0.627334I$ $a=\ \ 0.326792-1.058440I$ $b=-0.250320+0.944682I$	$-4.62569-5.07135I$	0
$u=-1.114320-0.627334I$ $a=\ \ 0.326792+1.058440I$ $b=-0.250320-0.944682I$	$-4.62569+5.07135I$	0
$u=\ \ 1.211310+0.413659I$ $a=\ \ 0.075816-1.213030I$ $b=-0.728472+0.405990I$	$0.931777+0.701045I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.211310 - 0.413659I$ $a = 0.075816 + 1.213030I$ $b = -0.728472 - 0.405990I$	$0.931777 - 0.701045I$	0
$u = -0.206058 + 1.282840I$ $a = 0.0124771 + 0.1216520I$ $b = 1.154620 - 0.088449I$	$-7.42172 + 2.56249I$	0
$u = -0.206058 - 1.282840I$ $a = 0.0124771 - 0.1216520I$ $b = 1.154620 + 0.088449I$	$-7.42172 - 2.56249I$	0
$u = -1.169460 + 0.583060I$ $a = -0.37649 + 1.43236I$ $b = -1.232280 - 0.471962I$	$-1.93119 - 12.97130I$	0
$u = -1.169460 - 0.583060I$ $a = -0.37649 - 1.43236I$ $b = -1.232280 + 0.471962I$	$-1.93119 + 12.97130I$	0
$u = 1.246210 + 0.417941I$ $a = -0.346506 - 0.388457I$ $b = 0.638219 + 0.549929I$	$3.13980 - 0.13080I$	0
$u = 1.246210 - 0.417941I$ $a = -0.346506 + 0.388457I$ $b = 0.638219 - 0.549929I$	$3.13980 + 0.13080I$	0
$u = 0.527021 + 1.211110I$ $a = -0.0745299 - 0.0615258I$ $b = 1.287990 + 0.486449I$	$-10.0825 - 13.1010I$	0
$u = 0.527021 - 1.211110I$ $a = -0.0745299 + 0.0615258I$ $b = 1.287990 - 0.486449I$	$-10.0825 + 13.1010I$	0
$u = -1.261480 + 0.402454I$ $a = 0.548037 - 0.770393I$ $b = -0.221380 + 0.733993I$	$1.23623 - 8.36689I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.261480-0.402454I$ $a=\ \ 0.548037+0.770393I$ $b=-0.221380-0.733993I$	$1.23623+8.36689I$	0
$u=-1.163140+0.672582I$ $a=-0.18295-1.60363I$ $b=\ \ 1.49830+0.62235I$	$-4.37002-11.22320I$	0
$u=-1.163140-0.672582I$ $a=-0.18295+1.60363I$ $b=\ \ 1.49830-0.62235I$	$-4.37002+11.22320I$	0
$u=\ \ 1.224710+0.605505I$ $a=-0.524014+1.299420I$ $b=\ \ 1.34050-0.54211I$	$-4.02782+3.12105I$	0
$u=\ \ 1.224710-0.605505I$ $a=-0.524014-1.299420I$ $b=\ \ 1.34050+0.54211I$	$-4.02782-3.12105I$	0
$u=\ \ 1.364990+0.182342I$ $a=\ \ 0.323149+0.836958I$ $b=-0.819383-0.601543I$	$0.67328-3.59709I$	0
$u=\ \ 1.364990-0.182342I$ $a=\ \ 0.323149-0.836958I$ $b=-0.819383+0.601543I$	$0.67328+3.59709I$	0
$u=-1.229520+0.636195I$ $a=-0.32520-1.45121I$ $b=\ \ 1.226310+0.467301I$	$-4.23716-8.67666I$	0
$u=-1.229520-0.636195I$ $a=-0.32520+1.45121I$ $b=\ \ 1.226310-0.467301I$	$-4.23716+8.67666I$	0
$u=\ \ 1.406200+0.013882I$ $a=-0.868557-0.076576I$ $b=\ \ 0.911858+0.257334I$	$0.15377-1.85758I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.406200 - 0.013882I$ $a = -0.868557 + 0.076576I$ $b = 0.911858 - 0.257334I$	$0.15377 + 1.85758I$	0
$u = 1.25467 + 0.66516I$ $a = 0.30215 - 1.46481I$ $b = -1.32994 + 0.69700I$	$-2.48281 + 13.64050I$	0
$u = 1.25467 - 0.66516I$ $a = 0.30215 + 1.46481I$ $b = -1.32994 - 0.69700I$	$-2.48281 - 13.64050I$	0
$u = 0.411749 + 0.385093I$ $a = 0.648489 + 0.312236I$ $b = 0.357954 + 0.323299I$	$1.146770 + 0.623643I$	$6.37992 - 1.17885I$
$u = 0.411749 - 0.385093I$ $a = 0.648489 - 0.312236I$ $b = 0.357954 - 0.323299I$	$1.146770 - 0.623643I$	$6.37992 + 1.17885I$
$u = 0.499123 + 0.248148I$ $a = -1.122280 - 0.474782I$ $b = 1.70974 + 0.39088I$	$-9.09747 - 1.48318I$	$-33.5204 - 1.1909I$
$u = 0.499123 - 0.248148I$ $a = -1.122280 + 0.474782I$ $b = 1.70974 - 0.39088I$	$-9.09747 + 1.48318I$	$-33.5204 + 1.1909I$
$u = -0.66833 + 1.28724I$ $a = -0.019462 - 0.147584I$ $b = -1.137820 + 0.413007I$	$-9.73951 + 3.15623I$	0
$u = -0.66833 - 1.28724I$ $a = -0.019462 + 0.147584I$ $b = -1.137820 - 0.413007I$	$-9.73951 - 3.15623I$	0
$u = 1.23548 + 0.77270I$ $a = -0.06823 + 1.49782I$ $b = 1.36553 - 0.67981I$	$-7.7590 + 20.1115I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.23548 - 0.77270I$ $a = -0.06823 - 1.49782I$ $b = 1.36553 + 0.67981I$	$-7.7590 - 20.1115I$	0
$u = 0.482444 + 0.214250I$ $a = -0.91575 - 3.66564I$ $b = 0.777694 + 0.364075I$	$-6.46494 - 0.70369I$	$-0.42319 + 1.37241I$
$u = 0.482444 - 0.214250I$ $a = -0.91575 + 3.66564I$ $b = 0.777694 - 0.364075I$	$-6.46494 + 0.70369I$	$-0.42319 - 1.37241I$
$u = -0.037171 + 0.513665I$ $a = 1.45345 - 0.15371I$ $b = 0.824495 - 0.488952I$	$0.08451 + 4.25610I$	$2.06157 - 6.69602I$
$u = -0.037171 - 0.513665I$ $a = 1.45345 + 0.15371I$ $b = 0.824495 + 0.488952I$	$0.08451 - 4.25610I$	$2.06157 + 6.69602I$
$u = 0.69791 + 1.31654I$ $a = 0.1021750 - 0.0356810I$ $b = -1.173860 - 0.349159I$	$-9.80408 - 2.91263I$	0
$u = 0.69791 - 1.31654I$ $a = 0.1021750 + 0.0356810I$ $b = -1.173860 + 0.349159I$	$-9.80408 + 2.91263I$	0
$u = 1.22964 + 0.84982I$ $a = 0.053369 - 1.204230I$ $b = -1.30517 + 0.57043I$	$-7.88026 + 10.53010I$	0
$u = 1.22964 - 0.84982I$ $a = 0.053369 + 1.204230I$ $b = -1.30517 - 0.57043I$	$-7.88026 - 10.53010I$	0
$u = -1.25141 + 0.82324I$ $a = -0.021538 + 1.378970I$ $b = -1.233440 - 0.584666I$	$-7.65179 - 10.64380I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.25141-0.82324I$ $a=-0.021538-1.378970I$ $b=-1.233440+0.584666I$	$-7.65179+10.64380I$	0
$u=0.013340+0.475861I$ $a=0.826953+0.797491I$ $b=-0.314578+0.562221I$	$-1.12862+1.55624I$	$0.14713-4.64540I$
$u=0.013340-0.475861I$ $a=0.826953-0.797491I$ $b=-0.314578-0.562221I$	$-1.12862-1.55624I$	$0.14713+4.64540I$
$u=-0.300972+0.276834I$ $a=0.957991-0.373426I$ $b=-0.634501+0.414017I$	$-1.22189+0.97193I$	$-3.13839-0.91119I$
$u=-0.300972-0.276834I$ $a=0.957991+0.373426I$ $b=-0.634501-0.414017I$	$-1.22189-0.97193I$	$-3.13839+0.91119I$
$u=-1.62034+0.17971I$ $a=-0.694876-0.382724I$ $b=0.904747+0.208992I$	$-0.99352-8.67527I$	0
$u=-1.62034-0.17971I$ $a=-0.694876+0.382724I$ $b=0.904747-0.208992I$	$-0.99352+8.67527I$	0
$u=-1.65831+0.24819I$ $a=0.730006+0.153017I$ $b=-0.907619+0.066140I$	$1.07814+1.74223I$	0
$u=-1.65831-0.24819I$ $a=0.730006-0.153017I$ $b=-0.907619-0.066140I$	$1.07814-1.74223I$	0
$u=-0.226753+0.106637I$ $a=-0.28469-10.30590I$ $b=-0.473559-0.221475I$	$-5.59662-7.70854I$	$-8.24793-2.14980I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.226753-0.106637I$		
$a=-0.28469+10.30590I$	$-5.59662+7.70854I$	$-8.24793+2.14980I$
$b=-0.473559+0.221475I$		

II. $I_2^u =$
$\langle \mathbf{1.18\times10^{28}u^{40}-7.67\times10^{28}u^{39}+\cdots+9.79\times10^{25}b-2.13\times10^{28}},\ \mathbf{1.02\times10^{28}u^{40}-7.05\times10^{28}u^{39}+\cdots+9.79\times10^{25}a-3.82\times10^{28}},\ \mathbf{u^{41}-7u^{40}+\cdots-11u+1}\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-103.857u^{40}+719.583u^{39}+\cdots-3148.45u+390.180\\-120.112u^{40}+783.425u^{39}+\cdots-2058.58u+217.220\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}124.264u^{40}-817.539u^{39}+\cdots+3063.75u-395.819\\-55.1185u^{40}+353.795u^{39}+\cdots-673.835u+63.0433\end{pmatrix}$$
$$a_4 = \begin{pmatrix}307.135u^{40}-1996.42u^{39}+\cdots+5623.44u-646.147\\195.331u^{40}-1283.74u^{39}+\cdots+3749.84u-420.564\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-223.969u^{40}+1503.01u^{39}+\cdots-5207.03u+607.400\\-120.112u^{40}+783.425u^{39}+\cdots-2058.58u+217.220\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-71.0994u^{40}+446.847u^{39}+\cdots-691.806u+42.5459\\112.241u^{40}-787.184u^{39}+\cdots+3603.51u-452.969\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-215.948u^{40}+1447.88u^{39}+\cdots-5228.86u+629.808\\63.8011u^{40}-427.927u^{39}+\cdots+1300.88u-145.479\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-227.513u^{40}+1540.45u^{39}+\cdots-5878.18u+713.136\\36.9235u^{40}-240.586u^{39}+\cdots+512.290u-50.5412\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-64.0733u^{40}+471.524u^{39}+\cdots-3124.37u+446.988\\-164.675u^{40}+1097.03u^{39}+\cdots-3882.64u+475.560\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$$= -\frac{691519598935708171742664467 84}{979272787727626855261766 67}u^{40}+\frac{461052684880726699730660001043}{979272787727626855261766 67}u^{39}+\cdots-\frac{1296998207775107934587459370884}{979272787727626855261766 67}u+\frac{1329759920639449911565103362257}{979272787727626855261766 67}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{41} - 8u^{40} + \cdots - 555u + 37$
c_2	$u^{41} + u^{40} + \cdots + 3u - 1$
c_3	$u^{41} - 9u^{39} + \cdots + 9u^2 + 1$
c_4	$u^{41} + 15u^{39} + \cdots - u + 1$
c_5	$u^{41} + 2u^{40} + \cdots - 15u - 1$
c_6	$u^{41} - u^{40} + \cdots + 3u + 1$
c_7	$u^{41} - 7u^{40} + \cdots - 11u + 1$
c_8	$u^{41} - 9u^{39} + \cdots - 9u^2 - 1$
c_9	$u^{41} + 14u^{39} + \cdots + 2u + 1$
c_{10}	$u^{41} + 10u^{39} + \cdots + 7u - 1$
c_{11}	$u^{41} + 7u^{40} + \cdots - 11u - 1$
c_{12}	$u^{41} - 2u^{40} + \cdots - 15u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{41} - 4y^{40} + \cdots - 2701y - 1369$
c_2, c_6	$y^{41} - 27y^{40} + \cdots + 35y - 1$
c_3, c_8	$y^{41} - 18y^{40} + \cdots - 18y - 1$
c_4	$y^{41} + 30y^{40} + \cdots - y - 1$
c_5, c_{12}	$y^{41} + 38y^{40} + \cdots - 27y - 1$
c_7, c_{11}	$y^{41} - 17y^{40} + \cdots + 33y - 1$
c_9	$y^{41} + 28y^{40} + \cdots + 12y - 1$
c_{10}	$y^{41} + 20y^{40} + \cdots + 61y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.927142+0.347305I$ $a=-0.458871+1.255540I$ $b=-1.057560-0.222374I$	$-0.209317-1.191770I$	$3.70255+3.16958I$
$u=-0.927142-0.347305I$ $a=-0.458871-1.255540I$ $b=-1.057560+0.222374I$	$-0.209317+1.191770I$	$3.70255-3.16958I$
$u=-0.779419+0.650200I$ $a=\ 0.830867-0.924238I$ $b=\ 1.082080+0.668899I$	$-0.40581-4.85911I$	$2.00000+7.72188I$
$u=-0.779419-0.650200I$ $a=\ 0.830867+0.924238I$ $b=\ 1.082080-0.668899I$	$-0.40581+4.85911I$	$2.00000-7.72188I$
$u=\ 0.169274+0.961950I$ $a=-0.379003-0.109241I$ $b=\ 1.186620+0.201083I$	$-9.46272-0.62426I$	$-5.91667+0.44319I$
$u=\ 0.169274-0.961950I$ $a=-0.379003+0.109241I$ $b=\ 1.186620-0.201083I$	$-9.46272+0.62426I$	$-5.91667-0.44319I$
$u=\ 0.852470+0.470972I$ $a=-1.006690-0.985928I$ $b=\ 0.80738+1.23399I$	$0.20579-1.47899I$	$4.23119+4.48438I$
$u=\ 0.852470-0.470972I$ $a=-1.006690+0.985928I$ $b=\ 0.80738-1.23399I$	$0.20579+1.47899I$	$4.23119-4.48438I$
$u=\ 0.874084+0.404182I$ $a=\ 0.29626+1.99805I$ $b=\ 0.104278-1.050880I$	$0.12542+5.23179I$	$2.84870-9.19616I$
$u=\ 0.874084-0.404182I$ $a=\ 0.29626-1.99805I$ $b=\ 0.104278+1.050880I$	$0.12542-5.23179I$	$2.84870+9.19616I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.134326+0.938630I$ $a=\ 1.92681-0.22109I$ $b=\ 0.735171-0.074399I$	$-7.55315+0.49721I$	$-12.44075-0.83713I$
$u=-0.134326-0.938630I$ $a=\ 1.92681+0.22109I$ $b=\ 0.735171+0.074399I$	$-7.55315-0.49721I$	$-12.44075+0.83713I$
$u=\ 0.847382+0.673086I$ $a=\ 0.59982+1.67848I$ $b=\ 0.798239-0.790803I$	$-0.04074+5.69554I$	$0.-10.22141I$
$u=\ 0.847382-0.673086I$ $a=\ 0.59982-1.67848I$ $b=\ 0.798239+0.790803I$	$-0.04074-5.69554I$	$0.+10.22141I$
$u=-0.814515+0.148698I$ $a=\ 0.01989-4.77317I$ $b=\ 0.983453+0.090171I$	$-5.36930-0.36776I$	$-26.9936-46.1947I$
$u=-0.814515-0.148698I$ $a=\ 0.01989+4.77317I$ $b=\ 0.983453-0.090171I$	$-5.36930+0.36776I$	$-26.9936+46.1947I$
$u=-0.767792+0.210103I$ $a=\ 0.25462+2.21185I$ $b=-1.055760-0.709790I$	$-1.14623-2.95576I$	$1.49798-5.01948I$
$u=-0.767792-0.210103I$ $a=\ 0.25462-2.21185I$ $b=-1.055760+0.709790I$	$-1.14623+2.95576I$	$1.49798+5.01948I$
$u=-1.206980+0.004858I$ $a=\ 0.522791-0.594761I$ $b=-0.681406+0.517358I$	$1.05481+1.82958I$	0
$u=-1.206980-0.004858I$ $a=\ 0.522791+0.594761I$ $b=-0.681406-0.517358I$	$1.05481-1.82958I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.130650 + 0.476710I$ $a = -0.74768 + 1.67148I$ $b = 1.077280 - 0.799534I$	$-6.46333 + 5.00874I$	0
$u = 1.130650 - 0.476710I$ $a = -0.74768 - 1.67148I$ $b = 1.077280 + 0.799534I$	$-6.46333 - 5.00874I$	0
$u = -1.163120 + 0.457722I$ $a = -0.745162 + 0.080722I$ $b = 0.646488 - 0.575713I$	$1.073130 + 0.108725I$	0
$u = -1.163120 - 0.457722I$ $a = -0.745162 - 0.080722I$ $b = 0.646488 + 0.575713I$	$1.073130 - 0.108725I$	0
$u = 0.50894 + 1.32024I$ $a = -0.0545155 + 0.0076336I$ $b = -1.180730 - 0.282349I$	$-7.90500 - 3.73304I$	0
$u = 0.50894 - 1.32024I$ $a = -0.0545155 - 0.0076336I$ $b = -1.180730 + 0.282349I$	$-7.90500 + 3.73304I$	0
$u = 0.13872 + 1.40852I$ $a = -0.671598 - 0.214370I$ $b = -0.704102 + 0.153201I$	$-5.88626 - 1.89602I$	0
$u = 0.13872 - 1.40852I$ $a = -0.671598 + 0.214370I$ $b = -0.704102 - 0.153201I$	$-5.88626 + 1.89602I$	0
$u = 1.23516 + 0.69600I$ $a = 0.194284 - 1.366840I$ $b = -1.38116 + 0.49611I$	$-5.16982 + 10.63520I$	0
$u = 1.23516 - 0.69600I$ $a = 0.194284 + 1.366840I$ $b = -1.38116 - 0.49611I$	$-5.16982 - 10.63520I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.541613 + 0.208824I$ $a = -0.746318 - 0.695676I$ $b = 1.67442 + 0.36291I$	$-8.94999 - 1.49636I$	$20.7031 + 3.0348I$
$u = 0.541613 - 0.208824I$ $a = -0.746318 + 0.695676I$ $b = 1.67442 - 0.36291I$	$-8.94999 + 1.49636I$	$20.7031 - 3.0348I$
$u = 0.505972 + 0.281568I$ $a = -0.09598 - 5.32389I$ $b = -0.507756 + 0.380061I$	$-5.43434 + 8.00305I$	$3.2067 - 18.2543I$
$u = 0.505972 - 0.281568I$ $a = -0.09598 + 5.32389I$ $b = -0.507756 - 0.380061I$	$-5.43434 - 8.00305I$	$3.2067 + 18.2543I$
$u = 1.42007 + 0.26318I$ $a = 0.257366 - 0.114072I$ $b = 0.388206 + 0.250021I$	$2.23063 - 1.66443I$	0
$u = 1.42007 - 0.26318I$ $a = 0.257366 + 0.114072I$ $b = 0.388206 - 0.250021I$	$2.23063 + 1.66443I$	0
$u = -1.44664$ $a = 0.968478$ $b = -0.842248$	1.38645	0
$u = 1.43864 + 0.27829I$ $a = -0.086081 + 0.267918I$ $b = -0.395833 - 0.011531I$	$-0.24255 + 7.82530I$	0
$u = 1.43864 - 0.27829I$ $a = -0.086081 - 0.267918I$ $b = -0.395833 + 0.011531I$	$-0.24255 - 7.82530I$	0
$u = 0.353644 + 0.050253I$ $a = -0.39505 - 2.54918I$ $b = -1.59820 + 0.06316I$	$-10.23170 - 5.70633I$	$-1.45537 + 6.02958I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.353644 - 0.050253I$		
$a = -0.39505 + 2.54918I$	$-10.23170 + 5.70633I$	$-1.45537 - 6.02958I$
$b = -1.59820 - 0.06316I$		

III.

$$\boldsymbol{I_3^u = \langle 24a^3 - 33a^2 + 111b + 101a - 11,\ 3a^4 - 6a^3 + 10a^2 - 11a + 13,\ u + 1\rangle}$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -0.216216a^3 + 0.297297a^2 - 0.909910a + 0.0990991 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.135135a^3 + 0.810811a^2 - 0.693694a + 1.93694 \\ 0.0810811a^3 - 0.486486a^2 + 0.216216a - 1.16216 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{3}a - \frac{1}{3} \\ -0.243243a^3 + 0.459459a^2 - 0.648649a + 0.486486 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.216216a^3 + 0.297297a^2 + 0.0900901a + 0.0990991 \\ -0.216216a^3 + 0.297297a^2 - 0.909910a + 0.0990991 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.216216a^3 + 0.297297a^2 + 0.0900901a + 0.0990991 \\ -0.216216a^3 + 0.297297a^2 - 0.909910a + 0.0990991 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0810811a^3 + 0.486486a^2 - 0.216216a + 1.16216 \\ -0.216216a^3 + 0.297297a^2 - 0.909910a + 1.09910 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.135135a^3 + 0.189189a^2 + 0.693694a + 0.0630631 \\ -0.216216a^3 + 0.297297a^2 - 0.909910a + 1.09910 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0810811a^3 + 0.513514a^2 + 0.216216a + 0.837838 \\ -0.432432a^3 + 0.594595a^2 - 0.819820a + 0.198198 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{57}{37}a^3 - \frac{397}{111}a^2 + \frac{493}{111}a - \frac{40}{37}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	u^4
c_2, c_5	$(u^2-u+1)^2$
c_3, c_4	$3(3u^4-2u^2+u+1)$
c_6, c_{12}	$(u^2+u+1)^2$
c_7	$(u+1)^4$
c_8	$3(3u^4-2u^2-u+1)$
c_9	$u^4+u^3+u^2+3u+3$
c_{10}	$3(3u^4-9u^3+10u^2-4u+1)$
c_{11}	$(u-1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	y^4
c_2, c_5, c_6 c_{12}	$(y^2+y+1)^2$
c_3, c_4, c_8	$9(9y^4-12y^3+10y^2-5y+1)$
c_7, c_{11}	$(y-1)^4$
c_9	$y^4+y^3+y^2-3y+9$
c_{10}	$9(9y^4-21y^3+34y^2+4y+1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=-0.179545+1.367100I$ $b=-0.500000-0.866025I$	$1.64493-2.02988I$	$6.23264+4.09518I$
$u=-1.00000$ $a=-0.179545-1.367100I$ $b=-0.500000+0.866025I$	$1.64493+2.02988I$	$6.23264-4.09518I$
$u=-1.00000$ $a=\ \ 1.17955+0.94230I$ $b=-0.500000-0.866025I$	$1.64493-2.02988I$	$0.045133+1.004750I$
$u=-1.00000$ $a=\ \ 1.17955-0.94230I$ $b=-0.500000+0.866025I$	$1.64493+2.02988I$	$0.045133-1.004750I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^4(u^{41}-8u^{40}+\cdots-555u+37)(u^{161}-9u^{160}+\cdots-7368u+1008)$
c_2	$((u^2-u+1)^2)(u^{41}+u^{40}+\cdots+3u-1)$ $\cdot(u^{161}-2u^{160}+\cdots+1477u-211)$
c_3	$9(3u^4-2u^2+u+1)(u^{41}-9u^{39}+\cdots+9u^2+1)$ $\cdot(3u^{161}+3u^{160}+\cdots-1617931u-688369)$
c_4	$9(3u^4-2u^2+u+1)(u^{41}+15u^{39}+\cdots-u+1)$ $\cdot(3u^{161}-3u^{160}+\cdots-360u-67)$
c_5	$((u^2-u+1)^2)(u^{41}+2u^{40}+\cdots-15u-1)$ $\cdot(u^{161}-3u^{160}+\cdots+72893u+10561)$
c_6	$((u^2+u+1)^2)(u^{41}-u^{40}+\cdots+3u+1)$ $\cdot(u^{161}-2u^{160}+\cdots+1477u-211)$
c_7	$((u+1)^4)(u^{41}-7u^{40}+\cdots-11u+1)(u^{161}+2u^{160}+\cdots-1987u-511)$
c_8	$9(3u^4-2u^2-u+1)(u^{41}-9u^{39}+\cdots-9u^2-1)$ $\cdot(3u^{161}+3u^{160}+\cdots-1617931u-688369)$
c_9	$(u^4+u^3+u^2+3u+3)(u^{41}+14u^{39}+\cdots+2u+1)$ $\cdot(u^{161}-6u^{160}+\cdots-971313u-191967)$
c_{10}	$9(3u^4-9u^3+\cdots-4u+1)(u^{41}+10u^{39}+\cdots+7u-1)$ $\cdot(3u^{161}-6u^{160}+\cdots+53653u-3073)$
c_{11}	$((u-1)^4)(u^{41}+7u^{40}+\cdots-11u-1)(u^{161}+2u^{160}+\cdots-1987u-511)$
c_{12}	$((u^2+u+1)^2)(u^{41}-2u^{40}+\cdots-15u+1)$ $\cdot(u^{161}-3u^{160}+\cdots+72893u+10561)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^4(y^{41}-4y^{40}+\cdots-2701y-1369)$ $\cdot(y^{161}-19y^{160}+\cdots-34239168y-1016064)$
c_2, c_6	$((y^2+y+1)^2)(y^{41}-27y^{40}+\cdots+35y-1)$ $\cdot(y^{161}-96y^{160}+\cdots+8727171y-44521)$
c_3, c_8	$81(9y^4-12y^3+\cdots-5y+1)(y^{41}-18y^{40}+\cdots-18y-1)$ $\cdot(9y^{161}-993y^{160}+\cdots+6362741977025y-473851880161)$
c_4	$81(9y^4-12y^3+\cdots-5y+1)(y^{41}+30y^{40}+\cdots-y-1)$ $\cdot(9y^{161}+375y^{160}+\cdots-456918y-4489)$
c_5, c_{12}	$((y^2+y+1)^2)(y^{41}+38y^{40}+\cdots-27y-1)$ $\cdot(y^{161}+125y^{160}+\cdots-2360486615y-111534721)$
c_7, c_{11}	$((y-1)^4)(y^{41}-17y^{40}+\cdots+33y-1)$ $\cdot(y^{161}-72y^{160}+\cdots+12901911y-261121)$
c_9	$(y^4+y^3+y^2-3y+9)(y^{41}+28y^{40}+\cdots+12y-1)$ $\cdot(y^{161}+66y^{160}+\cdots-2734308592791y-36851329089)$
c_{10}	$81(9y^4-21y^3+\cdots+4y+1)(y^{41}+20y^{40}+\cdots+61y-1)$ $\cdot(9y^{161}+240y^{160}+\cdots-7159316237y-9443329)$