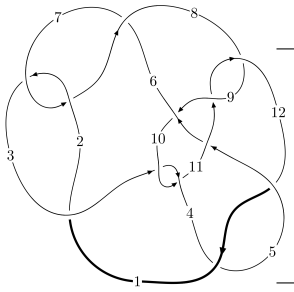
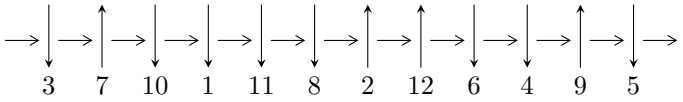
$12a_{0666}$ $(K12a_{0666})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.92536 \times 10^{447} u^{136} - 1.57456 \times 10^{447} u^{135} + \cdots + 2.39588 \times 10^{446} b + 4.72928 \times 10^{450},$$
$$- 3.48036 \times 10^{450} u^{136} - 1.65662 \times 10^{451} u^{135} + \cdots + 3.33746 \times 10^{449} a - 1.48601 \times 10^{454},$$
$$u^{137} + 3u^{136} + \cdots + 12298u + 1393 \rangle$$
$$I_2^u = \langle -37u^{33} - 194u^{32} + \cdots + b + 52,\ 53u^{33} + 297u^{32} + \cdots + a - 41,\ u^{34} + 6u^{33} + \cdots + 6u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 171 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. $\boldsymbol{I_1^u = \langle -1.93 \times 10^{447} u^{136} - 1.57 \times 10^{447} u^{135} + \cdots + 2.40 \times 10^{446} b + 4.73 \times 10^{450},\ -3.48 \times 10^{450} u^{136} - 1.66 \times 10^{451} u^{135} + \cdots + 3.34 \times 10^{449} a - 1.49 \times 10^{454},\ u^{137} + 3u^{136} + \cdots + 12298u + 1393 \rangle}$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 10.4282u^{136} + 49.6372u^{135} + \cdots + 370840.u + 44525.3 \\ 8.03614u^{136} + 6.57193u^{135} + \cdots - 142787.u - 19739.2 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -11.7845u^{136} - 76.5988u^{135} + \cdots - 698843.u - 85744.5 \\ -14.2129u^{136} - 12.7212u^{135} + \cdots + 238819.u + 33252.7 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 22.0351u^{136} + 110.468u^{135} + \cdots + 864379.u + 104191. \\ 20.1032u^{136} + 18.1880u^{135} + \cdots - 333364.u - 46394.0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.643174u^{136} - 15.6030u^{135} + \cdots - 187575.u - 23560.4 \\ -0.834262u^{136} + 1.08169u^{135} + \cdots + 37569.5u + 4944.21 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -25.9974u^{136} - 89.3200u^{135} + \cdots - 460024.u - 52491.8 \\ -14.2129u^{136} - 12.7212u^{135} + \cdots + 238819.u + 33252.7 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 24.9079u^{136} + 68.9754u^{135} + \cdots + 218947.u + 22439.7 \\ -10.4660u^{136} - 39.8991u^{135} + \cdots - 237662.u - 27835.2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -21.9691u^{136} - 85.4323u^{135} + \cdots - 521504.u - 61150.8 \\ -21.1785u^{136} - 29.9099u^{135} + \cdots + 205101.u + 30493.0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 13.2695u^{136} + 95.3119u^{135} + \cdots + 923969.u + 113612. \\ 28.7003u^{136} + 42.3559u^{135} + \cdots - 266352.u - 39877.1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 7.98852u^{136} + 41.2715u^{135} + \cdots + 305649.u + 36865.9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{137} + 45u^{136} + \cdots - 444418u - 20449$
c_2, c_7	$u^{137} + u^{136} + \cdots + 702u + 143$
c_3, c_{10}	$u^{137} - u^{136} + \cdots + u + 1$
c_4, c_{12}	$u^{137} - 3u^{136} + \cdots - 6424u + 2032$
c_5	$u^{137} + u^{136} + \cdots + 13177u + 477$
c_8, c_{11}	$u^{137} + 3u^{136} + \cdots + 12298u + 1393$
c_9	$u^{137} - 3u^{136} + \cdots + 171627u - 48532$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{137} + 109y^{136} + \cdots - 5228485158y - 418161601$
c_2, c_7	$y^{137} + 45y^{136} + \cdots - 444418y - 20449$
c_3, c_{10}	$y^{137} - 71y^{136} + \cdots + 33y - 1$
c_4, c_{12}	$y^{137} + 95y^{136} + \cdots - 264913984y - 4129024$
c_5	$y^{137} - 9y^{136} + \cdots + 72296587y - 227529$
c_8, c_{11}	$y^{137} + 69y^{136} + \cdots - 92146942y - 1940449$
c_9	$y^{137} - 11y^{136} + \cdots + 35394493841y - 2355355024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.993143+0.101701I$ $a=-0.218165-0.232465I$ $b=\ \ 0.215078+1.068600I$	$-1.65595+6.89184I$	0
$u=-0.993143-0.101701I$ $a=-0.218165+0.232465I$ $b=\ \ 0.215078-1.068600I$	$-1.65595-6.89184I$	0
$u=\ \ 0.392533+0.907153I$ $a=-1.54339+1.44894I$ $b=\ \ 0.716841+1.084560I$	$3.05117+9.19531I$	0
$u=\ \ 0.392533-0.907153I$ $a=-1.54339-1.44894I$ $b=\ \ 0.716841-1.084560I$	$3.05117-9.19531I$	0
$u=\ \ 0.335737+0.917551I$ $a=-2.64118+2.15957I$ $b=\ \ 0.715749+0.845361I$	$3.44248+0.46124I$	0
$u=\ \ 0.335737-0.917551I$ $a=-2.64118-2.15957I$ $b=\ \ 0.715749-0.845361I$	$3.44248-0.46124I$	0
$u=\ \ 0.419337+0.870394I$ $a=\ \ 0.66926+1.81274I$ $b=\ \ 0.709268-0.897251I$	$3.28050-4.99373I$	0
$u=\ \ 0.419337-0.870394I$ $a=\ \ 0.66926-1.81274I$ $b=\ \ 0.709268+0.897251I$	$3.28050+4.99373I$	0
$u=-0.516989+0.804672I$ $a=-0.579232+0.152322I$ $b=-0.229961+0.657869I$	$-5.23773-2.94305I$	0
$u=-0.516989-0.804672I$ $a=-0.579232-0.152322I$ $b=-0.229961-0.657869I$	$-5.23773+2.94305I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.368298+0.881432I$ $a=\ \ 2.26249+1.16568I$ $b=-0.804910+0.958572I$	$6.25192-4.89483I$	0
$u=-0.368298-0.881432I$ $a=\ \ 2.26249-1.16568I$ $b=-0.804910-0.958572I$	$6.25192+4.89483I$	0
$u=-0.396093+0.835282I$ $a=\ \ 1.86286+0.16204I$ $b=-0.900967+0.906827I$	$6.63966-4.81464I$	0
$u=-0.396093-0.835282I$ $a=\ \ 1.86286-0.16204I$ $b=-0.900967-0.906827I$	$6.63966+4.81464I$	0
$u=-0.214491+1.057340I$ $a=\ \ 0.50406-1.35552I$ $b=-0.449252-1.022370I$	$-7.08230+0.25351I$	0
$u=-0.214491-1.057340I$ $a=\ \ 0.50406+1.35552I$ $b=-0.449252+1.022370I$	$-7.08230-0.25351I$	0
$u=\ \ 0.460709+0.795289I$ $a=\ \ 0.298432+0.730500I$ $b=\ \ 0.857184-0.587518I$	$4.54617+3.31372I$	0
$u=\ \ 0.460709-0.795289I$ $a=\ \ 0.298432-0.730500I$ $b=\ \ 0.857184+0.587518I$	$4.54617-3.31372I$	0
$u=\ \ 0.422657+0.813674I$ $a=-1.171570-0.202241I$ $b=\ \ 0.914540+0.738281I$	$4.52281+0.41179I$	0
$u=\ \ 0.422657-0.813674I$ $a=-1.171570+0.202241I$ $b=\ \ 0.914540-0.738281I$	$4.52281-0.41179I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.361692+0.841302I$ $a=\ \ 2.58809+0.33776I$ $b=-0.857062+0.927377I$	$6.46165-4.79464I$	0
$u=-0.361692-0.841302I$ $a=\ \ 2.58809-0.33776I$ $b=-0.857062-0.927377I$	$6.46165+4.79464I$	0
$u=\ \ 0.903691+0.088826I$ $a=\ \ 1.44805+0.24406I$ $b=-0.717408-0.832415I$	$3.83282+2.56162I$	0
$u=\ \ 0.903691-0.088826I$ $a=\ \ 1.44805-0.24406I$ $b=-0.717408+0.832415I$	$3.83282-2.56162I$	0
$u=-0.418033+0.804706I$ $a=-0.008821+1.147750I$ $b=-0.877861-0.810105I$	$6.71587+1.32958I$	0
$u=-0.418033-0.804706I$ $a=-0.008821-1.147750I$ $b=-0.877861+0.810105I$	$6.71587-1.32958I$	0
$u=-0.113520+1.087530I$ $a=-1.31438-0.79719I$ $b=\ \ 0.527247-0.883145I$	$-1.72816-2.72038I$	0
$u=-0.113520-1.087530I$ $a=-1.31438+0.79719I$ $b=\ \ 0.527247+0.883145I$	$-1.72816+2.72038I$	0
$u=\ \ 0.896144+0.070680I$ $a=\ \ 1.176020+0.576398I$ $b=-0.702580-0.907849I$	$3.60119+2.87209I$	0
$u=\ \ 0.896144-0.070680I$ $a=\ \ 1.176020-0.576398I$ $b=-0.702580+0.907849I$	$3.60119-2.87209I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.367760+0.813349I$ $a=\ \ 0.60666+1.64872I$ $b=-0.862981-0.900064I$	$6.54515+1.58431I$	0
$u=-0.367760-0.813349I$ $a=\ \ 0.60666-1.64872I$ $b=-0.862981+0.900064I$	$6.54515-1.58431I$	0
$u=\ \ 0.451707+1.019320I$ $a=\ \ 1.60939+0.51494I$ $b=-0.173522-0.796738I$	$-2.15556+5.13134I$	0
$u=\ \ 0.451707-1.019320I$ $a=\ \ 1.60939-0.51494I$ $b=-0.173522+0.796738I$	$-2.15556-5.13134I$	0
$u=\ \ 0.804434+0.334261I$ $a=\ \ 0.976121-0.598655I$ $b=-0.444550-0.275846I$	$3.40481+1.01507I$	0
$u=\ \ 0.804434-0.334261I$ $a=\ \ 0.976121+0.598655I$ $b=-0.444550+0.275846I$	$3.40481-1.01507I$	0
$u=-1.072280+0.366077I$ $a=\ \ 1.63883-0.56764I$ $b=-0.860414+0.716196I$	$5.54552+6.60550I$	0
$u=-1.072280-0.366077I$ $a=\ \ 1.63883+0.56764I$ $b=-0.860414-0.716196I$	$5.54552-6.60550I$	0
$u=\ \ 0.327386+1.085800I$ $a=\ \ 0.049409+0.759822I$ $b=-0.165832+1.204450I$	$-3.49765+0.87772I$	0
$u=\ \ 0.327386-1.085800I$ $a=\ \ 0.049409-0.759822I$ $b=-0.165832-1.204450I$	$-3.49765-0.87772I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.164764 + 0.848550I$ $a = -0.326735 - 0.251444I$ $b = 0.508569 + 0.345209I$	$-0.392647 + 1.151400I$	0
$u = 0.164764 - 0.848550I$ $a = -0.326735 + 0.251444I$ $b = 0.508569 - 0.345209I$	$-0.392647 - 1.151400I$	0
$u = -0.400949 + 1.064290I$ $a = -0.698332 - 0.958258I$ $b = 0.720921 + 0.502062I$	$-1.42672 + 0.77872I$	0
$u = -0.400949 - 1.064290I$ $a = -0.698332 + 0.958258I$ $b = 0.720921 - 0.502062I$	$-1.42672 - 0.77872I$	0
$u = -0.364467 + 0.780883I$ $a = 0.878470 + 1.096230I$ $b = -0.866933 - 0.921688I$	$6.57472 + 1.68871I$	0
$u = -0.364467 - 0.780883I$ $a = 0.878470 - 1.096230I$ $b = -0.866933 + 0.921688I$	$6.57472 - 1.68871I$	0
$u = 0.367939 + 0.777842I$ $a = -2.49524 - 1.09866I$ $b = 0.782216 + 0.937556I$	$3.62022 + 8.40450I$	0
$u = 0.367939 - 0.777842I$ $a = -2.49524 + 1.09866I$ $b = 0.782216 - 0.937556I$	$3.62022 - 8.40450I$	0
$u = -0.384630 + 1.077120I$ $a = 0.196232 + 0.403779I$ $b = -0.594972 + 0.100972I$	$-4.76593 - 3.47175I$	0
$u = -0.384630 - 1.077120I$ $a = 0.196232 - 0.403779I$ $b = -0.594972 - 0.100972I$	$-4.76593 + 3.47175I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.304451 + 0.778083I$ $a = -2.15880 + 1.44622I$ $b = 0.816538 - 0.837720I$	$3.93353 + 2.41327I$	0
$u = 0.304451 - 0.778083I$ $a = -2.15880 - 1.44622I$ $b = 0.816538 + 0.837720I$	$3.93353 - 2.41327I$	0
$u = -0.828620 + 0.007884I$ $a = -1.85148 - 0.35762I$ $b = 0.759856 + 0.964455I$	$1.39093 + 7.00393I$	0
$u = -0.828620 - 0.007884I$ $a = -1.85148 + 0.35762I$ $b = 0.759856 - 0.964455I$	$1.39093 - 7.00393I$	0
$u = 0.014036 + 0.825161I$ $a = -1.43561 - 4.31284I$ $b = 0.129023 - 0.728985I$	$0.28990 - 2.20949I$	0
$u = 0.014036 - 0.825161I$ $a = -1.43561 + 4.31284I$ $b = 0.129023 + 0.728985I$	$0.28990 + 2.20949I$	0
$u = 0.355556 + 0.742629I$ $a = -1.026380 + 0.177768I$ $b = 0.801561 - 1.032050I$	$3.61646 - 5.91274I$	0
$u = 0.355556 - 0.742629I$ $a = -1.026380 - 0.177768I$ $b = 0.801561 + 1.032050I$	$3.61646 + 5.91274I$	0
$u = -1.139030 + 0.338886I$ $a = 1.55291 + 0.58164I$ $b = -0.754410 - 1.020510I$	$4.60598 + 12.61970I$	0
$u = -1.139030 - 0.338886I$ $a = 1.55291 - 0.58164I$ $b = -0.754410 + 1.020510I$	$4.60598 - 12.61970I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.375911+1.135100I$ $a=-0.142324+0.445881I$ $b=\ \ 0.413396+1.237030I$	$-4.31323-3.59247I$	0
$u=-0.375911-1.135100I$ $a=-0.142324-0.445881I$ $b=\ \ 0.413396-1.237030I$	$-4.31323+3.59247I$	0
$u=-0.363577+1.159620I$ $a=-1.220750-0.367940I$ $b=\ \ 0.669024-0.724481I$	$-1.91888-2.86850I$	0
$u=-0.363577-1.159620I$ $a=-1.220750+0.367940I$ $b=\ \ 0.669024+0.724481I$	$-1.91888+2.86850I$	0
$u=-0.778000+0.066848I$ $a=-1.42799+0.91687I$ $b=\ \ 0.810378-0.785210I$	$1.94160+1.10807I$	0
$u=-0.778000-0.066848I$ $a=-1.42799-0.91687I$ $b=\ \ 0.810378+0.785210I$	$1.94160-1.10807I$	0
$u=\ \ 0.264817+1.196190I$ $a=-0.294259+1.340730I$ $b=\ \ 0.063453+0.987721I$	$-4.34457+2.46575I$	0
$u=\ \ 0.264817-1.196190I$ $a=-0.294259-1.340730I$ $b=\ \ 0.063453-0.987721I$	$-4.34457-2.46575I$	0
$u=\ \ 0.162186+1.222950I$ $a=\ \ 1.163560+0.247869I$ $b=-0.473152+0.605479I$	$-1.49506+2.98930I$	0
$u=\ \ 0.162186-1.222950I$ $a=\ \ 1.163560-0.247869I$ $b=-0.473152-0.605479I$	$-1.49506-2.98930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.522387 + 1.125440I$ $a = 0.635698 - 0.248411I$ $b = -0.717731 + 0.117324I$	$0.98211 + 3.85776I$	0
$u = 0.522387 - 1.125440I$ $a = 0.635698 + 0.248411I$ $b = -0.717731 - 0.117324I$	$0.98211 - 3.85776I$	0
$u = -0.360988 + 1.188570I$ $a = 0.95877 + 1.46767I$ $b = -0.210270 + 1.053090I$	$-8.38401 - 6.17019I$	0
$u = -0.360988 - 1.188570I$ $a = 0.95877 - 1.46767I$ $b = -0.210270 - 1.053090I$	$-8.38401 + 6.17019I$	0
$u = -0.498190 + 1.145610I$ $a = -0.784141 - 0.350457I$ $b = 0.922097 - 0.125766I$	$-0.64331 - 8.43493I$	0
$u = -0.498190 - 1.145610I$ $a = -0.784141 + 0.350457I$ $b = 0.922097 + 0.125766I$	$-0.64331 + 8.43493I$	0
$u = 0.555101 + 1.139340I$ $a = 0.429042 - 0.506563I$ $b = -0.716737 + 0.615005I$	$0.83561 + 2.66881I$	0
$u = 0.555101 - 1.139340I$ $a = 0.429042 + 0.506563I$ $b = -0.716737 - 0.615005I$	$0.83561 - 2.66881I$	0
$u = -0.699115 + 0.214848I$ $a = -1.20389 - 0.93781I$ $b = 0.707081 + 0.058289I$	$2.06768 + 3.88854I$	0
$u = -0.699115 - 0.214848I$ $a = -1.20389 + 0.93781I$ $b = 0.707081 - 0.058289I$	$2.06768 - 3.88854I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.476043+1.180790I$ $a=-0.102158-0.957535I$ $b=\ \ 0.851883+0.737158I$	$-1.28877-5.63444I$	0
$u=-0.476043-1.180790I$ $a=-0.102158+0.957535I$ $b=\ \ 0.851883-0.737158I$	$-1.28877+5.63444I$	0
$u=\ \ 1.251420+0.281998I$ $a=\ \ 0.276455+0.147205I$ $b=-0.140848+0.858327I$	$1.76672-1.02889I$	0
$u=\ \ 1.251420-0.281998I$ $a=\ \ 0.276455-0.147205I$ $b=-0.140848-0.858327I$	$1.76672+1.02889I$	0
$u=-0.579676+1.154700I$ $a=-1.93844-0.37344I$ $b=\ \ 0.622082-1.026640I$	$-2.92632-4.30812I$	0
$u=-0.579676-1.154700I$ $a=-1.93844+0.37344I$ $b=\ \ 0.622082+1.026640I$	$-2.92632+4.30812I$	0
$u=-0.856923+0.968536I$ $a=\ \ 1.23974+1.20572I$ $b=-0.711815-0.829718I$	$-2.50811-0.59518I$	0
$u=-0.856923-0.968536I$ $a=\ \ 1.23974-1.20572I$ $b=-0.711815+0.829718I$	$-2.50811+0.59518I$	0
$u=\ \ 0.088978+1.290330I$ $a=\ \ 0.999566+0.163151I$ $b=-0.594033+0.601718I$	$-1.50031+2.99831I$	0
$u=\ \ 0.088978-1.290330I$ $a=\ \ 0.999566-0.163151I$ $b=-0.594033-0.601718I$	$-1.50031-2.99831I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.477721+1.213540I$ $a=-1.96698-1.02776I$ $b=\ \ 0.760111-1.009490I$	$-2.13051-11.64950I$	0
$u=-0.477721-1.213540I$ $a=-1.96698+1.02776I$ $b=\ \ 0.760111+1.009490I$	$-2.13051+11.64950I$	0
$u=\ \ 0.524657+1.202000I$ $a=-0.020882-0.610337I$ $b=-0.684439+0.810813I$	$0.28445+2.16636I$	0
$u=\ \ 0.524657-1.202000I$ $a=-0.020882+0.610337I$ $b=-0.684439-0.810813I$	$0.28445-2.16636I$	0
$u=\ \ 1.181100+0.583727I$ $a=-1.75285-0.51367I$ $b=\ \ 0.793700+0.794483I$	$7.65989+0.80808I$	0
$u=\ \ 1.181100-0.583727I$ $a=-1.75285+0.51367I$ $b=\ \ 0.793700-0.794483I$	$7.65989-0.80808I$	0
$u=-0.637475+1.154780I$ $a=-0.908847-0.872106I$ $b=-0.023503-0.890496I$	$-6.63194-2.04469I$	0
$u=-0.637475-1.154780I$ $a=-0.908847+0.872106I$ $b=-0.023503+0.890496I$	$-6.63194+2.04469I$	0
$u=\ \ 0.056983+0.678074I$ $a=-0.06769-2.21669I$ $b=\ \ 0.109985-1.246770I$	$-1.54146+1.35035I$	0
$u=\ \ 0.056983-0.678074I$ $a=-0.06769+2.21669I$ $b=\ \ 0.109985+1.246770I$	$-1.54146-1.35035I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.585908+0.342572I$ $a=-1.50703-1.52512I$ $b=\ \ 0.372092+0.951869I$	$-0.770443-0.547292I$	0
$u=-0.585908-0.342572I$ $a=-1.50703+1.52512I$ $b=\ \ 0.372092-0.951869I$	$-0.770443+0.547292I$	0
$u=-0.422000+1.272690I$ $a=-0.575533+0.086946I$ $b=\ \ 0.679722+0.934991I$	$-2.49125+2.35660I$	0
$u=-0.422000-1.272690I$ $a=-0.575533-0.086946I$ $b=\ \ 0.679722-0.934991I$	$-2.49125-2.35660I$	0
$u=\ \ 0.487366+1.254290I$ $a=\ \ 1.62217-1.02987I$ $b=-0.682957-0.934186I$	$-0.11114+7.44318I$	0
$u=\ \ 0.487366-1.254290I$ $a=\ \ 1.62217+1.02987I$ $b=-0.682957+0.934186I$	$-0.11114-7.44318I$	0
$u=-0.852581+1.049770I$ $a=\ \ 2.30661-0.02185I$ $b=-0.704234+0.908771I$	$-2.75425-6.02344I$	0
$u=-0.852581-1.049770I$ $a=\ \ 2.30661+0.02185I$ $b=-0.704234-0.908771I$	$-2.75425+6.02344I$	0
$u=-0.533149+1.254590I$ $a=-1.009580-0.757415I$ $b=\ \ 0.249405-1.188060I$	$-5.21066-12.26540I$	0
$u=-0.533149-1.254590I$ $a=-1.009580+0.757415I$ $b=\ \ 0.249405+1.188060I$	$-5.21066+12.26540I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.246560 + 0.557148I$ $a = -1.50904 + 0.64457I$ $b = 0.749899 - 0.952042I$	$7.17363 - 5.00606I$	0
$u = 1.246560 - 0.557148I$ $a = -1.50904 - 0.64457I$ $b = 0.749899 + 0.952042I$	$7.17363 + 5.00606I$	0
$u = 0.520321 + 1.275230I$ $a = 1.42291 - 0.70314I$ $b = -0.646359 - 1.031850I$	$-0.41612 + 7.92072I$	0
$u = 0.520321 - 1.275230I$ $a = 1.42291 + 0.70314I$ $b = -0.646359 + 1.031850I$	$-0.41612 - 7.92072I$	0
$u = 0.446314 + 0.431505I$ $a = 0.28919 - 2.37502I$ $b = 0.040024 + 0.878173I$	$-0.481966 - 1.247710I$	0
$u = 0.446314 - 0.431505I$ $a = 0.28919 + 2.37502I$ $b = 0.040024 - 0.878173I$	$-0.481966 + 1.247710I$	0
$u = -0.653847 + 1.226990I$ $a = 0.539138 + 0.976902I$ $b = -0.923455 - 0.692051I$	$2.81024 - 12.76900I$	0
$u = -0.653847 - 1.226990I$ $a = 0.539138 - 0.976902I$ $b = -0.923455 + 0.692051I$	$2.81024 + 12.76900I$	0
$u = -0.302408 + 1.365590I$ $a = 0.444009 + 0.745147I$ $b = 0.015939 + 1.078320I$	$-6.67395 + 2.07254I$	0
$u = -0.302408 - 1.365590I$ $a = 0.444009 - 0.745147I$ $b = 0.015939 - 1.078320I$	$-6.67395 - 2.07254I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.560964 + 1.282850I$ $a = 1.011750 - 0.908126I$ $b = -0.269771 - 0.977510I$	$-1.82196 + 7.17496I$	0
$u = 0.560964 - 1.282850I$ $a = 1.011750 + 0.908126I$ $b = -0.269771 + 0.977510I$	$-1.82196 - 7.17496I$	0
$u = 0.73152 + 1.21430I$ $a = -0.687673 + 0.983729I$ $b = 0.853915 - 0.759463I$	$5.44339 + 6.00294I$	0
$u = 0.73152 - 1.21430I$ $a = -0.687673 - 0.983729I$ $b = 0.853915 + 0.759463I$	$5.44339 - 6.00294I$	0
$u = -0.562629 + 0.113358I$ $a = 0.565003 + 0.685112I$ $b = -0.253809 + 0.942135I$	$-4.68397 - 2.68678I$	0
$u = -0.562629 - 0.113358I$ $a = 0.565003 - 0.685112I$ $b = -0.253809 - 0.942135I$	$-4.68397 + 2.68678I$	0
$u = -0.66724 + 1.26099I$ $a = 1.97775 + 0.59141I$ $b = -0.770964 + 1.058360I$	$1.6658 - 19.0131I$	0
$u = -0.66724 - 1.26099I$ $a = 1.97775 - 0.59141I$ $b = -0.770964 - 1.058360I$	$1.6658 + 19.0131I$	0
$u = -0.562921$ $a = 0.812695$ $b = -0.554843$	-1.88238	-4.00000
$u = 1.45773 + 0.05490I$ $a = 1.46482 + 0.39418I$ $b = -0.668199 - 0.865493I$	$4.54329 + 2.58597I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.45773 - 0.05490I$ $a = 1.46482 - 0.39418I$ $b = -0.668199 + 0.865493I$	$4.54329 - 2.58597I$	0
$u = 0.74220 + 1.25860I$ $a = -2.00241 + 0.42267I$ $b = 0.769406 + 0.996120I$	$4.70822 + 12.05210I$	0
$u = 0.74220 - 1.25860I$ $a = -2.00241 - 0.42267I$ $b = 0.769406 - 0.996120I$	$4.70822 - 12.05210I$	0
$u = -0.01610 + 1.48390I$ $a = 0.867755 - 0.348282I$ $b = -0.657189 - 0.995765I$	$-2.56099 + 8.09911I$	0
$u = -0.01610 - 1.48390I$ $a = 0.867755 + 0.348282I$ $b = -0.657189 + 0.995765I$	$-2.56099 - 8.09911I$	0
$u = -0.000754 + 0.313851I$ $a = 0.806403 - 0.510786I$ $b = 0.262316 + 0.579345I$	$-0.258015 + 0.933827I$	$-5.31189 - 6.94666I$
$u = -0.000754 - 0.313851I$ $a = 0.806403 + 0.510786I$ $b = 0.262316 - 0.579345I$	$-0.258015 - 0.933827I$	$-5.31189 + 6.94666I$

II. $I_2^u = \langle -37u^{33} - 194u^{32} + \cdots + b + 52,\ 53u^{33} + 297u^{32} + \cdots + a - 41,\ u^{34} + 6u^{33} + \cdots + 6u + 1 \rangle$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} -53u^{33} - 297u^{32} + \cdots - 42u + 41 \\ 37u^{33} + 194u^{32} + \cdots - 155u - 52 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -25u^{33} - 135u^{32} + \cdots - 608u - 84 \\ 120u^{33} + 754u^{32} + \cdots + 764u + 94 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 78u^{33} + 349u^{32} + \cdots - 1069u - 166 \\ 12u^{33} + 73u^{32} + \cdots + 272u^2 - 36 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -8u^{33} - 47u^{32} + \cdots - 107u - 14 \\ 7u^{33} + 42u^{32} + \cdots + 77u + 9 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 95u^{33} + 619u^{32} + \cdots + 156u + 10 \\ 120u^{33} + 754u^{32} + \cdots + 764u + 94 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 8u^{33} + 41u^{32} + \cdots - 107u - 30 \\ -4u^{33} - 19u^{32} + \cdots + 115u + 25 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 7u^{33} + 73u^{32} + \cdots - 247u - 36 \\ 149u^{33} + 950u^{32} + \cdots + 971u + 122 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 155u^{33} + 885u^{32} + \cdots + 312u + 5 \\ -99u^{33} - 588u^{32} + \cdots + 91u + 24 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 90u^{33} + 591u^{32} + \cdots + 838u + 121$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{34} - 14u^{33} + \cdots - 22u + 1$
c_2	$u^{34} + 7u^{32} + \cdots + 2u + 1$
c_3	$u^{34} - 11u^{32} + \cdots + u + 1$
c_4	$u^{34} + 2u^{33} + \cdots + 13u^2 + 1$
c_5	$u^{34} + 2u^{32} + \cdots - u + 1$
c_7	$u^{34} + 7u^{32} + \cdots - 2u + 1$
c_8	$u^{34} + 6u^{33} + \cdots + 6u + 1$
c_9	$u^{34} + 4u^{33} + \cdots + 20u + 5$
c_{10}	$u^{34} - 11u^{32} + \cdots - u + 1$
c_{11}	$u^{34} - 6u^{33} + \cdots - 6u + 1$
c_{12}	$u^{34} - 2u^{33} + \cdots + 13u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{34} + 26y^{33} + \cdots - 6y + 1$
c_2, c_7	$y^{34} + 14y^{33} + \cdots + 22y + 1$
c_3, c_{10}	$y^{34} - 22y^{33} + \cdots - 21y + 1$
c_4, c_{12}	$y^{34} + 32y^{33} + \cdots + 26y + 1$
c_5	$y^{34} + 4y^{33} + \cdots + 25y + 1$
c_8, c_{11}	$y^{34} + 14y^{33} + \cdots + 22y + 1$
c_9	$y^{34} - 2y^{33} + \cdots + 70y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.531197 + 0.860035I$ $a = -0.028059 - 0.216849I$ $b = -0.319752 - 0.723894I$	$-5.13169 + 3.43542I$	$-6.22878 - 12.35539I$
$u = 0.531197 - 0.860035I$ $a = -0.028059 + 0.216849I$ $b = -0.319752 + 0.723894I$	$-5.13169 - 3.43542I$	$-6.22878 + 12.35539I$
$u = -0.305851 + 0.883738I$ $a = 2.32475 + 0.55537I$ $b = -0.882247 + 0.946586I$	$6.08861 - 4.63735I$	$-13.45266 - 0.77249I$
$u = -0.305851 - 0.883738I$ $a = 2.32475 - 0.55537I$ $b = -0.882247 - 0.946586I$	$6.08861 + 4.63735I$	$-13.45266 + 0.77249I$
$u = -1.083990 + 0.156949I$ $a = -0.637472 + 0.042373I$ $b = 0.143242 + 0.755120I$	$2.01840 + 0.58934I$	$0. + 3.56280I$
$u = -1.083990 - 0.156949I$ $a = -0.637472 - 0.042373I$ $b = 0.143242 - 0.755120I$	$2.01840 - 0.58934I$	$0. - 3.56280I$
$u = -0.291859 + 0.836922I$ $a = 0.25585 + 1.47115I$ $b = -0.896118 - 0.886623I$	$6.26653 + 1.91098I$	$-10.28115 - 8.35489I$
$u = -0.291859 - 0.836922I$ $a = 0.25585 - 1.47115I$ $b = -0.896118 + 0.886623I$	$6.26653 - 1.91098I$	$-10.28115 + 8.35489I$
$u = 0.455025 + 1.068360I$ $a = -0.222783 + 1.016780I$ $b = -0.303405 + 0.958588I$	$-6.01400 + 0.73675I$	$-7.96061 + 0.I$
$u = 0.455025 - 1.068360I$ $a = -0.222783 - 1.016780I$ $b = -0.303405 - 0.958588I$	$-6.01400 - 0.73675I$	$-7.96061 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.403343+1.097370I$ $a=-1.63748+0.08624I$ $b=\ \ 0.284770-0.519906I$	$-1.30760-4.65184I$	0
$u=-0.403343-1.097370I$ $a=-1.63748-0.08624I$ $b=\ \ 0.284770+0.519906I$	$-1.30760+4.65184I$	0
$u=-0.247452+1.150500I$ $a=-0.394969+0.554334I$ $b=\ \ 0.243437+1.119060I$	$-3.65226-2.23124I$	$-8.56366+0.I$
$u=-0.247452-1.150500I$ $a=-0.394969-0.554334I$ $b=\ \ 0.243437-1.119060I$	$-3.65226+2.23124I$	$-8.56366+0.I$
$u=-0.061030+0.799214I$ $a=\ \ 0.00300-2.43732I$ $b=\ \ 0.088380-1.172380I$	$-1.96507+0.97744I$	$-12.12331+2.30430I$
$u=-0.061030-0.799214I$ $a=\ \ 0.00300+2.43732I$ $b=\ \ 0.088380+1.172380I$	$-1.96507-0.97744I$	$-12.12331-2.30430I$
$u=\ \ 0.776930+0.977998I$ $a=\ \ 1.05733-1.08804I$ $b=-0.622582+0.794582I$	$-3.61077+0.68061I$	0
$u=\ \ 0.776930-0.977998I$ $a=\ \ 1.05733+1.08804I$ $b=-0.622582-0.794582I$	$-3.61077-0.68061I$	0
$u=-0.744760+0.037856I$ $a=\ \ 2.09910+1.12955I$ $b=-0.802449-0.893721I$	$7.46417+3.00852I$	$1.58071-2.79319I$
$u=-0.744760-0.037856I$ $a=\ \ 2.09910-1.12955I$ $b=-0.802449+0.893721I$	$7.46417-3.00852I$	$1.58071+2.79319I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.146653+0.655879I$ $a=1.20885-4.02390I$ $b=0.106837+0.514910I$	$0.79501+1.93343I$	$2.70707-0.34971I$
$u=-0.146653-0.655879I$ $a=1.20885+4.02390I$ $b=0.106837-0.514910I$	$0.79501-1.93343I$	$2.70707+0.34971I$
$u=-0.473601+1.253110I$ $a=-0.220023-0.142822I$ $b=0.678260+0.686038I$	$0.19028-3.39843I$	0
$u=-0.473601-1.253110I$ $a=-0.220023+0.142822I$ $b=0.678260-0.686038I$	$0.19028+3.39843I$	0
$u=0.756505+1.105600I$ $a=2.13157-0.26921I$ $b=-0.616813-0.925510I$	$-4.03438+5.55026I$	0
$u=0.756505-1.105600I$ $a=2.13157+0.26921I$ $b=-0.616813+0.925510I$	$-4.03438-5.55026I$	0
$u=0.077228+0.614224I$ $a=-2.76002+0.78188I$ $b=0.768190+0.991814I$	$3.22200+7.20972I$	$-5.09243-5.64626I$
$u=0.077228-0.614224I$ $a=-2.76002-0.78188I$ $b=0.768190-0.991814I$	$3.22200-7.20972I$	$-5.09243+5.64626I$
$u=0.016491+0.601763I$ $a=-0.14750+2.20382I$ $b=0.815611-0.770748I$	$3.89784+1.25513I$	$-3.08032-0.16196I$
$u=0.016491-0.601763I$ $a=-0.14750-2.20382I$ $b=0.815611+0.770748I$	$3.89784-1.25513I$	$-3.08032+0.16196I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.416100+1.348230I$ $a=-1.154930-0.753028I$ $b=\ \ 0.646505-1.006550I$	$-0.81477-8.56137I$	0
$u=-0.416100-1.348230I$ $a=-1.154930+0.753028I$ $b=\ \ 0.646505+1.006550I$	$-0.81477+8.56137I$	0
$u=-1.43874+0.06927I$ $a=-1.37721+0.34845I$ $b=\ \ 0.668134-0.861312I$	$4.81239-2.58603I$	0
$u=-1.43874-0.06927I$ $a=-1.37721-0.34845I$ $b=\ \ 0.668134+0.861312I$	$4.81239+2.58603I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^{34} - 14u^{33} + \cdots - 22u + 1)(u^{137} + 45u^{136} + \cdots - 444418u - 20449)$
c_2	$(u^{34} + 7u^{32} + \cdots + 2u + 1)(u^{137} + u^{136} + \cdots + 702u + 143)$
c_3	$(u^{34} - 11u^{32} + \cdots + u + 1)(u^{137} - u^{136} + \cdots + u + 1)$
c_4	$(u^{34} + 2u^{33} + \cdots + 13u^2 + 1)(u^{137} - 3u^{136} + \cdots - 6424u + 2032)$
c_5	$(u^{34} + 2u^{32} + \cdots - u + 1)(u^{137} + u^{136} + \cdots + 13177u + 477)$
c_7	$(u^{34} + 7u^{32} + \cdots - 2u + 1)(u^{137} + u^{136} + \cdots + 702u + 143)$
c_8	$(u^{34} + 6u^{33} + \cdots + 6u + 1)(u^{137} + 3u^{136} + \cdots + 12298u + 1393)$
c_9	$(u^{34} + 4u^{33} + \cdots + 20u + 5)(u^{137} - 3u^{136} + \cdots + 171627u - 48532)$
c_{10}	$(u^{34} - 11u^{32} + \cdots - u + 1)(u^{137} - u^{136} + \cdots + u + 1)$
c_{11}	$(u^{34} - 6u^{33} + \cdots - 6u + 1)(u^{137} + 3u^{136} + \cdots + 12298u + 1393)$
c_{12}	$(u^{34} - 2u^{33} + \cdots + 13u^2 + 1)(u^{137} - 3u^{136} + \cdots - 6424u + 2032)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^{34} + 26y^{33} + \cdots - 6y + 1)$ $\cdot (y^{137} + 109y^{136} + \cdots - 5228485158y - 418161601)$
c_2, c_7	$(y^{34} + 14y^{33} + \cdots + 22y + 1)(y^{137} + 45y^{136} + \cdots - 444418y - 20449)$
c_3, c_{10}	$(y^{34} - 22y^{33} + \cdots - 21y + 1)(y^{137} - 71y^{136} + \cdots + 33y - 1)$
c_4, c_{12}	$(y^{34} + 32y^{33} + \cdots + 26y + 1)$ $\cdot (y^{137} + 95y^{136} + \cdots - 264913984y - 4129024)$
c_5	$(y^{34} + 4y^{33} + \cdots + 25y + 1)$ $\cdot (y^{137} - 9y^{136} + \cdots + 72296587y - 227529)$
c_8, c_{11}	$(y^{34} + 14y^{33} + \cdots + 22y + 1)$ $\cdot (y^{137} + 69y^{136} + \cdots - 92146942y - 1940449)$
c_9	$(y^{34} - 2y^{33} + \cdots + 70y + 25)$ $\cdot (y^{137} - 11y^{136} + \cdots + 35394493841y - 2355355024)$