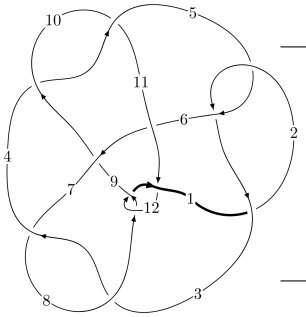
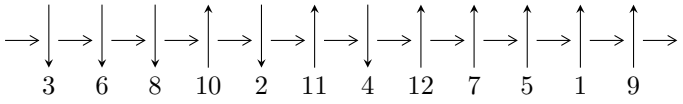
$12a_{0292}$ $(K12a_{0292})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 8.95218 \times 10^{363} u^{136} + 3.07057 \times 10^{364} u^{135} + \cdots + 1.46551 \times 10^{364} b + 1.37260 \times 10^{363},$$
$$3.86404 \times 10^{367} u^{136} - 1.31553 \times 10^{367} u^{135} + \cdots + 1.06498 \times 10^{368} a - 4.78268 \times 10^{370},$$
$$u^{137} + 3u^{136} + \cdots + 3010u - 169\rangle$$
$$I_2^u = \langle -8u^{28} + 17u^{27} + \cdots + b - 27u,\ -41u^{28} + 97u^{27} + \cdots + a + 59,\ u^{29} - 3u^{28} + \cdots - 4u + 1\rangle$$
$$I_3^u = \langle b - 1,\ a - 2,\ u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 167 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. $\boldsymbol{I_1^u = \langle 8.95 \times 10^{363} u^{136} + 3.07 \times 10^{364} u^{135} + \cdots + 1.47 \times 10^{364} b + 1.37 \times 10^{363},\ 3.86 \times 10^{367} u^{136} - 1.32 \times 10^{367} u^{135} + \cdots + 1.06 \times 10^{368} a - 4.78 \times 10^{370},\ u^{137} + 3u^{136} + \cdots + 3010u - 169 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.362827u^{136} + 0.123526u^{135} + \cdots - 7278.77u + 449.086 \\ -0.610860u^{136} - 2.09523u^{135} + \cdots - 140.956u - 0.0936606 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 8.71451u^{136} + 15.9346u^{135} + \cdots + 19901.9u - 1151.80 \\ -4.27979u^{136} - 6.45501u^{135} + \cdots - 1528.53u + 102.101 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.248032u^{136} + 2.21876u^{135} + \cdots - 7137.82u + 449.179 \\ -0.610860u^{136} - 2.09523u^{135} + \cdots - 140.956u - 0.0936606 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 3.38283u^{136} + 5.59457u^{135} + \cdots + 10568.1u - 625.048 \\ 3.33673u^{136} + 9.05546u^{135} + \cdots + 19245.1u - 1033.06 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -12.0178u^{136} - 33.9406u^{135} + \cdots - 50266.6u + 2733.25 \\ 13.2592u^{136} + 28.2260u^{135} + \cdots + 32710.1u - 1807.05 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 6.13145u^{136} + 16.8119u^{135} + \cdots + 27710.4u - 1478.24 \\ -6.55283u^{136} - 15.1761u^{135} + \cdots - 17876.4u + 953.654 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2.13161u^{136} - 3.37166u^{135} + \cdots - 11534.8u + 685.770 \\ 0.694888u^{136} + 0.172607u^{135} + \cdots + 1710.79u - 115.185 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.91390u^{136} + 17.0980u^{135} + \cdots - 4100.08u + 335.512$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{137} + 53u^{136} + \cdots + 3208982u + 28561$
c_2, c_5	$u^{137} + 3u^{136} + \cdots + 3010u - 169$
c_3, c_7	$u^{137} + u^{136} + \cdots + 481416u - 77291$
c_4, c_{10}	$u^{137} + 2u^{136} + \cdots - 8u - 1$
c_6	$u^{137} - 3u^{136} + \cdots + 288732u - 248089$
c_8, c_{12}	$u^{137} - 9u^{136} + \cdots + 1468u - 271$
c_9	$u^{137} + 11u^{136} + \cdots - 102807486u - 5507323$
c_{11}	$u^{137} - 63u^{136} + \cdots + 597316u - 73441$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{137} + 75y^{136} + \cdots + 4313902139478y - 815730721$
c_2, c_5	$y^{137} - 53y^{136} + \cdots + 3208982y - 28561$
c_3, c_7	$y^{137} + 109y^{136} + \cdots - 59701913870y - 5973898681$
c_4, c_{10}	$y^{137} - 116y^{136} + \cdots + 78y - 1$
c_6	$y^{137} - 35y^{136} + \cdots - 1429947953852y - 61548151921$
c_8, c_{12}	$y^{137} - 63y^{136} + \cdots + 597316y - 73441$
c_9	$y^{137} - 43y^{136} + \cdots + 1343419781833972y - 30330606626329$
c_{11}	$y^{137} + 37y^{136} + \cdots + 126623191148y - 5393580481$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.805157+0.597246I$ $a=\ \ 0.94208-3.06119I$ $b=-1.200520+0.000228I$	$7.32539-3.28612I$	0
$u=-0.805157-0.597246I$ $a=\ \ 0.94208+3.06119I$ $b=-1.200520-0.000228I$	$7.32539+3.28612I$	0
$u=\ \ 0.582366+0.820362I$ $a=\ \ 0.513092-0.586948I$ $b=-1.259460-0.302714I$	$3.86691+6.57125I$	0
$u=\ \ 0.582366-0.820362I$ $a=\ \ 0.513092+0.586948I$ $b=-1.259460+0.302714I$	$3.86691-6.57125I$	0
$u=-0.420350+0.891795I$ $a=\ \ 0.470140+0.130367I$ $b=-1.280030-0.110876I$	$6.43121+2.64534I$	0
$u=-0.420350-0.891795I$ $a=\ \ 0.470140-0.130367I$ $b=-1.280030+0.110876I$	$6.43121-2.64534I$	0
$u=-0.795381+0.579290I$ $a=-0.049486-1.048380I$ $b=-1.81121+0.39041I$	$3.92418-2.12374I$	0
$u=-0.795381-0.579290I$ $a=-0.049486+1.048380I$ $b=-1.81121-0.39041I$	$3.92418+2.12374I$	0
$u=\ \ 0.729232+0.657074I$ $a=-0.115303+0.577631I$ $b=-1.362000-0.162869I$	$3.43840-4.29669I$	0
$u=\ \ 0.729232-0.657074I$ $a=-0.115303-0.577631I$ $b=-1.362000+0.162869I$	$3.43840+4.29669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.995976 + 0.219993I$ $a = 0.48351 + 1.76669I$ $b = -0.382499 + 0.535032I$	$-5.05036 - 3.28202I$	0
$u = 0.995976 - 0.219993I$ $a = 0.48351 - 1.76669I$ $b = -0.382499 - 0.535032I$	$-5.05036 + 3.28202I$	0
$u = -0.768667 + 0.573669I$ $a = 1.350920 + 0.170266I$ $b = -1.321950 - 0.054992I$	$5.55498 + 3.33530I$	0
$u = -0.768667 - 0.573669I$ $a = 1.350920 - 0.170266I$ $b = -1.321950 + 0.054992I$	$5.55498 - 3.33530I$	0
$u = -0.762804 + 0.579753I$ $a = 0.82594 - 2.36747I$ $b = -1.50210 - 1.09316I$	$6.00582 - 0.74830I$	0
$u = -0.762804 - 0.579753I$ $a = 0.82594 + 2.36747I$ $b = -1.50210 + 1.09316I$	$6.00582 + 0.74830I$	0
$u = 0.937824 + 0.128756I$ $a = -0.55983 - 1.91038I$ $b = 0.328013 - 0.372403I$	$-4.63559 + 2.51248I$	0
$u = 0.937824 - 0.128756I$ $a = -0.55983 + 1.91038I$ $b = 0.328013 + 0.372403I$	$-4.63559 - 2.51248I$	0
$u = 0.460219 + 0.826570I$ $a = -0.535977 - 0.241258I$ $b = -0.292622 - 1.001390I$	$3.86275 + 7.80029I$	0
$u = 0.460219 - 0.826570I$ $a = -0.535977 + 0.241258I$ $b = -0.292622 + 1.001390I$	$3.86275 - 7.80029I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.835922 + 0.648923I$ $a = -1.33758 - 0.79335I$ $b = -0.20053 - 1.62112I$	$6.59331 - 2.52785I$	0
$u = 0.835922 - 0.648923I$ $a = -1.33758 + 0.79335I$ $b = -0.20053 + 1.62112I$	$6.59331 + 2.52785I$	0
$u = -0.536396 + 0.912755I$ $a = 0.442341 + 0.030875I$ $b = -1.45528 + 0.40733I$	$6.77971 - 7.26834I$	0
$u = -0.536396 - 0.912755I$ $a = 0.442341 - 0.030875I$ $b = -1.45528 - 0.40733I$	$6.77971 + 7.26834I$	0
$u = 0.756967 + 0.556841I$ $a = 0.179209 - 0.816030I$ $b = -1.323400 - 0.283899I$	$5.45604 + 0.75830I$	0
$u = 0.756967 - 0.556841I$ $a = 0.179209 + 0.816030I$ $b = -1.323400 + 0.283899I$	$5.45604 - 0.75830I$	0
$u = -0.613712 + 0.691576I$ $a = 0.152562 - 0.705237I$ $b = 0.043581 - 0.708646I$	$-0.12937 - 2.89825I$	0
$u = -0.613712 - 0.691576I$ $a = 0.152562 + 0.705237I$ $b = 0.043581 + 0.708646I$	$-0.12937 + 2.89825I$	0
$u = -0.885459 + 0.249630I$ $a = -0.638486 + 0.656935I$ $b = -0.446036 + 0.542795I$	$-1.49558 + 0.52853I$	0
$u = -0.885459 - 0.249630I$ $a = -0.638486 - 0.656935I$ $b = -0.446036 - 0.542795I$	$-1.49558 - 0.52853I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.903559+0.594068I$ $a=-1.56952+0.00075I$ $b=\ \ 1.321480+0.032747I$	$7.00750+7.99825I$	0
$u=-0.903559-0.594068I$ $a=-1.56952-0.00075I$ $b=\ \ 1.321480-0.032747I$	$7.00750-7.99825I$	0
$u=-0.906445+0.590629I$ $a=-0.30300+2.22630I$ $b=\ \ 1.76820+0.60307I$	$3.56012+6.77597I$	0
$u=-0.906445-0.590629I$ $a=-0.30300-2.22630I$ $b=\ \ 1.76820-0.60307I$	$3.56012-6.77597I$	0
$u=\ \ 0.858844+0.313988I$ $a=-0.088619+1.069430I$ $b=\ \ 1.361350+0.283896I$	$5.33482+3.74361I$	0
$u=\ \ 0.858844-0.313988I$ $a=-0.088619-1.069430I$ $b=\ \ 1.361350-0.283896I$	$5.33482-3.74361I$	0
$u=\ \ 0.493761+0.768951I$ $a=-0.550981+0.376015I$ $b=\ \ 1.232270+0.274925I$	$2.23426+1.95781I$	0
$u=\ \ 0.493761-0.768951I$ $a=-0.550981-0.376015I$ $b=\ \ 1.232270-0.274925I$	$2.23426-1.95781I$	0
$u=\ \ 0.363183+0.833917I$ $a=\ \ 0.0355355+0.0902461I$ $b=-1.273840-0.188516I$	$6.39976+1.56844I$	0
$u=\ \ 0.363183-0.833917I$ $a=\ \ 0.0355355-0.0902461I$ $b=-1.273840+0.188516I$	$6.39976-1.56844I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.926008+0.591810I$ $a=\ \ 0.876925+0.471655I$ $b=\ \ 1.74886-0.87662I$	$5.48126+5.41757I$	0
$u=-0.926008-0.591810I$ $a=\ \ 0.876925-0.471655I$ $b=\ \ 1.74886+0.87662I$	$5.48126-5.41757I$	0
$u=-0.925435+0.610641I$ $a=-0.35428+2.26738I$ $b=\ \ 1.207250+0.018699I$	$5.02673+1.38814I$	0
$u=-0.925435-0.610641I$ $a=-0.35428-2.26738I$ $b=\ \ 1.207250-0.018699I$	$5.02673-1.38814I$	0
$u=-0.734042+0.502418I$ $a=\ \ 0.94683-1.32163I$ $b=\ \ 0.200494-0.739966I$	$1.65290+1.27822I$	0
$u=-0.734042-0.502418I$ $a=\ \ 0.94683+1.32163I$ $b=\ \ 0.200494+0.739966I$	$1.65290-1.27822I$	0
$u=\ \ 0.885695+0.672060I$ $a=-0.322862-1.340580I$ $b=\ \ 1.123070-0.407962I$	$2.99396-0.90542I$	0
$u=\ \ 0.885695-0.672060I$ $a=-0.322862+1.340580I$ $b=\ \ 1.123070+0.407962I$	$2.99396+0.90542I$	0
$u=-0.979547+0.531619I$ $a=\ \ 0.129656-0.966748I$ $b=\ \ 0.154616-0.769501I$	$0.82013+2.94411I$	0
$u=-0.979547-0.531619I$ $a=\ \ 0.129656+0.966748I$ $b=\ \ 0.154616+0.769501I$	$0.82013-2.94411I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.714460+0.857758I$ $a=-0.197795+0.124690I$ $b=\ \ 1.50337-0.46402I$	$12.58990-3.92968I$	0
$u=-0.714460-0.857758I$ $a=-0.197795-0.124690I$ $b=\ \ 1.50337+0.46402I$	$12.58990+3.92968I$	0
$u=\ \ 0.947528+0.599587I$ $a=\ \ 0.25581-2.36909I$ $b=\ \ 1.207140-0.361511I$	$4.80636-5.39144I$	0
$u=\ \ 0.947528-0.599587I$ $a=\ \ 0.25581+2.36909I$ $b=\ \ 1.207140+0.361511I$	$4.80636+5.39144I$	0
$u=-1.110130+0.161489I$ $a=-0.47189+1.38956I$ $b=\ \ 0.136424+0.945028I$	$-3.43698-0.34927I$	0
$u=-1.110130-0.161489I$ $a=-0.47189-1.38956I$ $b=\ \ 0.136424-0.945028I$	$-3.43698+0.34927I$	0
$u=\ \ 0.718727+0.865772I$ $a=-0.519296-0.193775I$ $b=-0.024883+0.171220I$	$5.24176-4.17178I$	0
$u=\ \ 0.718727-0.865772I$ $a=-0.519296+0.193775I$ $b=-0.024883-0.171220I$	$5.24176+4.17178I$	0
$u=\ \ 0.845642+0.209874I$ $a=-0.00020-1.47019I$ $b=\ \ 1.48944-0.27192I$	$3.35618+0.92289I$	0
$u=\ \ 0.845642-0.209874I$ $a=-0.00020+1.47019I$ $b=\ \ 1.48944+0.27192I$	$3.35618-0.92289I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.011870+0.529443I$ $a=-0.777769+1.148430I$ $b=-0.080843+0.852716I$	$-3.12449+2.84870I$	0
$u=-1.011870-0.529443I$ $a=-0.777769-1.148430I$ $b=-0.080843-0.852716I$	$-3.12449-2.84870I$	0
$u=-1.140060+0.067440I$ $a=-1.083730+0.788776I$ $b=-0.986959+0.326375I$	$-3.15353-0.17714I$	0
$u=-1.140060-0.067440I$ $a=-1.083730-0.788776I$ $b=-0.986959-0.326375I$	$-3.15353+0.17714I$	0
$u=-0.549630+1.013530I$ $a=-0.369820-0.135073I$ $b=1.43098-0.42597I$	$9.2405-12.8750I$	0
$u=-0.549630-1.013530I$ $a=-0.369820+0.135073I$ $b=1.43098+0.42597I$	$9.2405+12.8750I$	0
$u=1.014690+0.547849I$ $a=-0.390138+0.507725I$ $b=0.163450+0.015988I$	$0.84620-2.97680I$	0
$u=1.014690-0.547849I$ $a=-0.390138-0.507725I$ $b=0.163450-0.015988I$	$0.84620+2.97680I$	0
$u=0.641887+0.551583I$ $a=0.388466+0.873075I$ $b=0.182082-0.132393I$	$1.99070-1.46530I$	0
$u=0.641887-0.551583I$ $a=0.388466-0.873075I$ $b=0.182082+0.132393I$	$1.99070+1.46530I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.867742+0.770476I$ $a=\ \ 1.39238-1.47624I$ $b=-1.240520-0.006387I$	$8.87079+3.84557I$	0
$u=-0.867742-0.770476I$ $a=\ \ 1.39238+1.47624I$ $b=-1.240520+0.006387I$	$8.87079-3.84557I$	0
$u=-1.160450+0.022793I$ $a=\ \ 1.22869+1.01050I$ $b=\ \ 1.076690+0.258704I$	$-2.25383+5.25220I$	0
$u=-1.160450-0.022793I$ $a=\ \ 1.22869-1.01050I$ $b=\ \ 1.076690-0.258704I$	$-2.25383-5.25220I$	0
$u=-1.116600+0.322148I$ $a=-0.005519+1.177000I$ $b=-0.179972+0.823837I$	$0.361235+0.123400I$	0
$u=-1.116600-0.322148I$ $a=-0.005519-1.177000I$ $b=-0.179972-0.823837I$	$0.361235-0.123400I$	0
$u=\ \ 1.031800+0.572120I$ $a=\ \ 0.15905+1.64340I$ $b=-1.216460+0.463784I$	$0.71536-5.23431I$	0
$u=\ \ 1.031800-0.572120I$ $a=\ \ 0.15905-1.64340I$ $b=-1.216460-0.463784I$	$0.71536+5.23431I$	0
$u=-0.895469+0.768409I$ $a=-1.47837+0.48380I$ $b=\ \ 1.285770+0.021386I$	$8.78653+1.96366I$	0
$u=-0.895469-0.768409I$ $a=-1.47837-0.48380I$ $b=\ \ 1.285770-0.021386I$	$8.78653-1.96366I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.485530 + 0.651974I$ $a = -0.603509 - 0.363535I$ $b = 1.186540 + 0.144046I$	$2.28053 + 0.47722I$	0
$u = 0.485530 - 0.651974I$ $a = -0.603509 + 0.363535I$ $b = 1.186540 - 0.144046I$	$2.28053 - 0.47722I$	0
$u = -1.005540 + 0.634699I$ $a = 0.799485 - 1.090420I$ $b = 0.064117 - 0.798768I$	$-1.28991 + 8.03213I$	0
$u = -1.005540 - 0.634699I$ $a = 0.799485 + 1.090420I$ $b = 0.064117 + 0.798768I$	$-1.28991 - 8.03213I$	0
$u = 0.790095 + 0.169162I$ $a = 1.85284 - 0.18452I$ $b = 1.119750 + 0.581126I$	$1.46263 + 2.58621I$	0
$u = 0.790095 - 0.169162I$ $a = 1.85284 + 0.18452I$ $b = 1.119750 - 0.581126I$	$1.46263 - 2.58621I$	0
$u = 1.041870 + 0.583418I$ $a = 0.78559 + 1.40487I$ $b = -0.397212 + 1.265350I$	$-0.75701 - 7.14868I$	0
$u = 1.041870 - 0.583418I$ $a = 0.78559 - 1.40487I$ $b = -0.397212 - 1.265350I$	$-0.75701 + 7.14868I$	0
$u = 0.371154 + 0.691685I$ $a = -1.114760 - 0.578166I$ $b = -0.165702 + 0.273462I$	$4.41381 + 2.76426I$	0
$u = 0.371154 - 0.691685I$ $a = -1.114760 + 0.578166I$ $b = -0.165702 - 0.273462I$	$4.41381 - 2.76426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.229050+0.049572I$ $a=\ \ 0.341295-1.278050I$ $b=-0.145670-0.890855I$	$-1.99459-5.49143I$	0
$u=-1.229050-0.049572I$ $a=\ \ 0.341295+1.278050I$ $b=-0.145670+0.890855I$	$-1.99459+5.49143I$	0
$u=\ \ 1.069700+0.633929I$ $a=\ \ 0.16348+2.01580I$ $b=-1.251860+0.382869I$	$0.53910-7.26662I$	0
$u=\ \ 1.069700-0.633929I$ $a=\ \ 0.16348-2.01580I$ $b=-1.251860-0.382869I$	$0.53910+7.26662I$	0
$u=-1.001310+0.737994I$ $a=\ \ 0.34453-1.90902I$ $b=-1.50917-0.56211I$	$11.6929+9.8554I$	0
$u=-1.001310-0.737994I$ $a=\ \ 0.34453+1.90902I$ $b=-1.50917+0.56211I$	$11.6929-9.8554I$	0
$u=\ \ 0.960728+0.809195I$ $a=\ \ 0.343260-0.121407I$ $b=-0.0794187-0.0837330I$	$4.55247-1.99359I$	0
$u=\ \ 0.960728-0.809195I$ $a=\ \ 0.343260+0.121407I$ $b=-0.0794187+0.0837330I$	$4.55247+1.99359I$	0
$u=\ \ 0.709570+0.222459I$ $a=-2.90146+1.84149I$ $b=-1.090360+0.387055I$	$5.72206-6.07019I$	0
$u=\ \ 0.709570-0.222459I$ $a=-2.90146-1.84149I$ $b=-1.090360-0.387055I$	$5.72206+6.07019I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.062540 + 0.686303I$ $a = -0.26131 - 2.14684I$ $b = 1.255050 - 0.362414I$	$2.42242 - 12.22940I$	0
$u = 1.062540 - 0.686303I$ $a = -0.26131 + 2.14684I$ $b = 1.255050 + 0.362414I$	$2.42242 + 12.22940I$	0
$u = 0.409639 + 0.609308I$ $a = 0.540581 - 0.186551I$ $b = 0.456706 + 0.895631I$	$0.93405 + 2.42400I$	0
$u = 0.409639 - 0.609308I$ $a = 0.540581 + 0.186551I$ $b = 0.456706 - 0.895631I$	$0.93405 - 2.42400I$	0
$u = -0.254762 + 1.241990I$ $a = -0.199701 + 0.008791I$ $b = 1.247380 + 0.132801I$	$8.53970 - 1.11478I$	0
$u = -0.254762 - 1.241990I$ $a = -0.199701 - 0.008791I$ $b = 1.247380 - 0.132801I$	$8.53970 + 1.11478I$	0
$u = 1.097110 + 0.646744I$ $a = -0.70376 - 1.25963I$ $b = 0.252860 - 1.206560I$	$1.98292 - 13.29050I$	0
$u = 1.097110 - 0.646744I$ $a = -0.70376 + 1.25963I$ $b = 0.252860 + 1.206560I$	$1.98292 + 13.29050I$	0
$u = 1.116560 + 0.618655I$ $a = 0.466784 - 0.365170I$ $b = -0.163249 - 0.047506I$	$2.30974 - 7.87136I$	0
$u = 1.116560 - 0.618655I$ $a = 0.466784 + 0.365170I$ $b = -0.163249 + 0.047506I$	$2.30974 + 7.87136I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.289420 + 0.076858I$ $a = 0.890311 - 0.724116I$ $b = 1.192950 - 0.420831I$	$-0.17009 - 5.16405I$	0
$u = 1.289420 - 0.076858I$ $a = 0.890311 + 0.724116I$ $b = 1.192950 + 0.420831I$	$-0.17009 + 5.16405I$	0
$u = -1.106890 + 0.698920I$ $a = -0.20055 + 1.86333I$ $b = 1.49316 + 0.49224I$	$5.03525 + 13.19610I$	0
$u = -1.106890 - 0.698920I$ $a = -0.20055 - 1.86333I$ $b = 1.49316 - 0.49224I$	$5.03525 - 13.19610I$	0
$u = -0.321419 + 0.559035I$ $a = -0.273484 + 0.554691I$ $b = 0.062346 + 0.635393I$	$-1.36775 + 1.38141I$	$0. - 4.41326I$
$u = -0.321419 - 0.559035I$ $a = -0.273484 - 0.554691I$ $b = 0.062346 - 0.635393I$	$-1.36775 - 1.38141I$	$0. + 4.41326I$
$u = -1.142910 + 0.736349I$ $a = 0.20080 - 1.79898I$ $b = -1.46748 - 0.49428I$	$7.3804 + 19.2113I$	0
$u = -1.142910 - 0.736349I$ $a = 0.20080 + 1.79898I$ $b = -1.46748 + 0.49428I$	$7.3804 - 19.2113I$	0
$u = 1.185710 + 0.686622I$ $a = 0.133152 - 1.238920I$ $b = 1.185190 - 0.412132I$	$3.90719 - 7.32035I$	0
$u = 1.185710 - 0.686622I$ $a = 0.133152 + 1.238920I$ $b = 1.185190 + 0.412132I$	$3.90719 + 7.32035I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.196770+0.718402I$ $a=\ \ 0.149705+1.161010I$ $b=\ \ 1.213690+0.042396I$	$4.02015+3.36119I$	0
$u=-1.196770-0.718402I$ $a=\ \ 0.149705-1.161010I$ $b=\ \ 1.213690-0.042396I$	$4.02015-3.36119I$	0
$u=\ \ 1.321050+0.498827I$ $a=-0.438041+1.112860I$ $b=-1.185410+0.410351I$	$3.45654-4.64334I$	0
$u=\ \ 1.321050-0.498827I$ $a=-0.438041-1.112860I$ $b=-1.185410-0.410351I$	$3.45654+4.64334I$	0
$u=\ \ 1.42164+0.15931I$ $a=-0.691557+0.763888I$ $b=-1.190920+0.411936I$	$1.23824-10.15100I$	0
$u=\ \ 1.42164-0.15931I$ $a=-0.691557-0.763888I$ $b=-1.190920-0.411936I$	$1.23824+10.15100I$	0
$u=-0.68248+1.27758I$ $a=-0.272928+0.233545I$ $b=\ \ 1.233370+0.098231I$	$8.98112+5.32815I$	0
$u=-0.68248-1.27758I$ $a=-0.272928-0.233545I$ $b=\ \ 1.233370-0.098231I$	$8.98112-5.32815I$	0
$u=-1.00220+1.06603I$ $a=\ \ 0.290030-0.582982I$ $b=-1.227570-0.065099I$	$8.01090+2.68717I$	0
$u=-1.00220-1.06603I$ $a=\ \ 0.290030+0.582982I$ $b=-1.227570+0.065099I$	$8.01090-2.68717I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.366471 + 0.367463I$ $a = 0.54726 + 1.57810I$ $b = -1.358430 + 0.177453I$	$3.04281 - 4.24622I$	$4.50858 + 7.18986I$
$u = 0.366471 - 0.367463I$ $a = 0.54726 - 1.57810I$ $b = -1.358430 - 0.177453I$	$3.04281 + 4.24622I$	$4.50858 - 7.18986I$
$u = -1.29583 + 0.81787I$ $a = -0.162036 - 0.890615I$ $b = -1.211780 - 0.046617I$	$5.46588 + 8.34881I$	0
$u = -1.29583 - 0.81787I$ $a = -0.162036 + 0.890615I$ $b = -1.211780 + 0.046617I$	$5.46588 - 8.34881I$	0
$u = 0.410919 + 0.066172I$ $a = -2.96513 + 3.33002I$ $b = -0.837480 - 0.420112I$	$4.70642 - 2.26974I$	$2.90367 + 1.60194I$
$u = 0.410919 - 0.066172I$ $a = -2.96513 - 3.33002I$ $b = -0.837480 + 0.420112I$	$4.70642 + 2.26974I$	$2.90367 - 1.60194I$
$u = 0.117163$ $a = -4.80110$ $b = 0.390360$	0.993777	11.4450

II. $I_2^u = \langle -8u^{28} + 17u^{27} + \cdots + b - 27u,\ -41u^{28} + 97u^{27} + \cdots + a + 59,\ u^{29} - 3u^{28} + \cdots - 4u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 41u^{28} - 97u^{27} + \cdots + 188u - 59 \\ 8u^{28} - 17u^{27} + \cdots - 31u^2 + 27u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -32u^{28} + 87u^{27} + \cdots - 169u + 79 \\ -u^{27} + 2u^{26} + \cdots - 3u - 4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 33u^{28} - 80u^{27} + \cdots + 161u - 59 \\ 8u^{28} - 17u^{27} + \cdots - 31u^2 + 27u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 18u^{28} - 48u^{27} + \cdots + 77u - 41 \\ -3u^{28} + 5u^{27} + \cdots - 4u + 2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3u^{28} - u^{27} + \cdots - 2u + 10 \\ 2u^{28} - 6u^{27} + \cdots + 8u - 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -28u^{28} + 71u^{27} + \cdots - 142u + 49 \\ -8u^{28} + 11u^{27} + \cdots + 6u - 13 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 44u^{28} - 103u^{27} + \cdots + 178u - 54 \\ u^{28} - u^{27} + \cdots - 17u + 14 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= 28u^{28} - 87u^{27} - 40u^{26} + 337u^{25} + 150u^{24} - 1151u^{23} - 268u^{22} + 2767u^{21} + 523u^{20} - 5416u^{19} - 811u^{18} + 8667u^{17} + 1018u^{16} - 11562u^{15} - 875u^{14} + 12911u^{13} + 222u^{12} - 11986u^{11} + 771u^{10} + 8933u^9 - 1377u^8 - 5177u^7 + 1284u^6 + 2201u^5 - 789u^4 - 578u^3 + 265u^2 + 66u - 34$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{29} - 13u^{28} + \cdots + 16u - 1$
c_2	$u^{29} + 3u^{28} + \cdots - 4u - 1$
c_3	$u^{29} + u^{28} + \cdots + 12u - 1$
c_4	$u^{29} - 16u^{27} + \cdots + 4u - 1$
c_5	$u^{29} - 3u^{28} + \cdots - 4u + 1$
c_6	$u^{29} - u^{28} + \cdots + 6u + 1$
c_7	$u^{29} - u^{28} + \cdots + 12u + 1$
c_8	$u^{29} + u^{28} + \cdots - 9u^2 + 1$
c_9	$u^{29} - 3u^{28} + \cdots + 7u^2 - 1$
c_{10}	$u^{29} - 16u^{27} + \cdots + 4u + 1$
c_{11}	$u^{29} + 15u^{28} + \cdots + 18u + 1$
c_{12}	$u^{29} - u^{28} + \cdots + 9u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 19y^{28} + \cdots - 16y - 1$
c_2, c_5	$y^{29} - 13y^{28} + \cdots + 16y - 1$
c_3, c_7	$y^{29} + 29y^{28} + \cdots + 36y - 1$
c_4, c_{10}	$y^{29} - 32y^{28} + \cdots - 4y - 1$
c_6	$y^{29} - 11y^{28} + \cdots + 14y - 1$
c_8, c_{12}	$y^{29} - 15y^{28} + \cdots + 18y - 1$
c_9	$y^{29} - 7y^{28} + \cdots + 14y - 1$
c_{11}	$y^{29} + 13y^{28} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.967038+0.280278I$ $a=-0.084457+1.155900I$ $b=-0.312961+0.686323I$	$-0.296745+1.067620I$	$-0.05924-2.38455I$
$u=-0.967038-0.280278I$ $a=-0.084457-1.155900I$ $b=-0.312961-0.686323I$	$-0.296745-1.067620I$	$-0.05924+2.38455I$
$u=\ 0.724808+0.641397I$ $a=-1.175610+0.216566I$ $b=-0.780691-0.672622I$	$5.71475-3.07298I$	$8.76102+4.26007I$
$u=\ 0.724808-0.641397I$ $a=-1.175610-0.216566I$ $b=-0.780691+0.672622I$	$5.71475+3.07298I$	$8.76102-4.26007I$
$u=-0.721882+0.570706I$ $a=\ 1.14898-2.00806I$ $b=-1.39520-0.58597I$	$5.46567-0.96446I$	$5.16446+1.15272I$
$u=-0.721882-0.570706I$ $a=\ 1.14898+2.00806I$ $b=-1.39520+0.58597I$	$5.46567+0.96446I$	$5.16446-1.15272I$
$u=-0.913439+0.018373I$ $a=\ 0.16138+1.94192I$ $b=-0.012710+0.248150I$	$-4.48876+2.86726I$	$6.09398-8.15225I$
$u=-0.913439-0.018373I$ $a=\ 0.16138-1.94192I$ $b=-0.012710-0.248150I$	$-4.48876-2.86726I$	$6.09398+8.15225I$
$u=-0.931978+0.643484I$ $a=\ 0.058006+0.883938I$ $b=\ 1.58697-0.22172I$	$4.72370+5.84549I$	$6.35142-7.61041I$
$u=-0.931978-0.643484I$ $a=\ 0.058006-0.883938I$ $b=\ 1.58697+0.22172I$	$4.72370-5.84549I$	$6.35142+7.61041I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.046650 + 0.472512I$ $a = -0.27787 + 1.73942I$ $b = -1.33040 + 0.55538I$	$1.58512 - 6.22697I$	$3.14633 + 8.23430I$
$u = 1.046650 - 0.472512I$ $a = -0.27787 - 1.73942I$ $b = -1.33040 - 0.55538I$	$1.58512 + 6.22697I$	$3.14633 - 8.23430I$
$u = 0.742031 + 0.392144I$ $a = 0.659722 - 0.585304I$ $b = 1.59794 + 0.41386I$	$2.76371 + 2.65649I$	$3.93402 - 4.42704I$
$u = 0.742031 - 0.392144I$ $a = 0.659722 + 0.585304I$ $b = 1.59794 - 0.41386I$	$2.76371 - 2.65649I$	$3.93402 + 4.42704I$
$u = -0.722882 + 0.956971I$ $a = 0.998326 - 0.248538I$ $b = -1.196040 - 0.096161I$	$7.97698 + 4.98814I$	$7.32801 - 6.57414I$
$u = -0.722882 - 0.956971I$ $a = 0.998326 + 0.248538I$ $b = -1.196040 + 0.096161I$	$7.97698 - 4.98814I$	$7.32801 + 6.57414I$
$u = 0.961907 + 0.751097I$ $a = 0.021825 - 0.641341I$ $b = 0.517766 - 0.307183I$	$4.93376 - 2.36104I$	$10.69221 + 4.58137I$
$u = 0.961907 - 0.751097I$ $a = 0.021825 + 0.641341I$ $b = 0.517766 + 0.307183I$	$4.93376 + 2.36104I$	$10.69221 - 4.58137I$
$u = -0.706452$ $a = 1.50611$ $b = 0.240966$	0.171122	-1.29850
$u = -0.872494 + 0.959691I$ $a = -0.692521 + 0.286875I$ $b = 1.212950 + 0.020548I$	$7.57343 + 1.98494I$	$6.15109 + 2.40291I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.872494-0.959691I$ $a=-0.692521-0.286875I$ $b=1.212950-0.020548I$	$7.57343-1.98494I$	$6.15109-2.40291I$
$u=1.208840+0.499911I$ $a=-0.64239+1.28778I$ $b=-1.142550+0.318266I$	$2.11397-4.93239I$	$2.58479+4.33687I$
$u=1.208840-0.499911I$ $a=-0.64239-1.28778I$ $b=-1.142550-0.318266I$	$2.11397+4.93239I$	$2.58479-4.33687I$
$u=0.577602+0.264769I$ $a=-0.25992+1.69441I$ $b=1.320700+0.195004I$	$4.72095+1.57440I$	$4.23179-1.84185I$
$u=0.577602-0.264769I$ $a=-0.25992-1.69441I$ $b=1.320700-0.195004I$	$4.72095-1.57440I$	$4.23179+1.84185I$
$u=1.233600+0.615824I$ $a=0.500098-1.046340I$ $b=1.023240-0.296938I$	$3.44053-9.12432I$	$6.10664+9.71442I$
$u=1.233600-0.615824I$ $a=0.500098+1.046340I$ $b=1.023240+0.296938I$	$3.44053+9.12432I$	$6.10664-9.71442I$
$u=0.487500+0.369200I$ $a=-2.16863-1.66729I$ $b=-1.209500-0.256306I$	$6.32527+4.75434I$	$9.16276-5.13089I$
$u=0.487500-0.369200I$ $a=-2.16863+1.66729I$ $b=-1.209500+0.256306I$	$6.32527-4.75434I$	$9.16276+5.13089I$

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

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 2.00000$ $b = \quad 1.00000$	1.64493	6.00000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)(u^{29}-13u^{28}+\cdots+16u-1)$ $\cdot(u^{137}+53u^{136}+\cdots+3208982u+28561)$
c_2	$(u+1)(u^{29}+3u^{28}+\cdots-4u-1)(u^{137}+3u^{136}+\cdots+3010u-169)$
c_3	$(u+1)(u^{29}+u^{28}+\cdots+12u-1)(u^{137}+u^{136}+\cdots+481416u-77291)$
c_4	$(u-1)(u^{29}-16u^{27}+\cdots+4u-1)(u^{137}+2u^{136}+\cdots-8u-1)$
c_5	$(u+1)(u^{29}-3u^{28}+\cdots-4u+1)(u^{137}+3u^{136}+\cdots+3010u-169)$
c_6	$(u+1)(u^{29}-u^{28}+\cdots+6u+1)$ $\cdot(u^{137}-3u^{136}+\cdots+288732u-248089)$
c_7	$(u+1)(u^{29}-u^{28}+\cdots+12u+1)(u^{137}+u^{136}+\cdots+481416u-77291)$
c_8	$(u+1)(u^{29}+u^{28}+\cdots-9u^2+1)(u^{137}-9u^{136}+\cdots+1468u-271)$
c_9	$(u-1)(u^{29}-3u^{28}+\cdots+7u^2-1)$ $\cdot(u^{137}+11u^{136}+\cdots-102807486u-5507323)$
c_{10}	$(u-1)(u^{29}-16u^{27}+\cdots+4u+1)(u^{137}+2u^{136}+\cdots-8u-1)$
c_{11}	$(u-1)(u^{29}+15u^{28}+\cdots+18u+1)$ $\cdot(u^{137}-63u^{136}+\cdots+597316u-73441)$
c_{12}	$(u+1)(u^{29}-u^{28}+\cdots+9u^2-1)(u^{137}-9u^{136}+\cdots+1468u-271)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^{29}+19y^{28}+\cdots-16y-1)$ $\cdot(y^{137}+75y^{136}+\cdots+4313902139478y-815730721)$
c_2, c_5	$(y-1)(y^{29}-13y^{28}+\cdots+16y-1)$ $\cdot(y^{137}-53y^{136}+\cdots+3208982y-28561)$
c_3, c_7	$(y-1)(y^{29}+29y^{28}+\cdots+36y-1)$ $\cdot(y^{137}+109y^{136}+\cdots-59701913870y-5973898681)$
c_4, c_{10}	$(y-1)(y^{29}-32y^{28}+\cdots-4y-1)(y^{137}-116y^{136}+\cdots+78y-1)$
c_6	$(y-1)(y^{29}-11y^{28}+\cdots+14y-1)$ $\cdot(y^{137}-35y^{136}+\cdots-1429947953852y-61548151921)$
c_8, c_{12}	$(y-1)(y^{29}-15y^{28}+\cdots+18y-1)$ $\cdot(y^{137}-63y^{136}+\cdots+597316y-73441)$
c_9	$(y-1)(y^{29}-7y^{28}+\cdots+14y-1)$ $\cdot(y^{137}-43y^{136}+\cdots+1343419781833972y-30330606626329)$
c_{11}	$(y-1)(y^{29}+13y^{28}+\cdots+6y-1)$ $\cdot(y^{137}+37y^{136}+\cdots+126623191148y-5393580481)$