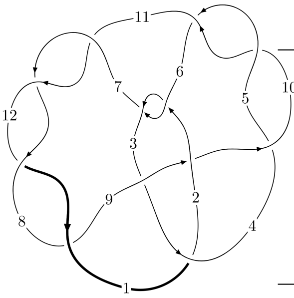
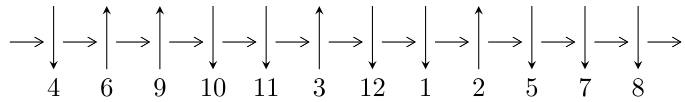
$12a_{0920}$ $(K12a_{0920})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5.21460 \times 10^{59} u^{68} - 2.30775 \times 10^{60} u^{67} + \cdots + 3.10307 \times 10^{59} b + 1.14731 \times 10^{61},$$
$$5.06049 \times 10^{60} u^{68} - 2.13379 \times 10^{61} u^{67} + \cdots + 3.10307 \times 10^{59} a + 7.69523 \times 10^{61},\ u^{69} - 4u^{68} + \cdots + 46u +$$
$$I_2^u = \langle -u^{14} + 10u^{12} + u^{11} - 39u^{10} - 7u^9 + 75u^8 + 17u^7 - 75u^6 - 17u^5 + 39u^4 + 9u^3 - 10u^2 + b - 5u + 1,$$
$$u^{16} - u^{15} + \cdots + a + 5,\ u^{17} - 12u^{15} + \cdots + 2u + 1\rangle$$
$$I_3^u = \langle 4a^4u + 3a^4 - 8a^3u - 6a^3 + 24a^2u + 18a^2 - 32au + 19b - 43a - 2u - 30,$$
$$a^5 - 2a^4 + a^3u + 6a^3 - 2a^2u - 10a^2 - 5au - a + 2u - 1,\ u^2 + u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 96 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 5.21\times 10^{59}u^{68}-2.31\times 10^{60}u^{67}+\cdots+3.10\times 10^{59}b+1.15\times 10^{61},\ 5.06\times 10^{60}u^{68}-2.13\times 10^{61}u^{67}+\cdots+3.10\times 10^{59}a+7.70\times 10^{61},\ u^{69}-4u^{68}+\cdots+46u+4\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-16.3080u^{68}+68.7640u^{67}+\cdots-1888.29u-247.988\\-1.68047u^{68}+7.43699u^{67}+\cdots-252.125u-36.9734\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-15.0036u^{68}+65.3287u^{67}+\cdots-1927.12u-254.936\\-0.440613u^{68}+4.28225u^{67}+\cdots-276.144u-38.8034\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-4.01864u^{68}+17.3606u^{67}+\cdots-509.348u-63.6386\\3.42123u^{68}-14.2674u^{67}+\cdots+402.460u+56.0888\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-7.35047u^{68}+32.8090u^{67}+\cdots-855.578u-94.9110\\1.71041u^{68}-5.82409u^{67}+\cdots+94.1801u+14.7601\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-3.65619u^{68}+15.7506u^{67}+\cdots-453.155u-56.1645\\3.78369u^{68}-15.8774u^{67}+\cdots+458.653u+63.5629\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}11.0584u^{68}-47.9229u^{67}+\cdots+1414.70u+185.347\\-3.29554u^{68}+12.6333u^{67}+\cdots-282.187u-38.6325\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 30.0615u^{68}-134.302u^{67}+\cdots+4382.18u+604.662$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{69} - 3u^{68} + \cdots + 20777u - 1427$
c_2, c_6	$u^{69} - 4u^{68} + \cdots - 15u - 1$
c_3	$u^{69} - u^{68} + \cdots - 231u + 293$
c_4, c_5, c_{10}	$u^{69} + u^{68} + \cdots + 26u - 1$
c_7, c_8, c_{11} c_{12}	$u^{69} + 4u^{68} + \cdots + 46u - 4$
c_9	$u^{69} + 2u^{68} + \cdots + 766u - 229$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{69} - 27y^{68} + \cdots + 239869243y - 2036329$
c_2, c_6	$y^{69} - 28y^{68} + \cdots + 171y - 1$
c_3	$y^{69} + 13y^{68} + \cdots - 450599y - 85849$
c_4, c_5, c_{10}	$y^{69} - 79y^{68} + \cdots + 462y - 1$
c_7, c_8, c_{11} c_{12}	$y^{69} - 84y^{68} + \cdots + 684y - 16$
c_9	$y^{69} + 14y^{68} + \cdots + 8302y - 52441$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.858609 + 0.509133I$ $a = -0.13290 + 1.46749I$ $b = 1.119670 + 0.509880I$	$0.11883 + 8.23224I$	0
$u = -0.858609 - 0.509133I$ $a = -0.13290 - 1.46749I$ $b = 1.119670 - 0.509880I$	$0.11883 - 8.23224I$	0
$u = 0.922201 + 0.343620I$ $a = -0.226022 - 0.690778I$ $b = -0.396644 - 1.154280I$	$-9.14129 - 5.71438I$	0
$u = 0.922201 - 0.343620I$ $a = -0.226022 + 0.690778I$ $b = -0.396644 + 1.154280I$	$-9.14129 + 5.71438I$	0
$u = 0.957142 + 0.344138I$ $a = 0.346935 - 0.313197I$ $b = 0.956665 + 0.106533I$	$-0.408920 + 0.368294I$	0
$u = 0.957142 - 0.344138I$ $a = 0.346935 + 0.313197I$ $b = 0.956665 - 0.106533I$	$-0.408920 - 0.368294I$	0
$u = -0.761381 + 0.691428I$ $a = 0.903514 - 0.730666I$ $b = -1.019750 - 0.567692I$	$-6.72025 + 2.21455I$	0
$u = -0.761381 - 0.691428I$ $a = 0.903514 + 0.730666I$ $b = -1.019750 + 0.567692I$	$-6.72025 - 2.21455I$	0
$u = 0.875291 + 0.317279I$ $a = -0.65426 + 1.54098I$ $b = -0.941128 + 0.295855I$	$-0.11613 - 2.68304I$	0
$u = 0.875291 - 0.317279I$ $a = -0.65426 - 1.54098I$ $b = -0.941128 - 0.295855I$	$-0.11613 + 2.68304I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.888247 + 0.623182I$ $a = 0.428773 + 1.236830I$ $b = -1.198570 + 0.737599I$	$-6.69655 - 12.30450I$	0
$u = 0.888247 - 0.623182I$ $a = 0.428773 - 1.236830I$ $b = -1.198570 - 0.737599I$	$-6.69655 + 12.30450I$	0
$u = 0.068085 + 0.890261I$ $a = 0.549835 + 0.167489I$ $b = -1.014710 - 0.607088I$	$-4.19382 + 7.32485I$	0
$u = 0.068085 - 0.890261I$ $a = 0.549835 - 0.167489I$ $b = -1.014710 + 0.607088I$	$-4.19382 - 7.32485I$	0
$u = 0.627745 + 0.554827I$ $a = -0.857946 - 0.838190I$ $b = 0.676355 - 0.302159I$	$-1.22245 - 1.88994I$	0
$u = 0.627745 - 0.554827I$ $a = -0.857946 + 0.838190I$ $b = 0.676355 + 0.302159I$	$-1.22245 + 1.88994I$	0
$u = -0.751462 + 0.303115I$ $a = 0.418529 - 1.137040I$ $b = 0.165717 - 0.819333I$	$-2.66510 + 3.50831I$	$-10.49360 - 7.33854I$
$u = -0.751462 - 0.303115I$ $a = 0.418529 + 1.137040I$ $b = 0.165717 + 0.819333I$	$-2.66510 - 3.50831I$	$-10.49360 + 7.33854I$
$u = -1.190400 + 0.048571I$ $a = 0.888159 - 0.271946I$ $b = 0.604132 - 0.446757I$	$-7.88819 + 0.32180I$	0
$u = -1.190400 - 0.048571I$ $a = 0.888159 + 0.271946I$ $b = 0.604132 + 0.446757I$	$-7.88819 - 0.32180I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.747922+0.141109I$ $a=-1.18456+1.77018I$ $b=\ \ 1.046390+0.542070I$	$-6.49393+4.52204I$	$-12.42024-4.96803I$
$u=-0.747922-0.141109I$ $a=-1.18456-1.77018I$ $b=\ \ 1.046390-0.542070I$	$-6.49393-4.52204I$	$-12.42024+4.96803I$
$u=-0.278701+0.697012I$ $a=\ \ 0.918131-0.701090I$ $b=-0.633259+0.581048I$	$-5.39570+2.53481I$	$-8.38084-2.80374I$
$u=-0.278701-0.697012I$ $a=\ \ 0.918131+0.701090I$ $b=-0.633259-0.581048I$	$-5.39570-2.53481I$	$-8.38084+2.80374I$
$u=-0.034826+0.713110I$ $a=-0.706288-0.104021I$ $b=\ \ 1.077410-0.310611I$	$2.61982-4.13722I$	$-1.23735+6.70183I$
$u=-0.034826-0.713110I$ $a=-0.706288+0.104021I$ $b=\ \ 1.077410+0.310611I$	$2.61982+4.13722I$	$-1.23735-6.70183I$
$u=-1.147790+0.605056I$ $a=-0.280564-0.113102I$ $b=-0.707022+0.513747I$	$-7.79544-2.18356I$	0
$u=-1.147790-0.605056I$ $a=-0.280564+0.113102I$ $b=-0.707022-0.513747I$	$-7.79544+2.18356I$	0
$u=\ \ 0.549539+0.428722I$ $a=-0.92689-1.74841I$ $b=\ \ 1.001700-0.945056I$	$-3.37002-4.91183I$	$-5.12008+9.10431I$
$u=\ \ 0.549539-0.428722I$ $a=-0.92689+1.74841I$ $b=\ \ 1.001700+0.945056I$	$-3.37002+4.91183I$	$-5.12008-9.10431I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.603111 + 0.317010I$ $a = -0.06954 - 1.62856I$ $b = -1.039670 - 0.531907I$	$1.42958 + 2.33297I$	$-0.70777 - 7.76145I$
$u = -0.603111 - 0.317010I$ $a = -0.06954 + 1.62856I$ $b = -1.039670 + 0.531907I$	$1.42958 - 2.33297I$	$-0.70777 + 7.76145I$
$u = -1.36225$ $a = -0.107589$ $b = -1.38678$	-1.59788	0
$u = 0.347963 + 0.505319I$ $a = 0.188527 - 0.656901I$ $b = 1.003340 + 0.715218I$	$-2.79726 + 1.63095I$	$-4.89103 - 0.22167I$
$u = 0.347963 - 0.505319I$ $a = 0.188527 + 0.656901I$ $b = 1.003340 - 0.715218I$	$-2.79726 - 1.63095I$	$-4.89103 + 0.22167I$
$u = -1.47026$ $a = 0.903464$ $b = 1.02182$	-8.11663	0
$u = 1.53884 + 0.08382I$ $a = 0.51726 + 1.39825I$ $b = -0.030549 + 0.170011I$	$-11.09110 - 4.38044I$	0
$u = 1.53884 - 0.08382I$ $a = 0.51726 - 1.39825I$ $b = -0.030549 - 0.170011I$	$-11.09110 + 4.38044I$	0
$u = 1.54919$ $a = -1.05617$ $b = -1.67326$	-3.72894	0
$u = -1.57061 + 0.09574I$ $a = 0.29032 + 2.12661I$ $b = 1.01604 + 1.19413I$	$-10.56740 + 6.67317I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.57061 - 0.09574I$ $a = 0.29032 - 2.12661I$ $b = 1.01604 - 1.19413I$	$-10.56740 - 6.67317I$	0
$u = 1.59295 + 0.06255I$ $a = -0.65470 + 1.63501I$ $b = -1.054310 + 0.900547I$	$-6.11344 - 3.58029I$	0
$u = 1.59295 - 0.06255I$ $a = -0.65470 - 1.63501I$ $b = -1.054310 - 0.900547I$	$-6.11344 + 3.58029I$	0
$u = -0.090552 + 0.392237I$ $a = 0.536976 - 1.059100I$ $b = -1.143200 + 0.046612I$	$2.68421 + 0.16764I$	$2.41572 - 0.19332I$
$u = -0.090552 - 0.392237I$ $a = 0.536976 + 1.059100I$ $b = -1.143200 - 0.046612I$	$2.68421 - 0.16764I$	$2.41572 + 0.19332I$
$u = -1.61062 + 0.16002I$ $a = -0.034132 + 1.263440I$ $b = 0.891494 + 0.558679I$	$-8.89500 + 4.54856I$	0
$u = -1.61062 - 0.16002I$ $a = -0.034132 - 1.263440I$ $b = 0.891494 - 0.558679I$	$-8.89500 - 4.54856I$	0
$u = 0.070878 + 0.373596I$ $a = -0.958588 + 0.155139I$ $b = -0.002941 + 0.459481I$	$-0.359603 - 1.131530I$	$-5.56898 + 5.13888I$
$u = 0.070878 - 0.373596I$ $a = -0.958588 - 0.155139I$ $b = -0.002941 - 0.459481I$	$-0.359603 + 1.131530I$	$-5.56898 - 5.13888I$
$u = 1.62259 + 0.07416I$ $a = 0.41905 + 1.55527I$ $b = 0.337200 + 0.935815I$	$-10.84000 - 4.89494I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.62259 - 0.07416I$ $a = 0.41905 - 1.55527I$ $b = 0.337200 - 0.935815I$	$-10.84000 + 4.89494I$	0
$u = 1.64324 + 0.03991I$ $a = 0.106947 - 1.306450I$ $b = 1.29168 - 0.59412I$	$-14.8905 - 5.2157I$	0
$u = 1.64324 - 0.03991I$ $a = 0.106947 + 1.306450I$ $b = 1.29168 + 0.59412I$	$-14.8905 + 5.2157I$	0
$u = 1.66632 + 0.14638I$ $a = 0.46733 - 1.56172I$ $b = 1.147590 - 0.686553I$	$-8.56853 - 10.77570I$	0
$u = 1.66632 - 0.14638I$ $a = 0.46733 + 1.56172I$ $b = 1.147590 + 0.686553I$	$-8.56853 + 10.77570I$	0
$u = -1.67496 + 0.09834I$ $a = -0.51698 + 1.53291I$ $b = -0.50081 + 1.47766I$	$-18.1559 + 7.4706I$	0
$u = -1.67496 - 0.09834I$ $a = -0.51698 - 1.53291I$ $b = -0.50081 - 1.47766I$	$-18.1559 - 7.4706I$	0
$u = 1.66700 + 0.20966I$ $a = -0.097293 + 1.135820I$ $b = -1.29837 + 0.61433I$	$-15.0060 - 5.7097I$	0
$u = 1.66700 - 0.20966I$ $a = -0.097293 - 1.135820I$ $b = -1.29837 - 0.61433I$	$-15.0060 + 5.7097I$	0
$u = -1.67919 + 0.09590I$ $a = -0.70802 - 1.36350I$ $b = -0.843032 - 0.540808I$	$-9.07614 + 4.33421I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.67919-0.09590I$ $a=-0.70802+1.36350I$ $b=-0.843032+0.540808I$	$-9.07614-4.33421I$	0
$u=-1.67662+0.18420I$ $a=-0.33035-1.57967I$ $b=-1.32832-0.86095I$	$-15.4447+15.4584I$	0
$u=-1.67662-0.18420I$ $a=-0.33035+1.57967I$ $b=-1.32832+0.86095I$	$-15.4447-15.4584I$	0
$u=-0.257782+0.029613I$ $a=\ 3.42531+5.22024I$ $b=\ 0.515844-0.457634I$	$-4.89351-3.67092I$	$-12.31151-0.80644I$
$u=-0.257782-0.029613I$ $a=\ 3.42531-5.22024I$ $b=\ 0.515844+0.457634I$	$-4.89351+3.67092I$	$-12.31151+0.80644I$
$u=\ 1.74045+0.06218I$ $a=\ 0.068694-0.932107I$ $b=-0.032884-0.887424I$	$-18.5613-0.1635I$	0
$u=\ 1.74045-0.06218I$ $a=\ 0.068694+0.932107I$ $b=-0.032884+0.887424I$	$-18.5613+0.1635I$	0
$u=-0.222069$ $a=-1.80233$ $b=-1.36002$	2.83320	10.8910
$u=\ 1.81750$ $a=\ 0.292085$ $b=\ 0.0660849$	-19.0700	0

II.

$$\boldsymbol{I_2^u = \langle -u^{14}+10u^{12}+\cdots+b+1,\ u^{16}-u^{15}+\cdots+a+5,\ u^{17}-12u^{15}+\cdots+2u+1\rangle}$$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} -u^{16} + u^{15} + \cdots + 2u - 5 \\ u^{14} - 10u^{12} + \cdots + 5u - 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{16} + u^{15} + \cdots + 5u - 5 \\ 2u^{14} - 19u^{12} + \cdots + 6u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2u^{16} - 2u^{15} + \cdots - 5u + 8 \\ -u^{15} - u^{14} + \cdots + u + 4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{16} - 2u^{15} + \cdots - 10u + 7 \\ -u^{15} - 3u^{14} + \cdots - 5u + 3 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 2u^{16} - u^{15} + \cdots - 5u + 7 \\ u^{12} - u^{11} + \cdots + u + 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3u^{16} + 34u^{14} + \cdots + 12u - 8 \\ -2u^{16} + 22u^{14} + \cdots + 2u - 4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^{16} - 2u^{15} - 73u^{14} + 15u^{13} + 361u^{12} - 34u^{11} - 928u^{10} + 8u^9 + 1320u^8 + 54u^7 - 1027u^6 - 59u^5 + 406u^4 + 53u^3 - 66u^2 - 38u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{17} - 6u^{15} + \cdots + 3u - 1$
c_2	$u^{17} - 3u^{16} + \cdots - 3u + 1$
c_3	$u^{17} - 2u^{14} + \cdots + u + 1$
c_4, c_5	$u^{17} - 10u^{15} + \cdots + 2u - 1$
c_6	$u^{17} + 3u^{16} + \cdots - 3u - 1$
c_7, c_8	$u^{17} - 12u^{15} + \cdots + 2u + 1$
c_9	$u^{17} + u^{16} + \cdots - 2u^3 + 1$
c_{10}	$u^{17} - 10u^{15} + \cdots + 2u + 1$
c_{11}, c_{12}	$u^{17} - 12u^{15} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{17} - 12y^{16} + \cdots + 21y - 1$
c_2, c_6	$y^{17} - 17y^{16} + \cdots + 17y - 1$
c_3	$y^{17} - 6y^{15} + \cdots + 3y - 1$
c_4, c_5, c_{10}	$y^{17} - 20y^{16} + \cdots + 16y - 1$
c_7, c_8, c_{11} c_{12}	$y^{17} - 24y^{16} + \cdots + 24y - 1$
c_9	$y^{17} - 3y^{16} + \cdots + 6y^2 - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.09578$ $a = 0.547612$ $b = 1.14178$	0.341936	0.875270
$u = -1.123960 + 0.382204I$ $a = -0.478136 - 0.578939I$ $b = -0.617479 + 0.293759I$	$-7.13101 - 1.62524I$	$-6.68084 + 0.62023I$
$u = -1.123960 - 0.382204I$ $a = -0.478136 + 0.578939I$ $b = -0.617479 - 0.293759I$	$-7.13101 + 1.62524I$	$-6.68084 - 0.62023I$
$u = -1.18833$ $a = 0.0332715$ $b = -1.43147$	-3.07503	-11.9270
$u = 0.667353 + 0.370935I$ $a = -0.47830 - 1.61454I$ $b = 0.724488 - 0.164054I$	$-0.59938 - 1.32532I$	$-5.05705 + 2.80405I$
$u = 0.667353 - 0.370935I$ $a = -0.47830 + 1.61454I$ $b = 0.724488 + 0.164054I$	$-0.59938 + 1.32532I$	$-5.05705 - 2.80405I$
$u = -0.369667 + 0.360033I$ $a = 2.85434 - 1.27851I$ $b = -0.773403 - 0.575136I$	$-4.67731 + 4.33112I$	$-8.36560 - 8.69813I$
$u = -0.369667 - 0.360033I$ $a = 2.85434 + 1.27851I$ $b = -0.773403 + 0.575136I$	$-4.67731 - 4.33112I$	$-8.36560 + 8.69813I$
$u = 1.53432$ $a = -1.73698$ $b = -1.84039$	-6.74002	-3.61890
$u = -1.55322$ $a = 0.672900$ $b = 1.56084$	-4.27815	-13.1180

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.55960 + 0.10540I$ $a = 0.20362 + 1.87120I$ $b = -0.891995 + 0.798543I$	$-11.47150 - 5.99192I$	$-13.12352 + 4.84870I$
$u = 1.55960 - 0.10540I$ $a = 0.20362 - 1.87120I$ $b = -0.891995 - 0.798543I$	$-11.47150 + 5.99192I$	$-13.12352 - 4.84870I$
$u = 0.389234$ $a = -0.308648$ $b = 1.38986$	2.56515	-19.7450
$u = -1.63154 + 0.11334I$ $a = 0.255071 + 1.300460I$ $b = 0.681332 + 0.453515I$	$-8.67576 + 3.16393I$	$-7.87236 - 0.20715I$
$u = -1.63154 - 0.11334I$ $a = 0.255071 - 1.300460I$ $b = 0.681332 - 0.453515I$	$-8.67576 - 3.16393I$	$-7.87236 + 0.20715I$
$u = -0.315662$ $a = -3.47084$ $b = -1.66703$	-0.212009	3.05600
$u = 1.83431$ $a = -0.450508$ $b = -0.399475$	-18.8982	15.6760

III. $\boldsymbol{I^u_3 = \langle 4a^4u - 8a^3u + \cdots - 43a - 30,\ a^3u - 2a^2u + \cdots - a - 1,\ u^2 + u - 1\rangle}$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} a \\ -0.210526a^4u + 0.421053a^3u + \cdots + 2.26316a + 1.57895 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.263158a^4u + 0.526316a^3u + \cdots + 0.578947a + 1.47368 \\ -0.473684a^4u + 0.947368a^3u + \cdots + 1.84211a + 3.05263 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0526316a^3u - 0.315789a^2u + \cdots + 0.368421a + 1.26316 \\ -0.421053a^4u + 0.526316a^3u + \cdots + 4.73684a + 2.73684 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.526316a^4u - 0.421053a^3u + \cdots - 1.57895a - 2.10526 \\ 0.947368a^4u - a^3u + \cdots - 5.94737a - 3.57895 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.526316a^4u + 0.421053a^3u + \cdots + 1.57895a + 2.10526 \\ -0.947368a^4u + a^3u + \cdots + 5.94737a + 3.57895 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.473684a^4u + 0.315789a^3u + \cdots - 5.73684a + 0.210526 \\ -0.315789a^4u + 0.315789a^2u + \cdots - 9.68421a - 1.47368 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6	$y^{10} - 12y^9 + \cdots - 19y + 1$
c_3	$y^{10} + 4y^9 + \cdots - 11y + 1$
c_4, c_5, c_9 c_{10}	$y^{10} - 4y^9 + 2y^8 + 8y^7 - 5y^6 - 11y^5 + 8y^4 + 7y^3 - 5y^2 - 3y + 1$
c_7, c_8, c_{11} c_{12}	$(y^2 - 3y + 1)^5$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -0.345749$ $b = 0.267133$	-0.986960	-10.0000
$u = 0.618034$ $a = 0.0508281$ $b = 1.80755$	-0.986960	-10.0000
$u = 0.618034$ $a = 1.99880$ $b = 1.34705$	-0.986960	-10.0000
$u = 0.618034$ $a = 0.14806 + 2.58817I$ $b = -0.710869 + 0.286205I$	-0.986960	-10.0000
$u = 0.618034$ $a = 0.14806 - 2.58817I$ $b = -0.710869 - 0.286205I$	-0.986960	-10.0000
$u = -1.61803$ $a = 1.12160$ $b = 2.04335$	-8.88264	-10.0000
$u = -1.61803$ $a = 0.687673 + 0.972900I$ $b = 0.880270 + 0.618196I$	-8.88264	-10.0000
$u = -1.61803$ $a = 0.687673 - 0.972900I$ $b = 0.880270 - 0.618196I$	-8.88264	-10.0000
$u = -1.61803$ $a = -0.24847 + 1.61216I$ $b = -0.901944 + 0.542076I$	-8.88264	-10.0000
$u = -1.61803$ $a = -0.24847 - 1.61216I$ $b = -0.901944 - 0.542076I$	-8.88264	-10.0000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{10} - 4u^9 + 2u^8 + 8u^7 - 5u^6 - 11u^5 + 8u^4 + 7u^3 - 5u^2 - 3u + 1)$ $\cdot (u^{17} - 6u^{15} + \cdots + 3u - 1)(u^{69} - 3u^{68} + \cdots + 20777u - 1427)$
c_2	$(u^{10} + 4u^9 + 2u^8 - 8u^7 - 5u^6 + 11u^5 + 8u^4 - 7u^3 - 5u^2 + 3u + 1)$ $\cdot (u^{17} - 3u^{16} + \cdots - 3u + 1)(u^{69} - 4u^{68} + \cdots - 15u - 1)$
c_3	$(u^{10} + 2u^8 - 4u^7 + 5u^6 - 7u^5 - 12u^4 + 9u^3 - 5u^2 - u + 1)$ $\cdot (u^{17} - 2u^{14} + \cdots + u + 1)(u^{69} - u^{68} + \cdots - 231u + 293)$
c_4, c_5	$(u^{10} - 2u^8 + \cdots - u - 1)(u^{17} - 10u^{15} + \cdots + 2u - 1)$ $\cdot (u^{69} + u^{68} + \cdots + 26u - 1)$
c_6	$(u^{10} + 4u^9 + 2u^8 - 8u^7 - 5u^6 + 11u^5 + 8u^4 - 7u^3 - 5u^2 + 3u + 1)$ $\cdot (u^{17} + 3u^{16} + \cdots - 3u - 1)(u^{69} - 4u^{68} + \cdots - 15u - 1)$
c_7, c_8	$((u^2 - u - 1)^5)(u^{17} - 12u^{15} + \cdots + 2u + 1)(u^{69} + 4u^{68} + \cdots + 46u - 4)$
c_9	$(u^{10} - 2u^8 + \cdots - u - 1)(u^{17} + u^{16} + \cdots - 2u^3 + 1)$ $\cdot (u^{69} + 2u^{68} + \cdots + 766u - 229)$
c_{10}	$(u^{10} - 2u^8 + \cdots - u - 1)(u^{17} - 10u^{15} + \cdots + 2u + 1)$ $\cdot (u^{69} + u^{68} + \cdots + 26u - 1)$
c_{11}, c_{12}	$((u^2 - u - 1)^5)(u^{17} - 12u^{15} + \cdots + 2u - 1)(u^{69} + 4u^{68} + \cdots + 46u - 4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{10}-12y^9+\cdots-19y+1)(y^{17}-12y^{16}+\cdots+21y-1)$ $\cdot(y^{69}-27y^{68}+\cdots+239869243y-2036329)$
c_2, c_6	$(y^{10}-12y^9+\cdots-19y+1)(y^{17}-17y^{16}+\cdots+17y-1)$ $\cdot(y^{69}-28y^{68}+\cdots+171y-1)$
c_3	$(y^{10}+4y^9+\cdots-11y+1)(y^{17}-6y^{15}+\cdots+3y-1)$ $\cdot(y^{69}+13y^{68}+\cdots-450599y-85849)$
c_4, c_5, c_{10}	$(y^{10}-4y^9+2y^8+8y^7-5y^6-11y^5+8y^4+7y^3-5y^2-3y+1)$ $\cdot(y^{17}-20y^{16}+\cdots+16y-1)(y^{69}-79y^{68}+\cdots+462y-1)$
c_7, c_8, c_{11} c_{12}	$((y^2-3y+1)^5)(y^{17}-24y^{16}+\cdots+24y-1)$ $\cdot(y^{69}-84y^{68}+\cdots+684y-16)$
c_9	$(y^{10}-4y^9+2y^8+8y^7-5y^6-11y^5+8y^4+7y^3-5y^2-3y+1)$ $\cdot(y^{17}-3y^{16}+\cdots+6y^2-1)(y^{69}+14y^{68}+\cdots+8302y-52441)$