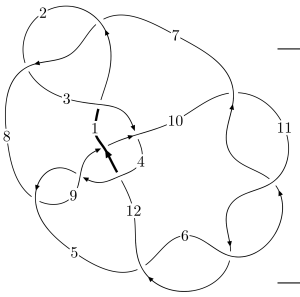
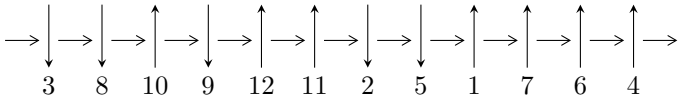
$12a_{0751}$ $(K12a_{0751})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5.59626 \times 10^{121} u^{99} + 7.57270 \times 10^{121} u^{98} + \cdots + 1.04618 \times 10^{122} b + 1.03099 \times 10^{124},$$
$$3.41104 \times 10^{123} u^{99} + 1.78701 \times 10^{123} u^{98} + \cdots + 1.15079 \times 10^{123} a + 4.33722 \times 10^{125},$$
$$u^{100} + u^{99} + \cdots + 192u + 88 \rangle$$
$$I_2^u = \langle -u^{17} - u^{16} + \cdots + b - 4,\ u^{19} - u^{18} + \cdots + a - 5,\ u^{20} - 5u^{18} + \cdots - u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle 5.60 \times 10^{121} u^{99} + 7.57 \times 10^{121} u^{98} + \cdots + 1.05 \times 10^{122} b + 1.03 \times 10^{124},\ 3.41 \times 10^{123} u^{99} + 1.79 \times 10^{123} u^{98} + \cdots + 1.15 \times 10^{123} a + 4.34 \times 10^{125},\ u^{100} + u^{99} + \cdots + 192u + 88 \rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_{11} = \begin{pmatrix} -2.96408u^{99} - 1.55285u^{98} + \cdots - 374.031u - 376.889 \\ -0.534925u^{99} - 0.723846u^{98} + \cdots - 84.1661u - 98.5485 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.617617u^{99} - 1.17346u^{98} + \cdots + 37.6546u - 38.2669 \\ 2.51995u^{99} - 0.410169u^{98} + \cdots + 285.419u + 168.064 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.09671u^{99} + 1.08332u^{98} + \cdots + 250.069u + 258.434 \\ 1.72681u^{99} + 0.999934u^{98} + \cdots + 237.814u + 210.154 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.27990u^{99} + 1.58306u^{98} + \cdots - 240.947u - 25.0792 \\ -3.87185u^{99} - 0.0865608u^{98} + \cdots - 443.404u - 309.362 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.42915u^{99} - 0.829001u^{98} + \cdots - 289.865u - 278.341 \\ -0.534925u^{99} - 0.723846u^{98} + \cdots - 84.1661u - 98.5485 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.845112u^{99} + 0.558376u^{98} + \cdots - 83.0591u - 2.45370 \\ -1.36008u^{99} + 0.253366u^{98} + \cdots - 116.779u - 81.9261 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.85480u^{99} - 1.37610u^{98} + \cdots - 351.640u - 359.046 \\ -0.790636u^{99} - 0.977449u^{98} + \cdots - 118.031u - 144.290 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3.86987u^{99} - 0.145177u^{98} + \cdots - 447.994u - 326.668$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{100}+45u^{99}+\cdots+119584u+7744$
c_2, c_7	$u^{100}+u^{99}+\cdots+192u+88$
c_3	$u^{100}+3u^{98}+\cdots+1720u+379$
c_4, c_8	$u^{100}+2u^{99}+\cdots+2370u+1621$
c_5, c_6, c_{10} c_{11}	$u^{100}-u^{99}+\cdots+6u+1$
c_9	$u^{100}-3u^{99}+\cdots+566u+1753$
c_{12}	$u^{100}+9u^{99}+\cdots+45u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{100} + 31y^{99} + \cdots + 454960640y + 59969536$
c_2, c_7	$y^{100} - 45y^{99} + \cdots - 119584y + 7744$
c_3	$y^{100} + 6y^{99} + \cdots + 2142182y + 143641$
c_4, c_8	$y^{100} + 62y^{99} + \cdots + 49983400y + 2627641$
c_5, c_6, c_{10} c_{11}	$y^{100} + 121y^{99} + \cdots + 32y + 1$
c_9	$y^{100} - 31y^{99} + \cdots - 158167488y + 3073009$
c_{12}	$y^{100} + y^{99} + \cdots - 499y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.457128 + 0.895092I$ $a = 0.277346 - 0.131143I$ $b = -0.591223 - 0.738873I$	$3.20370 + 8.08248I$	0
$u = 0.457128 - 0.895092I$ $a = 0.277346 + 0.131143I$ $b = -0.591223 + 0.738873I$	$3.20370 - 8.08248I$	0
$u = -0.949475 + 0.353004I$ $a = -0.0965409 - 0.0295078I$ $b = -0.501613 + 0.333772I$	$-1.61218 + 1.26315I$	0
$u = -0.949475 - 0.353004I$ $a = -0.0965409 + 0.0295078I$ $b = -0.501613 - 0.333772I$	$-1.61218 - 1.26315I$	0
$u = 0.487153 + 0.858326I$ $a = -0.411419 + 0.471713I$ $b = 0.08719 + 1.60914I$	$-8.68625 + 4.27677I$	0
$u = 0.487153 - 0.858326I$ $a = -0.411419 - 0.471713I$ $b = 0.08719 - 1.60914I$	$-8.68625 - 4.27677I$	0
$u = -0.811221 + 0.558161I$ $a = -0.610382 - 0.676529I$ $b = 0.456846 - 0.636360I$	$2.56446 - 0.54418I$	0
$u = -0.811221 - 0.558161I$ $a = -0.610382 + 0.676529I$ $b = 0.456846 + 0.636360I$	$2.56446 + 0.54418I$	0
$u = -0.909159 + 0.370130I$ $a = 1.00785 - 2.56119I$ $b = 0.04380 - 1.79990I$	$-12.07290 + 1.51771I$	0
$u = -0.909159 - 0.370130I$ $a = 1.00785 + 2.56119I$ $b = 0.04380 + 1.79990I$	$-12.07290 - 1.51771I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.943267+0.393422I$ $a=-1.16845+1.06220I$ $b=\ \ 0.549467+0.827812I$	$-1.80876+1.49561I$	0
$u=-0.943267-0.393422I$ $a=-1.16845-1.06220I$ $b=\ \ 0.549467-0.827812I$	$-1.80876-1.49561I$	0
$u=\ \ 0.049849+1.035490I$ $a=-0.119703-1.284840I$ $b=-0.07255-1.55357I$	$-3.35710+0.84569I$	0
$u=\ \ 0.049849-1.035490I$ $a=-0.119703+1.284840I$ $b=-0.07255+1.55357I$	$-3.35710-0.84569I$	0
$u=-0.345894+0.892402I$ $a=\ \ 0.043148+0.616596I$ $b=-0.378598+0.534759I$	$3.66695+0.64439I$	0
$u=-0.345894-0.892402I$ $a=\ \ 0.043148-0.616596I$ $b=-0.378598-0.534759I$	$3.66695-0.64439I$	0
$u=-0.875061+0.578879I$ $a=\ \ 1.12333-1.91481I$ $b=-0.313739-0.731171I$	$2.36569+5.08929I$	0
$u=-0.875061-0.578879I$ $a=\ \ 1.12333+1.91481I$ $b=-0.313739+0.731171I$	$2.36569-5.08929I$	0
$u=-0.971552+0.444847I$ $a=-2.90650+2.58483I$ $b=\ \ 0.01149+1.56483I$	$-6.12144-1.12485I$	0
$u=-0.971552-0.444847I$ $a=-2.90650-2.58483I$ $b=\ \ 0.01149-1.56483I$	$-6.12144+1.12485I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.068870 + 0.136323I$ $a = -0.01112 - 1.51128I$ $b = -0.228583 - 0.936404I$	$-5.43132 + 1.06691I$	0
$u = 1.068870 - 0.136323I$ $a = -0.01112 + 1.51128I$ $b = -0.228583 + 0.936404I$	$-5.43132 - 1.06691I$	0
$u = -0.532098 + 0.746302I$ $a = 0.624469 - 0.643270I$ $b = -0.754980 - 0.223997I$	$4.77059 - 3.60253I$	0
$u = -0.532098 - 0.746302I$ $a = 0.624469 + 0.643270I$ $b = -0.754980 + 0.223997I$	$4.77059 + 3.60253I$	0
$u = 0.901590 + 0.137482I$ $a = -0.225698 - 0.574004I$ $b = 0.656804 + 0.210978I$	$0.01670 + 2.78694I$	0
$u = 0.901590 - 0.137482I$ $a = -0.225698 + 0.574004I$ $b = 0.656804 - 0.210978I$	$0.01670 - 2.78694I$	0
$u = -0.407065 + 1.010870I$ $a = 0.255522 + 0.839954I$ $b = -0.17440 + 1.62012I$	$-4.76816 - 10.95720I$	0
$u = -0.407065 - 1.010870I$ $a = 0.255522 - 0.839954I$ $b = -0.17440 - 1.62012I$	$-4.76816 + 10.95720I$	0
$u = 0.973821 + 0.494263I$ $a = 2.07761 + 3.20985I$ $b = -0.09275 + 1.62754I$	$-5.79792 - 6.63756I$	0
$u = 0.973821 - 0.494263I$ $a = 2.07761 - 3.20985I$ $b = -0.09275 - 1.62754I$	$-5.79792 + 6.63756I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.982131 + 0.534639I$ $a = 0.573213 + 0.834066I$ $b = 0.550859 + 1.189730I$	$-0.83659 - 3.90380I$	0
$u = 0.982131 - 0.534639I$ $a = 0.573213 - 0.834066I$ $b = 0.550859 - 1.189730I$	$-0.83659 + 3.90380I$	0
$u = 0.480220 + 0.730326I$ $a = -0.391373 - 0.230176I$ $b = -0.05183 - 1.60666I$	$-8.61603 - 0.90830I$	0
$u = 0.480220 - 0.730326I$ $a = -0.391373 + 0.230176I$ $b = -0.05183 + 1.60666I$	$-8.61603 + 0.90830I$	0
$u = 0.790912 + 0.351475I$ $a = -2.42436 - 1.13611I$ $b = 0.040636 - 0.416164I$	$0.88125 + 1.31215I$	0
$u = 0.790912 - 0.351475I$ $a = -2.42436 + 1.13611I$ $b = 0.040636 + 0.416164I$	$0.88125 - 1.31215I$	0
$u = -1.055800 + 0.416304I$ $a = -0.477868 + 0.407449I$ $b = -0.501700 + 0.764707I$	$-2.26962 + 1.47318I$	0
$u = -1.055800 - 0.416304I$ $a = -0.477868 - 0.407449I$ $b = -0.501700 - 0.764707I$	$-2.26962 - 1.47318I$	0
$u = 1.023140 + 0.506583I$ $a = 0.579107 + 0.555358I$ $b = -0.471189 - 0.035664I$	$-0.45591 - 4.68155I$	0
$u = 1.023140 - 0.506583I$ $a = 0.579107 - 0.555358I$ $b = -0.471189 + 0.035664I$	$-0.45591 + 4.68155I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.662351 + 0.538131I$ $a = 1.43717 + 1.53013I$ $b = -0.400932 + 1.267270I$	$0.179494 - 0.448818I$	0
$u = 0.662351 - 0.538131I$ $a = 1.43717 - 1.53013I$ $b = -0.400932 - 1.267270I$	$0.179494 + 0.448818I$	0
$u = -0.480432 + 0.704035I$ $a = -0.720306 + 0.070361I$ $b = 0.311817 - 0.699242I$	$-0.75596 - 2.78991I$	$0. + 5.33071I$
$u = -0.480432 - 0.704035I$ $a = -0.720306 - 0.070361I$ $b = 0.311817 + 0.699242I$	$-0.75596 + 2.78991I$	$0. - 5.33071I$
$u = 0.919034 + 0.695465I$ $a = -0.388402 + 0.015091I$ $b = 0.450194 - 0.156366I$	$3.85181 - 2.66231I$	0
$u = 0.919034 - 0.695465I$ $a = -0.388402 - 0.015091I$ $b = 0.450194 + 0.156366I$	$3.85181 + 2.66231I$	0
$u = 1.061530 + 0.451220I$ $a = 0.64755 + 1.28489I$ $b = -0.686878 + 0.598970I$	$-2.00804 - 5.39813I$	0
$u = 1.061530 - 0.451220I$ $a = 0.64755 - 1.28489I$ $b = -0.686878 - 0.598970I$	$-2.00804 + 5.39813I$	0
$u = 0.855748 + 0.776003I$ $a = -0.059404 + 0.560020I$ $b = -0.147280 - 0.150368I$	$4.15579 - 3.00585I$	0
$u = 0.855748 - 0.776003I$ $a = -0.059404 - 0.560020I$ $b = -0.147280 + 0.150368I$	$4.15579 + 3.00585I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.699689 + 0.447370I$ $a = -0.85775 + 1.47416I$ $b = 0.12893 + 1.57137I$	$-4.86721 + 2.69174I$	$2.00000 + 3.09443I$
$u = 0.699689 - 0.447370I$ $a = -0.85775 - 1.47416I$ $b = 0.12893 - 1.57137I$	$-4.86721 - 2.69174I$	$2.00000 - 3.09443I$
$u = 1.044530 + 0.567090I$ $a = -1.74491 - 1.52556I$ $b = 0.13770 - 1.64610I$	$-10.30000 - 4.00533I$	0
$u = 1.044530 - 0.567090I$ $a = -1.74491 + 1.52556I$ $b = 0.13770 + 1.64610I$	$-10.30000 + 4.00533I$	0
$u = 0.721663 + 0.945843I$ $a = 0.175629 + 0.357102I$ $b = -0.277462 + 0.330746I$	$4.29505 - 3.25009I$	0
$u = 0.721663 - 0.945843I$ $a = 0.175629 - 0.357102I$ $b = -0.277462 - 0.330746I$	$4.29505 + 3.25009I$	0
$u = -1.198440 + 0.068526I$ $a = 0.18829 + 2.88134I$ $b = -0.04624 + 1.67782I$	$-14.5866 - 2.0802I$	0
$u = -1.198440 - 0.068526I$ $a = 0.18829 - 2.88134I$ $b = -0.04624 - 1.67782I$	$-14.5866 + 2.0802I$	0
$u = -0.883097 + 0.813802I$ $a = -0.955482 + 0.128175I$ $b = 0.01310 + 1.53039I$	$-1.99200 + 3.03411I$	0
$u = -0.883097 - 0.813802I$ $a = -0.955482 - 0.128175I$ $b = 0.01310 - 1.53039I$	$-1.99200 - 3.03411I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.167680 + 0.328905I$ $a = -0.70668 - 2.37685I$ $b = -0.12071 - 1.64095I$	$-10.63490 + 0.79325I$	0
$u = 1.167680 - 0.328905I$ $a = -0.70668 + 2.37685I$ $b = -0.12071 + 1.64095I$	$-10.63490 - 0.79325I$	0
$u = -1.052900 + 0.617585I$ $a = 0.009037 + 0.412192I$ $b = 0.867881 - 0.150365I$	$3.20806 + 8.79860I$	0
$u = -1.052900 - 0.617585I$ $a = 0.009037 - 0.412192I$ $b = 0.867881 + 0.150365I$	$3.20806 - 8.79860I$	0
$u = 1.139320 + 0.445638I$ $a = 0.825300 + 0.952464I$ $b = -0.090239 + 0.314591I$	$-0.57512 - 4.30546I$	0
$u = 1.139320 - 0.445638I$ $a = 0.825300 - 0.952464I$ $b = -0.090239 - 0.314591I$	$-0.57512 + 4.30546I$	0
$u = -1.064410 + 0.604122I$ $a = 1.24875 - 0.98974I$ $b = -0.426728 - 0.748134I$	$-2.46212 + 7.84489I$	0
$u = -1.064410 - 0.604122I$ $a = 1.24875 + 0.98974I$ $b = -0.426728 + 0.748134I$	$-2.46212 - 7.84489I$	0
$u = -0.714472 + 0.297648I$ $a = -1.85378 + 0.42902I$ $b = 0.059035 + 0.980030I$	$-0.92305 + 1.41574I$	$1.53824 - 4.41774I$
$u = -0.714472 - 0.297648I$ $a = -1.85378 - 0.42902I$ $b = 0.059035 - 0.980030I$	$-0.92305 - 1.41574I$	$1.53824 + 4.41774I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.688380+0.344991I$ $a=\ 0.577273-0.199424I$ $b=\ 0.05291+1.47826I$	$-5.14023+4.60516I$	$-2.03923-7.77612I$
$u=-0.688380-0.344991I$ $a=\ 0.577273+0.199424I$ $b=\ 0.05291-1.47826I$	$-5.14023-4.60516I$	$-2.03923+7.77612I$
$u=-1.134260+0.510215I$ $a=\ 1.77296-2.03650I$ $b=-0.22540-1.60286I$	$-9.42325+8.84178I$	0
$u=-1.134260-0.510215I$ $a=\ 1.77296+2.03650I$ $b=-0.22540+1.60286I$	$-9.42325-8.84178I$	0
$u=-1.260620+0.008171I$ $a=\ 0.292978+1.077860I$ $b=\ 0.334506+0.803931I$	$-3.13898+5.62440I$	0
$u=-1.260620-0.008171I$ $a=\ 0.292978-1.077860I$ $b=\ 0.334506-0.803931I$	$-3.13898-5.62440I$	0
$u=-0.165190+0.708418I$ $a=-0.529068-0.355693I$ $b=\ 0.16439-1.57090I$	$-6.70390-4.29246I$	$-0.60052+3.33872I$
$u=-0.165190-0.708418I$ $a=-0.529068+0.355693I$ $b=\ 0.16439+1.57090I$	$-6.70390+4.29246I$	$-0.60052-3.33872I$
$u=\ 1.113440+0.659702I$ $a=\ 2.01350+1.56051I$ $b=-0.12374+1.62349I$	$-10.5794-9.9278I$	0
$u=\ 1.113440-0.659702I$ $a=\ 2.01350-1.56051I$ $b=-0.12374-1.62349I$	$-10.5794+9.9278I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.125530 + 0.654798I$ $a = -0.77851 - 1.24846I$ $b = 0.647617 - 0.821693I$	$1.17041 - 13.78430I$	0
$u = 1.125530 - 0.654798I$ $a = -0.77851 + 1.24846I$ $b = 0.647617 + 0.821693I$	$1.17041 + 13.78430I$	0
$u = 0.412523 + 0.527683I$ $a = -0.979778 + 0.055130I$ $b = 0.401276 + 0.042780I$	$1.274940 + 0.490112I$	$7.83258 - 0.20587I$
$u = 0.412523 - 0.527683I$ $a = -0.979778 - 0.055130I$ $b = 0.401276 - 0.042780I$	$1.274940 - 0.490112I$	$7.83258 + 0.20587I$
$u = -1.153210 + 0.689575I$ $a = -0.565447 + 1.134440I$ $b = 0.335549 + 0.781521I$	$1.29974 + 5.19343I$	0
$u = -1.153210 - 0.689575I$ $a = -0.565447 - 1.134440I$ $b = 0.335549 - 0.781521I$	$1.29974 - 5.19343I$	0
$u = -1.188740 + 0.673765I$ $a = -1.64301 + 1.89720I$ $b = 0.19731 + 1.65104I$	$-7.1910 + 17.0346I$	0
$u = -1.188740 - 0.673765I$ $a = -1.64301 - 1.89720I$ $b = 0.19731 - 1.65104I$	$-7.1910 - 17.0346I$	0
$u = -1.278800 + 0.554028I$ $a = 1.36310 - 2.26576I$ $b = -0.01874 - 1.55514I$	$-7.31672 + 4.64807I$	0
$u = -1.278800 - 0.554028I$ $a = 1.36310 + 2.26576I$ $b = -0.01874 + 1.55514I$	$-7.31672 - 4.64807I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.475485+0.356600I$ $a=-1.054600-0.397241I$ $b=\ 0.016367+0.691404I$	$-0.75049+1.42692I$	$-1.23605-5.05204I$
$u=-0.475485-0.356600I$ $a=-1.054600+0.397241I$ $b=\ 0.016367-0.691404I$	$-0.75049-1.42692I$	$-1.23605+5.05204I$
$u=\ 1.41675+0.05485I$ $a=\ 0.03074+2.54396I$ $b=\ 0.10040+1.63547I$	$-11.52460+7.31973I$	0
$u=\ 1.41675-0.05485I$ $a=\ 0.03074-2.54396I$ $b=\ 0.10040-1.63547I$	$-11.52460-7.31973I$	0
$u=\ 1.29924+0.64879I$ $a=-1.06766-2.20720I$ $b=\ 0.09769-1.63714I$	$-7.05187-6.85612I$	0
$u=\ 1.29924-0.64879I$ $a=-1.06766+2.20720I$ $b=\ 0.09769+1.63714I$	$-7.05187+6.85612I$	0
$u=-0.87310+1.16661I$ $a=\ 0.489018-1.141310I$ $b=-0.03392-1.54941I$	$-2.33918+3.99799I$	0
$u=-0.87310-1.16661I$ $a=\ 0.489018+1.141310I$ $b=-0.03392+1.54941I$	$-2.33918-3.99799I$	0
$u=\ 0.058286+0.489208I$ $a=-0.907430-0.127080I$ $b=\ 0.517643+0.539466I$	$0.43996+1.77224I$	$1.45803-4.64107I$
$u=\ 0.058286-0.489208I$ $a=-0.907430+0.127080I$ $b=\ 0.517643-0.539466I$	$0.43996-1.77224I$	$1.45803+4.64107I$

II.

$\boldsymbol{I_2^u = \langle -u^{17}-u^{16}+\cdots+b-4,\ u^{19}-u^{18}+\cdots+a-5,\ u^{20}-5u^{18}+\cdots-u+1\rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_{11} = \begin{pmatrix} -u^{19}+u^{18}+\cdots+3u+5 \\ u^{17}+u^{16}+\cdots+u+4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2u^{19}+3u^{18}+\cdots+4u+5 \\ -3u^{19}+12u^{17}+\cdots-u-2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -6u^{19}-u^{18}+\cdots-6u^2-1 \\ u^{19}-5u^{17}+\cdots-u-4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 5u^{19}+u^{18}+\cdots-4u-1 \\ 3u^{19}-12u^{17}+\cdots+4u^2+u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{19}+u^{18}+\cdots+2u+1 \\ u^{17}+u^{16}+\cdots+u+4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 3u^{19}-11u^{17}+\cdots+6u+2 \\ -u^{19}-u^{18}+\cdots+3u+5 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{18}+u^{17}+\cdots+2u+1 \\ u^{17}+u^{16}+\cdots+u+4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -9u^{19}+35u^{17}+12u^{16}-92u^{15}-49u^{14}+160u^{13}+112u^{12}-221u^{11}-183u^{10}+211u^9+227u^8-138u^7-201u^6+38u^5+123u^4+13u^3-56u^2-13u+14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - 10u^{19} + \cdots - 13u + 1$
c_2	$u^{20} - 5u^{18} + \cdots + u + 1$
c_3	$u^{20} + u^{19} + \cdots + 2u + 1$
c_4	$u^{20} + u^{19} + \cdots + 10u^2 + 1$
c_5, c_6	$u^{20} + 14u^{18} + \cdots + 2u + 1$
c_7	$u^{20} - 5u^{18} + \cdots - u + 1$
c_8	$u^{20} - u^{19} + \cdots + 10u^2 + 1$
c_9	$u^{20} - 4u^{19} + \cdots - 4u + 1$
c_{10}, c_{11}	$u^{20} + 14u^{18} + \cdots - 2u + 1$
c_{12}	$u^{20} - 3u^{17} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} + 10y^{19} + \cdots + 7y + 1$
c_2, c_7	$y^{20} - 10y^{19} + \cdots - 13y + 1$
c_3	$y^{20} - 3y^{19} + \cdots + 2y + 1$
c_4, c_8	$y^{20} + 17y^{19} + \cdots + 20y + 1$
c_5, c_6, c_{10} c_{11}	$y^{20} + 28y^{19} + \cdots + 24y + 1$
c_9	$y^{20} - 12y^{19} + \cdots - 12y + 1$
c_{12}	$y^{20} - 6y^{18} + \cdots + y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.945567+0.247254I$ $a=\ 1.12868-2.58212I$ $b=\ 0.02340-1.76437I$	$-12.48050+1.02035I$	$-6.90663+2.24541I$
$u=-0.945567-0.247254I$ $a=\ 1.12868+2.58212I$ $b=\ 0.02340+1.76437I$	$-12.48050-1.02035I$	$-6.90663-2.24541I$
$u=\ 1.005350+0.363840I$ $a=\ 0.533622+0.298950I$ $b=\ 0.367128+0.974221I$	$-2.05613-2.40154I$	$-1.92475+5.24351I$
$u=\ 1.005350-0.363840I$ $a=\ 0.533622-0.298950I$ $b=\ 0.367128-0.974221I$	$-2.05613+2.40154I$	$-1.92475-5.24351I$
$u=-0.867805+0.703439I$ $a=-0.785443+1.054200I$ $b=-0.052377+1.156930I$	$1.24861+2.70464I$	$3.70481-2.83294I$
$u=-0.867805-0.703439I$ $a=-0.785443-1.054200I$ $b=-0.052377-1.156930I$	$1.24861-2.70464I$	$3.70481+2.83294I$
$u=\ 0.792758+0.306881I$ $a=\ 2.12301+1.56831I$ $b=-0.305080+1.107830I$	$-1.217270-0.434477I$	$-1.98252-2.13576I$
$u=\ 0.792758-0.306881I$ $a=\ 2.12301-1.56831I$ $b=-0.305080-1.107830I$	$-1.217270+0.434477I$	$-1.98252+2.13576I$
$u=\ 0.830890+0.851184I$ $a=\ 0.0017229-0.1293230I$ $b=-0.068980+0.354498I$	$3.84716-3.17204I$	$-9.02326+6.39041I$
$u=\ 0.830890-0.851184I$ $a=\ 0.0017229+0.1293230I$ $b=-0.068980-0.354498I$	$3.84716+3.17204I$	$-9.02326-6.39041I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.109460+0.447037I$ $a=-0.65444+1.44954I$ $b=\ \ 0.364945+0.517562I$	$-0.60400+5.07290I$	$1.00087-10.67343I$
$u=-1.109460-0.447037I$ $a=-0.65444-1.44954I$ $b=\ \ 0.364945-0.517562I$	$-0.60400-5.07290I$	$1.00087+10.67343I$
$u=-0.811158+0.969033I$ $a=\ \ 0.416898-0.696335I$ $b=-0.02269-1.54816I$	$-2.87450+3.50843I$	$-2.42701-2.27980I$
$u=-0.811158-0.969033I$ $a=\ \ 0.416898+0.696335I$ $b=-0.02269+1.54816I$	$-2.87450-3.50843I$	$-2.42701+2.27980I$
$u=-0.647271+0.292294I$ $a=\ \ 2.00402-0.22283I$ $b=-0.313317+0.344019I$	$1.26691-1.85750I$	$6.25683+6.64675I$
$u=-0.647271-0.292294I$ $a=\ \ 2.00402+0.22283I$ $b=-0.313317-0.344019I$	$1.26691+1.85750I$	$6.25683-6.64675I$
$u=\ \ 1.219100+0.499119I$ $a=-1.34740-2.58399I$ $b=\ \ 0.10159-1.60734I$	$-8.12931-6.77394I$	$-3.97445+5.78529I$
$u=\ \ 1.219100-0.499119I$ $a=-1.34740+2.58399I$ $b=\ \ 0.10159+1.60734I$	$-8.12931+6.77394I$	$-3.97445-5.78529I$
$u=\ \ 0.533169+0.273157I$ $a=\ \ 2.07932-1.13267I$ $b=-0.09462-1.53848I$	$-5.31995+3.31110I$	$-2.72389-4.69129I$
$u=\ \ 0.533169-0.273157I$ $a=\ \ 2.07932+1.13267I$ $b=-0.09462+1.53848I$	$-5.31995-3.31110I$	$-2.72389+4.69129I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{20}-10u^{19}+\cdots-13u+1)(u^{100}+45u^{99}+\cdots+119584u+7744)$
c_2	$(u^{20}-5u^{18}+\cdots+u+1)(u^{100}+u^{99}+\cdots+192u+88)$
c_3	$(u^{20}+u^{19}+\cdots+2u+1)(u^{100}+3u^{98}+\cdots+1720u+379)$
c_4	$(u^{20}+u^{19}+\cdots+10u^2+1)(u^{100}+2u^{99}+\cdots+2370u+1621)$
c_5, c_6	$(u^{20}+14u^{18}+\cdots+2u+1)(u^{100}-u^{99}+\cdots+6u+1)$
c_7	$(u^{20}-5u^{18}+\cdots-u+1)(u^{100}+u^{99}+\cdots+192u+88)$
c_8	$(u^{20}-u^{19}+\cdots+10u^2+1)(u^{100}+2u^{99}+\cdots+2370u+1621)$
c_9	$(u^{20}-4u^{19}+\cdots-4u+1)(u^{100}-3u^{99}+\cdots+566u+1753)$
c_{10}, c_{11}	$(u^{20}+14u^{18}+\cdots-2u+1)(u^{100}-u^{99}+\cdots+6u+1)$
c_{12}	$(u^{20}-3u^{17}+\cdots+3u+1)(u^{100}+9u^{99}+\cdots+45u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{20}+10y^{19}+\cdots+7y+1)$ $\cdot(y^{100}+31y^{99}+\cdots+454960640y+59969536)$
c_2, c_7	$(y^{20}-10y^{19}+\cdots-13y+1)(y^{100}-45y^{99}+\cdots-119584y+7744)$
c_3	$(y^{20}-3y^{19}+\cdots+2y+1)(y^{100}+6y^{99}+\cdots+2142182y+143641)$
c_4, c_8	$(y^{20}+17y^{19}+\cdots+20y+1)$ $\cdot(y^{100}+62y^{99}+\cdots+49983400y+2627641)$
c_5, c_6, c_{10} c_{11}	$(y^{20}+28y^{19}+\cdots+24y+1)(y^{100}+121y^{99}+\cdots+32y+1)$
c_9	$(y^{20}-12y^{19}+\cdots-12y+1)$ $\cdot(y^{100}-31y^{99}+\cdots-158167488y+3073009)$
c_{12}	$(y^{20}-6y^{18}+\cdots+y+1)(y^{100}+y^{99}+\cdots-499y+1)$