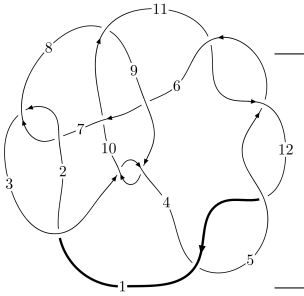
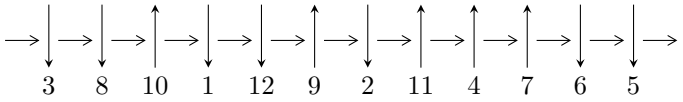
$12a_{0781}$ $(K12a_{0781})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3.86638 \times 10^{158} u^{97} - 6.01764 \times 10^{158} u^{96} + \cdots + 2.14603 \times 10^{159} b + 2.00594 \times 10^{160},$$
$$- 5.79119 \times 10^{159} u^{97} - 1.25565 \times 10^{160} u^{96} + \cdots + 4.07746 \times 10^{160} a - 2.67995 \times 10^{161},$$
$$u^{98} + 2u^{97} + \cdots + 145u + 19 \rangle$$
$$I_2^u = \langle -u^{17} - u^{16} + \cdots + b - 7u,\ u^{19} + u^{18} + \cdots + a - 2,\ u^{20} + u^{19} + \cdots + 14u^2 + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 118 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. $\boldsymbol{I_1^u = \langle -3.87 \times 10^{158} u^{97} - 6.02 \times 10^{158} u^{96} + \cdots + 2.15 \times 10^{159} b + 2.01 \times 10^{160},\ -5.79 \times 10^{159} u^{97} - 1.26 \times 10^{160} u^{96} + \cdots + 4.08 \times 10^{160} a - 2.68 \times 10^{161},\ u^{98} + 2u^{97} + \cdots + 145u + 19 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.142029u^{97} + 0.307949u^{96} + \cdots + 14.8737u + 6.57260 \\ 0.180164u^{97} + 0.280408u^{96} + \cdots - 42.6979u - 9.34719 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.322194u^{97} + 0.588357u^{96} + \cdots - 27.8242u - 2.77458 \\ 0.180164u^{97} + 0.280408u^{96} + \cdots - 42.6979u - 9.34719 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.381407u^{97} - 1.32617u^{96} + \cdots - 330.089u - 43.7156 \\ -0.612689u^{97} - 1.81913u^{96} + \cdots - 217.338u - 25.7105 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.949339u^{97} + 2.86582u^{96} + \cdots + 583.792u + 72.2286 \\ -0.741603u^{97} - 1.00302u^{96} + \cdots + 129.459u + 23.7288 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.695299u^{97} + 1.05722u^{96} + \cdots + 35.9036u - 7.81290 \\ 0.504732u^{97} + 1.15514u^{96} + \cdots + 214.872u + 27.8479 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.299319u^{97} + 0.487641u^{96} + \cdots - 41.9938u - 4.74001 \\ 0.221229u^{97} + 0.313332u^{96} + \cdots - 46.7994u - 11.0038 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.594694u^{97} - 0.189522u^{96} + \cdots + 391.120u + 68.2722$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{98}+41u^{97}+\cdots+261481u+14641$
c_2, c_7	$u^{98}+u^{97}+\cdots+99u+121$
c_3, c_9	$u^{98}+u^{97}+\cdots-721u+97$
c_4, c_5, c_{11} c_{12}	$u^{98}-2u^{97}+\cdots-145u+19$
c_6	$u^{98}+9u^{97}+\cdots+2276u+1393$
c_8	$u^{98}+11u^{97}+\cdots+75735u+8193$
c_{10}	$u^{98}+2u^{96}+\cdots+35u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{98} + 43y^{97} + \cdots + 4650552599y + 214358881$
c_2, c_7	$y^{98} - 41y^{97} + \cdots - 261481y + 14641$
c_3, c_9	$y^{98} + 57y^{97} + \cdots + 98437y + 9409$
c_4, c_5, c_{11} c_{12}	$y^{98} + 120y^{97} + \cdots + 9147y + 361$
c_6	$y^{98} - 19y^{97} + \cdots - 21330618y + 1940449$
c_8	$y^{98} - 39y^{97} + \cdots - 2930818359y + 67125249$
c_{10}	$y^{98} + 4y^{97} + \cdots - 33y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.137141 + 0.987892I$ $a = 0.230020 + 0.804402I$ $b = -0.361279 - 0.163257I$	$2.31819 - 2.56083I$	0
$u = 0.137141 - 0.987892I$ $a = 0.230020 - 0.804402I$ $b = -0.361279 + 0.163257I$	$2.31819 + 2.56083I$	0
$u = 0.166366 + 0.972385I$ $a = -0.85201 + 1.14892I$ $b = 0.218924 - 0.768619I$	$2.73435 - 3.04932I$	0
$u = 0.166366 - 0.972385I$ $a = -0.85201 - 1.14892I$ $b = 0.218924 + 0.768619I$	$2.73435 + 3.04932I$	0
$u = 0.610470 + 0.769870I$ $a = 0.720273 + 0.857084I$ $b = -0.580393 + 0.822591I$	$1.77465 + 0.07560I$	0
$u = 0.610470 - 0.769870I$ $a = 0.720273 - 0.857084I$ $b = -0.580393 - 0.822591I$	$1.77465 - 0.07560I$	0
$u = -0.688346 + 0.689053I$ $a = -0.762864 + 0.902008I$ $b = 0.382068 + 1.001880I$	$1.55613 + 4.28745I$	0
$u = -0.688346 - 0.689053I$ $a = -0.762864 - 0.902008I$ $b = 0.382068 - 1.001880I$	$1.55613 - 4.28745I$	0
$u = 0.554714 + 0.875374I$ $a = -1.358010 - 0.254617I$ $b = 0.598739 - 1.141800I$	$2.06361 - 7.94941I$	0
$u = 0.554714 - 0.875374I$ $a = -1.358010 + 0.254617I$ $b = 0.598739 + 1.141800I$	$2.06361 + 7.94941I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.611856+0.844401I$ $a=\ \ 1.36767-0.45827I$ $b=-0.65879-1.26522I$	$0.11354+13.83020I$	0
$u=-0.611856-0.844401I$ $a=\ \ 1.36767+0.45827I$ $b=-0.65879+1.26522I$	$0.11354-13.83020I$	0
$u=\ \ 0.378895+0.863047I$ $a=\ \ 0.773678+0.391988I$ $b=-1.157120-0.242761I$	$3.27376-7.50273I$	0
$u=\ \ 0.378895-0.863047I$ $a=\ \ 0.773678-0.391988I$ $b=-1.157120+0.242761I$	$3.27376+7.50273I$	0
$u=-0.280340+0.846709I$ $a=-0.967675+0.193226I$ $b=\ \ 0.959178-0.351785I$	$4.49747+2.41932I$	0
$u=-0.280340-0.846709I$ $a=-0.967675-0.193226I$ $b=\ \ 0.959178+0.351785I$	$4.49747-2.41932I$	0
$u=-0.442962+0.743239I$ $a=\ \ 2.00371-0.08194I$ $b=-0.298666-1.186690I$	$-4.58313+5.44546I$	0
$u=-0.442962-0.743239I$ $a=\ \ 2.00371+0.08194I$ $b=-0.298666+1.186690I$	$-4.58313-5.44546I$	0
$u=-0.842808+0.109827I$ $a=\ \ 0.162998-0.654796I$ $b=\ \ 0.548812-1.125980I$	$-2.12287-9.02759I$	0
$u=-0.842808-0.109827I$ $a=\ \ 0.162998+0.654796I$ $b=\ \ 0.548812+1.125980I$	$-2.12287+9.02759I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.570987 + 1.031320I$ $a = 0.186668 - 0.231039I$ $b = 0.304842 + 0.732776I$	$2.56510 - 1.22819I$	0
$u = 0.570987 - 1.031320I$ $a = 0.186668 + 0.231039I$ $b = 0.304842 - 0.732776I$	$2.56510 + 1.22819I$	0
$u = 0.802778 + 0.021479I$ $a = -0.011290 - 0.591224I$ $b = -0.426499 - 1.006760I$	$-0.53152 + 3.46212I$	0
$u = 0.802778 - 0.021479I$ $a = -0.011290 + 0.591224I$ $b = -0.426499 + 1.006760I$	$-0.53152 - 3.46212I$	0
$u = 0.415744 + 0.658904I$ $a = 1.127210 + 0.703107I$ $b = -0.783030 + 0.433834I$	$0.02958 - 2.42963I$	0
$u = 0.415744 - 0.658904I$ $a = 1.127210 - 0.703107I$ $b = -0.783030 - 0.433834I$	$0.02958 + 2.42963I$	0
$u = -0.653186 + 0.422345I$ $a = -0.775156 + 0.961126I$ $b = -0.226938 + 0.721731I$	$0.795805 + 0.359381I$	0
$u = -0.653186 - 0.422345I$ $a = -0.775156 - 0.961126I$ $b = -0.226938 - 0.721731I$	$0.795805 - 0.359381I$	0
$u = -0.521626 + 1.152900I$ $a = -0.164049 - 0.313481I$ $b = -0.471141 + 0.875506I$	$1.67650 - 4.29412I$	0
$u = -0.521626 - 1.152900I$ $a = -0.164049 + 0.313481I$ $b = -0.471141 - 0.875506I$	$1.67650 + 4.29412I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.358454 + 0.628610I$ $a = 1.361740 + 0.228560I$ $b = -0.565062 + 0.876393I$	$-0.13900 - 2.00593I$	$-2.00000 + 5.23973I$
$u = 0.358454 - 0.628610I$ $a = 1.361740 - 0.228560I$ $b = -0.565062 - 0.876393I$	$-0.13900 + 2.00593I$	$-2.00000 - 5.23973I$
$u = -0.171064 + 1.267530I$ $a = -0.171313 - 0.282165I$ $b = -0.151078 + 1.312910I$	$-1.93193 + 0.63423I$	0
$u = -0.171064 - 1.267530I$ $a = -0.171313 + 0.282165I$ $b = -0.151078 - 1.312910I$	$-1.93193 - 0.63423I$	0
$u = -0.165380 + 0.654264I$ $a = 2.04693 - 1.66188I$ $b = -0.360482 - 1.102940I$	$-0.16728 + 5.64528I$	$3.96766 - 9.01799I$
$u = -0.165380 - 0.654264I$ $a = 2.04693 + 1.66188I$ $b = -0.360482 + 1.102940I$	$-0.16728 - 5.64528I$	$3.96766 + 9.01799I$
$u = 0.014486 + 0.655341I$ $a = -2.39035 - 0.41672I$ $b = 0.363742 - 0.762315I$	$2.67589 + 0.10239I$	$6.77275 - 0.25907I$
$u = 0.014486 - 0.655341I$ $a = -2.39035 + 0.41672I$ $b = 0.363742 + 0.762315I$	$2.67589 - 0.10239I$	$6.77275 + 0.25907I$
$u = -0.374162 + 0.523254I$ $a = -2.17013 + 0.64065I$ $b = 0.814672 + 1.140940I$	$-2.17368 + 6.14507I$	$-5.79390 - 11.50345I$
$u = -0.374162 - 0.523254I$ $a = -2.17013 - 0.64065I$ $b = 0.814672 - 1.140940I$	$-2.17368 - 6.14507I$	$-5.79390 + 11.50345I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618322 + 0.174501I$ $a = 0.575144 + 0.904167I$ $b = 0.643407 + 0.343705I$	$0.18608 - 4.29943I$	$-2.00000 + 5.89012I$
$u = 0.618322 - 0.174501I$ $a = 0.575144 - 0.904167I$ $b = 0.643407 - 0.343705I$	$0.18608 + 4.29943I$	$-2.00000 - 5.89012I$
$u = -0.576373 + 0.171283I$ $a = -0.136597 - 1.163900I$ $b = 0.179352 - 1.271950I$	$-6.31047 - 1.94770I$	$-10.09284 + 1.23846I$
$u = -0.576373 - 0.171283I$ $a = -0.136597 + 1.163900I$ $b = 0.179352 + 1.271950I$	$-6.31047 + 1.94770I$	$-10.09284 - 1.23846I$
$u = -0.186340 + 0.569123I$ $a = -1.79719 - 1.35684I$ $b = 0.342965 + 1.315330I$	$-3.42099 - 0.62101I$	$-3.59254 - 2.97459I$
$u = -0.186340 - 0.569123I$ $a = -1.79719 + 1.35684I$ $b = 0.342965 - 1.315330I$	$-3.42099 + 0.62101I$	$-3.59254 + 2.97459I$
$u = -0.420595 + 0.385539I$ $a = -0.699784 - 0.161702I$ $b = -0.549564 + 1.230270I$	$-2.55373 - 3.25947I$	$-5.59353 + 1.58847I$
$u = -0.420595 - 0.385539I$ $a = -0.699784 + 0.161702I$ $b = -0.549564 - 1.230270I$	$-2.55373 + 3.25947I$	$-5.59353 - 1.58847I$
$u = -0.100871 + 0.548112I$ $a = -0.238571 - 0.196791I$ $b = -0.14359 + 1.69779I$	$-3.65711 + 1.68776I$	$-0.43441 - 6.60068I$
$u = -0.100871 - 0.548112I$ $a = -0.238571 + 0.196791I$ $b = -0.14359 - 1.69779I$	$-3.65711 - 1.68776I$	$-0.43441 + 6.60068I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.485283 + 0.249970I$ $a = 0.577679 + 0.141065I$ $b = 0.166741 + 0.896005I$	$-1.23374 - 0.98729I$	$-4.83340 + 4.29750I$
$u = 0.485283 - 0.249970I$ $a = 0.577679 - 0.141065I$ $b = 0.166741 - 0.896005I$	$-1.23374 + 0.98729I$	$-4.83340 - 4.29750I$
$u = -0.04134 + 1.49424I$ $a = -0.058145 + 0.999192I$ $b = 0.243456 - 1.385820I$	$3.54424 - 1.85820I$	0
$u = -0.04134 - 1.49424I$ $a = -0.058145 - 0.999192I$ $b = 0.243456 + 1.385820I$	$3.54424 + 1.85820I$	0
$u = 0.460076 + 0.190762I$ $a = 0.353545 - 0.271358I$ $b = 0.541966 + 0.415179I$	$-1.28966 - 0.61811I$	$-6.52615 + 1.35515I$
$u = 0.460076 - 0.190762I$ $a = 0.353545 + 0.271358I$ $b = 0.541966 - 0.415179I$	$-1.28966 + 0.61811I$	$-6.52615 - 1.35515I$
$u = -0.15609 + 1.54585I$ $a = 1.181780 - 0.287894I$ $b = -0.174583 - 0.617271I$	$7.39345 + 3.03622I$	0
$u = -0.15609 - 1.54585I$ $a = 1.181780 + 0.287894I$ $b = -0.174583 + 0.617271I$	$7.39345 - 3.03622I$	0
$u = 0.01305 + 1.56446I$ $a = -1.69680 - 0.52644I$ $b = 0.210381 + 0.592614I$	$5.82036 - 4.46441I$	0
$u = 0.01305 - 1.56446I$ $a = -1.69680 + 0.52644I$ $b = 0.210381 - 0.592614I$	$5.82036 + 4.46441I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.07823+1.56766I$ $a=\ \ 2.11122+0.61414I$ $b=-1.09738-1.14460I$	$4.96425+7.62683I$	0
$u=-0.07823-1.56766I$ $a=\ \ 2.11122-0.61414I$ $b=-1.09738+1.14460I$	$4.96425-7.62683I$	0
$u=-0.02981+1.57843I$ $a=\ \ 1.35994+1.11226I$ $b=-0.692776-1.177120I$	$3.95185+0.08599I$	0
$u=-0.02981-1.57843I$ $a=\ \ 1.35994-1.11226I$ $b=-0.692776+1.177120I$	$3.95185-0.08599I$	0
$u=-0.02233+1.59578I$ $a=-0.020317+1.102450I$ $b=\ \ 0.11972-1.92321I$	$3.88088+2.10003I$	0
$u=-0.02233-1.59578I$ $a=-0.020317-1.102450I$ $b=\ \ 0.11972+1.92321I$	$3.88088-2.10003I$	0
$u=-0.094846+0.389321I$ $a=\ \ 4.43128+0.99835I$ $b=\ \ 0.242392-0.738058I$	$-1.03894-4.49602I$	$-1.16453+1.43492I$
$u=-0.094846-0.389321I$ $a=\ \ 4.43128-0.99835I$ $b=\ \ 0.242392+0.738058I$	$-1.03894+4.49602I$	$-1.16453-1.43492I$
$u=\ \ 0.11805+1.59682I$ $a=-1.67039-0.17320I$ $b=\ \ 1.023240-0.524395I$	$7.72303-4.39617I$	0
$u=\ \ 0.11805-1.59682I$ $a=-1.67039+0.17320I$ $b=\ \ 1.023240+0.524395I$	$7.72303+4.39617I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.07111 + 1.60211I$ $a = -1.59625 + 0.50986I$ $b = 0.913816 - 0.992614I$	$7.54207 - 3.43202I$	0
$u = 0.07111 - 1.60211I$ $a = -1.59625 - 0.50986I$ $b = 0.913816 + 0.992614I$	$7.54207 + 3.43202I$	0
$u = -0.04256 + 1.61712I$ $a = -1.337170 + 0.139134I$ $b = 0.403604 + 1.261840I$	$7.77660 + 6.39657I$	0
$u = -0.04256 - 1.61712I$ $a = -1.337170 - 0.139134I$ $b = 0.403604 - 1.261840I$	$7.77660 - 6.39657I$	0
$u = 0.00894 + 1.62163I$ $a = 1.58969 - 0.17949I$ $b = -0.530973 + 0.987647I$	$10.68410 - 0.01739I$	0
$u = 0.00894 - 1.62163I$ $a = 1.58969 + 0.17949I$ $b = -0.530973 - 0.987647I$	$10.68410 + 0.01739I$	0
$u = -0.11941 + 1.63254I$ $a = -1.70188 - 0.61766I$ $b = 0.434133 + 1.128170I$	$3.58837 + 7.53265I$	0
$u = -0.11941 - 1.63254I$ $a = -1.70188 + 0.61766I$ $b = 0.434133 - 1.128170I$	$3.58837 - 7.53265I$	0
$u = -0.21182 + 1.63530I$ $a = 1.125310 + 0.040627I$ $b = -0.472852 - 1.209280I$	$9.43792 + 7.70449I$	0
$u = -0.21182 - 1.63530I$ $a = 1.125310 - 0.040627I$ $b = -0.472852 + 1.209280I$	$9.43792 - 7.70449I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.08125+1.65510I$ $a=\ \ 1.53597-0.46269I$ $b=-1.235110+0.484671I$	$13.18670+3.83974I$	0
$u=-0.08125-1.65510I$ $a=\ \ 1.53597+0.46269I$ $b=-1.235110-0.484671I$	$13.18670-3.83974I$	0
$u=\ \ 0.10765+1.65764I$ $a=-1.57531-0.50340I$ $b=\ \ 1.43319+0.32312I$	$11.9782-9.3939I$	0
$u=\ \ 0.10765-1.65764I$ $a=-1.57531+0.50340I$ $b=\ \ 1.43319-0.32312I$	$11.9782+9.3939I$	0
$u=\ \ 0.17257+1.65870I$ $a=-1.201680+0.091693I$ $b=\ \ 0.694229-1.125240I$	$10.13160-2.93485I$	0
$u=\ \ 0.17257-1.65870I$ $a=-1.201680-0.091693I$ $b=\ \ 0.694229+1.125240I$	$10.13160+2.93485I$	0
$u=-0.18192+1.66014I$ $a=-1.62352-0.35355I$ $b=\ \ 0.76100+1.36103I$	$8.6337+16.8973I$	0
$u=-0.18192-1.66014I$ $a=-1.62352+0.35355I$ $b=\ \ 0.76100-1.36103I$	$8.6337-16.8973I$	0
$u=\ \ 0.16103+1.66841I$ $a=\ \ 1.57490-0.41047I$ $b=-0.74571+1.22077I$	$10.7750-10.7337I$	0
$u=\ \ 0.16103-1.66841I$ $a=\ \ 1.57490+0.41047I$ $b=-0.74571-1.22077I$	$10.7750+10.7337I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.04727 + 1.70037I$ $a = 0.773964 - 0.994985I$ $b = -0.293096 + 0.568530I$	$12.16880 - 3.90877I$	0
$u = 0.04727 - 1.70037I$ $a = 0.773964 + 0.994985I$ $b = -0.293096 - 0.568530I$	$12.16880 + 3.90877I$	0
$u = -0.04403 + 1.71169I$ $a = -0.862384 + 0.143078I$ $b = 0.777918 - 0.358196I$	$12.24730 - 2.60627I$	0
$u = -0.04403 - 1.71169I$ $a = -0.862384 - 0.143078I$ $b = 0.777918 + 0.358196I$	$12.24730 + 2.60627I$	0
$u = 0.09386 + 1.71659I$ $a = 0.557242 + 0.039274I$ $b = -0.436861 - 0.204497I$	$12.44500 - 3.65355I$	0
$u = 0.09386 - 1.71659I$ $a = 0.557242 - 0.039274I$ $b = -0.436861 + 0.204497I$	$12.44500 + 3.65355I$	0
$u = -0.227727 + 0.143186I$ $a = 0.68923 + 2.57241I$ $b = -0.409517 - 0.070127I$	$1.51335 + 0.46670I$	$5.87267 + 0.92101I$
$u = -0.227727 - 0.143186I$ $a = 0.68923 - 2.57241I$ $b = -0.409517 + 0.070127I$	$1.51335 - 0.46670I$	$5.87267 - 0.92101I$

II.

$\boldsymbol{I_2^u = \langle -u^{17}-u^{16}+\cdots+b-7u,\ u^{19}+u^{18}+\cdots+a-2,\ u^{20}+u^{19}+\cdots+14u^2+1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{19} - u^{18} + \cdots - 12u + 2 \\ u^{17} + u^{16} + \cdots + 4u^2 + 7u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{19} - u^{18} + \cdots - 5u + 2 \\ u^{17} + u^{16} + \cdots + 4u^2 + 7u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{19} + 2u^{18} + \cdots + 14u + 4 \\ -u^{18} - u^{17} + \cdots - 2u - 4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{19} + 3u^{18} + \cdots + 10u + 6 \\ 2u^{19} + u^{18} + \cdots + 7u - 4 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^8 - u^7 - 6u^6 - 5u^5 - 12u^4 - 8u^3 - 9u^2 - 4u - 2 \\ u^{16} + u^{15} + \cdots + 10u^2 + 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{19} - u^{18} + \cdots - 7u + 2 \\ 2u^{17} + 2u^{16} + \cdots + 6u^2 + 9u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -3u^{19} - 9u^{18} - 44u^{17} - 111u^{16} - 270u^{15} - 572u^{14} - 908u^{13} - 1603u^{12} - 1837u^{11} - 2667u^{10} - 2300u^9 - 2702u^8 - 1748u^7 - 1640u^6 - 743u^5 - 560u^4 - 146u^3 - 103u^2 - 6u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - 10u^{19} + \cdots - 12u + 1$
c_2	$u^{20} - 5u^{18} + \cdots - 6u^2 + 1$
c_3	$u^{20} + 10u^{18} + \cdots + 9u^2 + 1$
c_4, c_5	$u^{20} + u^{19} + \cdots + 14u^2 + 1$
c_6	$u^{20} - 3u^{17} + \cdots + u + 1$
c_7	$u^{20} - 5u^{18} + \cdots - 6u^2 + 1$
c_8	$u^{20} - 6u^{18} + \cdots + 8u + 1$
c_9	$u^{20} + 10u^{18} + \cdots + 9u^2 + 1$
c_{10}	$u^{20} - u^{19} + \cdots + 3u^3 + 1$
c_{11}, c_{12}	$u^{20} - u^{19} + \cdots + 14u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} + 10y^{19} + \cdots + 8y + 1$
c_2, c_7	$y^{20} - 10y^{19} + \cdots - 12y + 1$
c_3, c_9	$y^{20} + 20y^{19} + \cdots + 18y + 1$
c_4, c_5, c_{11} c_{12}	$y^{20} + 27y^{19} + \cdots + 28y + 1$
c_6	$y^{20} - 6y^{18} + \cdots + 3y + 1$
c_8	$y^{20} - 12y^{19} + \cdots - 10y + 1$
c_{10}	$y^{20} + 3y^{19} + \cdots - 6y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.438006+0.878445I$ $a=-0.935242-0.125364I$ $b=-0.021457+0.630340I$	$2.31296+2.05174I$	$1.17203-4.47545I$
$u=-0.438006-0.878445I$ $a=-0.935242+0.125364I$ $b=-0.021457-0.630340I$	$2.31296-2.05174I$	$1.17203+4.47545I$
$u=\ 0.241310+1.076970I$ $a=\ 0.672790-0.624640I$ $b=\ 0.261388+0.832933I$	$0.94665+3.41778I$	$-2.10963-2.67427I$
$u=\ 0.241310-1.076970I$ $a=\ 0.672790+0.624640I$ $b=\ 0.261388-0.832933I$	$0.94665-3.41778I$	$-2.10963+2.67427I$
$u=\ 0.029312+1.169850I$ $a=\ 0.211845-0.143345I$ $b=\ 0.111376+1.338970I$	$-1.39360-1.49675I$	$0.44989+5.16062I$
$u=\ 0.029312-1.169850I$ $a=\ 0.211845+0.143345I$ $b=\ 0.111376-1.338970I$	$-1.39360+1.49675I$	$0.44989-5.16062I$
$u=-0.515314+0.484534I$ $a=-0.69078+1.33867I$ $b=\ 0.367678+0.567298I$	$1.15434+1.40411I$	$1.21689-5.83578I$
$u=-0.515314-0.484534I$ $a=-0.69078-1.33867I$ $b=\ 0.367678-0.567298I$	$1.15434-1.40411I$	$1.21689+5.83578I$
$u=\ 0.267172+0.425868I$ $a=\ 2.48151+2.41051I$ $b=-0.445502+0.945152I$	$-1.14315-5.32835I$	$-2.85961+8.67698I$
$u=\ 0.267172-0.425868I$ $a=\ 2.48151-2.41051I$ $b=-0.445502-0.945152I$	$-1.14315+5.32835I$	$-2.85961-8.67698I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.00774 + 1.53980I$ $a = -0.44584 + 1.38603I$ $b = 0.12085 - 1.74311I$	$2.50021 + 1.15020I$	$-6.52944 - 0.32380I$
$u = 0.00774 - 1.53980I$ $a = -0.44584 - 1.38603I$ $b = 0.12085 + 1.74311I$	$2.50021 - 1.15020I$	$-6.52944 + 0.32380I$
$u = 0.08075 + 1.57466I$ $a = -1.88301 + 0.09310I$ $b = 0.611729 - 1.010130I$	$5.92468 - 6.59473I$	$0.68945 + 5.87752I$
$u = 0.08075 - 1.57466I$ $a = -1.88301 - 0.09310I$ $b = 0.611729 + 1.010130I$	$5.92468 + 6.59473I$	$0.68945 - 5.87752I$
$u = -0.14014 + 1.57579I$ $a = 1.45061 - 0.30552I$ $b = -0.741762 - 0.651616I$	$8.25947 + 3.73957I$	$5.13541 - 1.07329I$
$u = -0.14014 - 1.57579I$ $a = 1.45061 + 0.30552I$ $b = -0.741762 + 0.651616I$	$8.25947 - 3.73957I$	$5.13541 + 1.07329I$
$u = 0.028025 + 0.334471I$ $a = 1.61244 - 2.00478I$ $b = -0.11609 + 1.57293I$	$-4.11322 + 1.27469I$	$-11.22263 + 0.57420I$
$u = 0.028025 - 0.334471I$ $a = 1.61244 + 2.00478I$ $b = -0.11609 - 1.57293I$	$-4.11322 - 1.27469I$	$-11.22263 - 0.57420I$
$u = -0.06085 + 1.71955I$ $a = 0.525668 + 0.813049I$ $b = -0.148214 - 0.576831I$	$11.87060 + 3.80475I$	$-10.44237 - 1.53790I$
$u = -0.06085 - 1.71955I$ $a = 0.525668 - 0.813049I$ $b = -0.148214 + 0.576831I$	$11.87060 - 3.80475I$	$-10.44237 + 1.53790I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{20}-10u^{19}+\cdots-12u+1)(u^{98}+41u^{97}+\cdots+261481u+14641)$
c_2	$(u^{20}-5u^{18}+\cdots-6u^2+1)(u^{98}+u^{97}+\cdots+99u+121)$
c_3	$(u^{20}+10u^{18}+\cdots+9u^2+1)(u^{98}+u^{97}+\cdots-721u+97)$
c_4, c_5	$(u^{20}+u^{19}+\cdots+14u^2+1)(u^{98}-2u^{97}+\cdots-145u+19)$
c_6	$(u^{20}-3u^{17}+\cdots+u+1)(u^{98}+9u^{97}+\cdots+2276u+1393)$
c_7	$(u^{20}-5u^{18}+\cdots-6u^2+1)(u^{98}+u^{97}+\cdots+99u+121)$
c_8	$(u^{20}-6u^{18}+\cdots+8u+1)(u^{98}+11u^{97}+\cdots+75735u+8193)$
c_9	$(u^{20}+10u^{18}+\cdots+9u^2+1)(u^{98}+u^{97}+\cdots-721u+97)$
c_{10}	$(u^{20}-u^{19}+\cdots+3u^3+1)(u^{98}+2u^{96}+\cdots+35u+1)$
c_{11}, c_{12}	$(u^{20}-u^{19}+\cdots+14u^2+1)(u^{98}-2u^{97}+\cdots-145u+19)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{20}+10y^{19}+\cdots+8y+1)$ $\cdot(y^{98}+43y^{97}+\cdots+4650552599y+214358881)$
c_2, c_7	$(y^{20}-10y^{19}+\cdots-12y+1)(y^{98}-41y^{97}+\cdots-261481y+14641)$
c_3, c_9	$(y^{20}+20y^{19}+\cdots+18y+1)(y^{98}+57y^{97}+\cdots+98437y+9409)$
c_4, c_5, c_{11} c_{12}	$(y^{20}+27y^{19}+\cdots+28y+1)(y^{98}+120y^{97}+\cdots+9147y+361)$
c_6	$(y^{20}-6y^{18}+\cdots+3y+1)$ $\cdot(y^{98}-19y^{97}+\cdots-21330618y+1940449)$
c_8	$(y^{20}-12y^{19}+\cdots-10y+1)$ $\cdot(y^{98}-39y^{97}+\cdots-2930818359y+67125249)$
c_{10}	$(y^{20}+3y^{19}+\cdots-6y^2+1)(y^{98}+4y^{97}+\cdots-33y+1)$