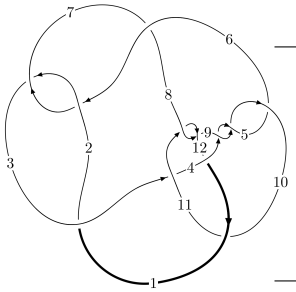
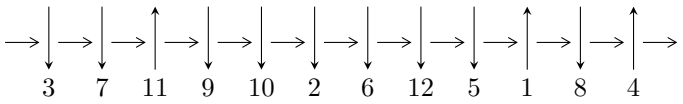
$12a_{0671}$ $(K12a_{0671})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.92237 \times 10^{100} u^{108} - 3.61566 \times 10^{100} u^{107} + \cdots + 1.78606 \times 10^{100} b - 3.08465 \times 10^{100},$$
$$- 2.89446 \times 10^{101} u^{108} - 5.42772 \times 10^{101} u^{107} + \cdots + 1.78606 \times 10^{100} a - 1.31985 \times 10^{101},$$
$$u^{109} + u^{108} + \cdots + 10u - 1 \rangle$$
$$I_2^u = \langle -u^{20} - u^{19} + \cdots + b - 3,\ -u^{22} + 2u^{21} + \cdots + a - 1,\ u^{23} - 5u^{21} + \cdots - 3u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 132 representations.

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

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

I. $\boldsymbol{I_1^u = \langle -1.92 \times 10^{100} u^{108} - 3.62 \times 10^{100} u^{107} + \cdots + 1.79 \times 10^{100} b - 3.08 \times 10^{100},\ -2.89 \times 10^{101} u^{108} - 5.43 \times 10^{101} u^{107} + \cdots + 1.79 \times 10^{100} a - 1.32 \times 10^{101},\ u^{109} + u^{108} + \cdots + 10u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 16.2058u^{108} + 30.3893u^{107} + \cdots - 103.585u + 7.38970 \\ 1.07632u^{108} + 2.02437u^{107} + \cdots - 24.4693u + 1.72707 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 16.1376u^{108} + 29.6267u^{107} + \cdots - 211.100u + 13.6064 \\ -0.507290u^{108} + 0.244275u^{107} + \cdots - 19.1382u + 2.40150 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 13.4025u^{108} + 25.0901u^{107} + \cdots - 70.9837u + 3.69015 \\ 2.66737u^{108} + 4.81907u^{107} + \cdots - 40.4827u + 3.47285 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3.92705u^{108} - 7.20511u^{107} + \cdots + 123.240u - 24.3039 \\ 0.837452u^{108} + 1.66048u^{107} + \cdots - 24.7677u + 2.01931 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 13.6961u^{108} + 25.6228u^{107} + \cdots - 64.9328u + 3.98819 \\ 4.49802u^{108} + 8.50763u^{107} + \cdots - 61.1198u + 5.92669 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 10.8262u^{108} + 20.1177u^{107} + \cdots - 241.671u + 34.8996 \\ 1.08067u^{108} + 3.65306u^{107} + \cdots - 4.07720u + 1.97100 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 11.1833u^{108} + 17.5047u^{107} + \cdots - 122.870u + 3.28325$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{109} + 37u^{108} + \cdots - 60u + 1$
c_2, c_6	$u^{109} - u^{108} + \cdots + 10u + 1$
c_3	$u^{109} - 2u^{108} + \cdots - 459u + 1$
c_4, c_5, c_9	$u^{109} + 2u^{108} + \cdots + 40u - 1$
c_8, c_{11}	$u^{109} - u^{108} + \cdots - 97637u - 7349$
c_{10}	$u^{109} + 18u^{108} + \cdots - 362u - 23$
c_{12}	$u^{109} + 9u^{108} + \cdots - 14547114u - 1528393$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{109} + 79y^{108} + \cdots - 2776y - 1$
c_2, c_6	$y^{109} - 37y^{108} + \cdots - 60y - 1$
c_3	$y^{109} - 6y^{108} + \cdots + 216063y - 1$
c_4, c_5, c_9	$y^{109} - 114y^{108} + \cdots + 452y - 1$
c_8, c_{11}	$y^{109} - 87y^{108} + \cdots + 1137045229y - 54007801$
c_{10}	$y^{109} - 2y^{108} + \cdots + 48520y - 529$
c_{12}	$y^{109} + 39y^{108} + \cdots - 12624874256492y - 2335985162449$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.757521 + 0.654861I$ $a = -2.38158 - 1.74417I$ $b = 0.08276 - 2.88669I$	$-7.43416 - 3.17097I$	0
$u = 0.757521 - 0.654861I$ $a = -2.38158 + 1.74417I$ $b = 0.08276 + 2.88669I$	$-7.43416 + 3.17097I$	0
$u = 0.729944 + 0.700232I$ $a = -2.08691 + 0.64492I$ $b = -1.57108 - 0.46927I$	$-6.85009 + 2.62379I$	0
$u = 0.729944 - 0.700232I$ $a = -2.08691 - 0.64492I$ $b = -1.57108 + 0.46927I$	$-6.85009 - 2.62379I$	0
$u = -0.780734 + 0.671106I$ $a = 1.84205 - 1.35198I$ $b = -1.00815 - 2.28812I$	$-7.08845 - 1.59430I$	0
$u = -0.780734 - 0.671106I$ $a = 1.84205 + 1.35198I$ $b = -1.00815 + 2.28812I$	$-7.08845 + 1.59430I$	0
$u = -0.968406 + 0.021685I$ $a = 0.127612 + 1.101330I$ $b = 1.49378 - 0.11378I$	$-11.75740 + 2.95734I$	0
$u = -0.968406 - 0.021685I$ $a = 0.127612 - 1.101330I$ $b = 1.49378 + 0.11378I$	$-11.75740 - 2.95734I$	0
$u = 0.548077 + 0.879929I$ $a = 1.154190 + 0.225490I$ $b = 0.448255 + 1.259180I$	$-1.42401 + 2.06555I$	0
$u = 0.548077 - 0.879929I$ $a = 1.154190 - 0.225490I$ $b = 0.448255 - 1.259180I$	$-1.42401 - 2.06555I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.754622+0.712142I$ $a=\ \ 0.836552-0.225810I$ $b=-0.126127+0.404393I$	$-6.45582+2.81407I$	0
$u=-0.754622-0.712142I$ $a=\ \ 0.836552+0.225810I$ $b=-0.126127-0.404393I$	$-6.45582-2.81407I$	0
$u=\ \ 0.946926+0.127529I$ $a=\ \ 0.303704+1.195290I$ $b=\ \ 0.994773-0.391677I$	$-4.71729-1.89289I$	0
$u=\ \ 0.946926-0.127529I$ $a=\ \ 0.303704-1.195290I$ $b=\ \ 0.994773+0.391677I$	$-4.71729+1.89289I$	0
$u=\ \ 1.021810+0.231255I$ $a=-0.33715-1.62559I$ $b=-0.192202-1.057940I$	$-7.48971-5.29882I$	0
$u=\ \ 1.021810-0.231255I$ $a=-0.33715+1.62559I$ $b=-0.192202+1.057940I$	$-7.48971+5.29882I$	0
$u=\ \ 0.664417+0.818130I$ $a=\ \ 0.0197069-0.0953946I$ $b=-0.304121-0.380597I$	$0.172315+1.189790I$	0
$u=\ \ 0.664417-0.818130I$ $a=\ \ 0.0197069+0.0953946I$ $b=-0.304121+0.380597I$	$0.172315-1.189790I$	0
$u=\ \ 0.942960+0.024224I$ $a=-1.61556+1.70960I$ $b=-1.75996+0.62059I$	$-11.32070+2.15172I$	0
$u=\ \ 0.942960-0.024224I$ $a=-1.61556-1.70960I$ $b=-1.75996-0.62059I$	$-11.32070-2.15172I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.667180+0.825815I$ $a=\ \ 1.223070-0.294645I$ $b=\ \ 0.43878-1.46808I$	$3.60134-0.88112I$	0
$u=-0.667180-0.825815I$ $a=\ \ 1.223070+0.294645I$ $b=\ \ 0.43878+1.46808I$	$3.60134+0.88112I$	0
$u=-0.910297+0.182675I$ $a=\ \ 0.05108+1.53159I$ $b=-0.012611+0.601094I$	$-1.11784+3.25568I$	0
$u=-0.910297-0.182675I$ $a=\ \ 0.05108-1.53159I$ $b=-0.012611-0.601094I$	$-1.11784-3.25568I$	0
$u=-0.916467+0.105962I$ $a=-1.47933+0.80832I$ $b=-1.295740+0.156353I$	$-4.63698+1.54505I$	0
$u=-0.916467-0.105962I$ $a=-1.47933-0.80832I$ $b=-1.295740-0.156353I$	$-4.63698-1.54505I$	0
$u=-1.045770+0.260850I$ $a=\ \ 0.425415-0.295608I$ $b=-0.361374+0.044575I$	$-7.36479+0.95992I$	0
$u=-1.045770-0.260850I$ $a=\ \ 0.425415+0.295608I$ $b=-0.361374-0.044575I$	$-7.36479-0.95992I$	0
$u=-0.746972+0.785182I$ $a=-1.62030+1.68357I$ $b=\ \ 0.52640+2.71040I$	$1.23609-0.96235I$	0
$u=-0.746972-0.785182I$ $a=-1.62030-1.68357I$ $b=\ \ 0.52640-2.71040I$	$1.23609+0.96235I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.874340+0.640439I$ $a=-1.66960-1.62311I$ $b=-2.20161-0.84243I$	$-2.14128+2.49432I$	0
$u=-0.874340-0.640439I$ $a=-1.66960+1.62311I$ $b=-2.20161+0.84243I$	$-2.14128-2.49432I$	0
$u=-1.070630+0.211523I$ $a=0.282338-0.931420I$ $b=0.737697+0.025450I$	$-5.45009+7.28829I$	0
$u=-1.070630-0.211523I$ $a=0.282338+0.931420I$ $b=0.737697-0.025450I$	$-5.45009-7.28829I$	0
$u=0.801613+0.741980I$ $a=1.177120+0.672387I$ $b=-0.31159+1.41483I$	$0.744030+0.275497I$	0
$u=0.801613-0.741980I$ $a=1.177120-0.672387I$ $b=-0.31159-1.41483I$	$0.744030-0.275497I$	0
$u=0.872388+0.660519I$ $a=0.736952+0.278844I$ $b=-0.149117-0.307104I$	$-1.81293-2.56112I$	0
$u=0.872388-0.660519I$ $a=0.736952-0.278844I$ $b=-0.149117+0.307104I$	$-1.81293+2.56112I$	0
$u=-0.820702+0.731951I$ $a=1.48065-0.83125I$ $b=0.60292-2.46462I$	$3.23107+1.73998I$	0
$u=-0.820702-0.731951I$ $a=1.48065+0.83125I$ $b=0.60292+2.46462I$	$3.23107-1.73998I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.708595 + 0.849766I$ $a = -1.32481 - 1.23680I$ $b = 0.45487 - 2.33477I$	$1.63542 + 7.05819I$	0
$u = 0.708595 - 0.849766I$ $a = -1.32481 + 1.23680I$ $b = 0.45487 + 2.33477I$	$1.63542 - 7.05819I$	0
$u = 0.766882 + 0.798279I$ $a = 1.117560 + 0.523483I$ $b = 0.33869 + 2.07687I$	$5.09592 + 1.88312I$	0
$u = 0.766882 - 0.798279I$ $a = 1.117560 - 0.523483I$ $b = 0.33869 - 2.07687I$	$5.09592 - 1.88312I$	0
$u = -0.666831 + 0.886363I$ $a = -1.29237 + 0.96663I$ $b = 0.32549 + 2.22228I$	$-5.21668 - 11.49540I$	0
$u = -0.666831 - 0.886363I$ $a = -1.29237 - 0.96663I$ $b = 0.32549 - 2.22228I$	$-5.21668 + 11.49540I$	0
$u = -0.730286 + 0.840472I$ $a = 0.962529 - 0.334195I$ $b = 0.24024 - 1.99358I$	$-0.47926 - 4.63607I$	0
$u = -0.730286 - 0.840472I$ $a = 0.962529 + 0.334195I$ $b = 0.24024 + 1.99358I$	$-0.47926 + 4.63607I$	0
$u = -0.203735 + 0.847268I$ $a = -0.913823 - 0.702131I$ $b = -0.518050 + 0.019884I$	$-7.91294 + 7.70080I$	0
$u = -0.203735 - 0.847268I$ $a = -0.913823 + 0.702131I$ $b = -0.518050 - 0.019884I$	$-7.91294 - 7.70080I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.071400 + 0.359084I$ $a = -0.844959 + 0.309902I$ $b = -0.831384 + 0.443664I$	$-4.60132 + 0.47894I$	0
$u = 1.071400 - 0.359084I$ $a = -0.844959 - 0.309902I$ $b = -0.831384 - 0.443664I$	$-4.60132 - 0.47894I$	0
$u = -0.933882 + 0.673532I$ $a = -2.29363 - 0.35276I$ $b = -1.72152 + 2.45983I$	$-7.56388 + 6.81266I$	0
$u = -0.933882 - 0.673532I$ $a = -2.29363 + 0.35276I$ $b = -1.72152 - 2.45983I$	$-7.56388 - 6.81266I$	0
$u = 0.944981 + 0.664181I$ $a = 2.63039 + 0.99923I$ $b = 1.49622 + 3.27706I$	$-8.01374 - 1.97896I$	0
$u = 0.944981 - 0.664181I$ $a = 2.63039 - 0.99923I$ $b = 1.49622 - 3.27706I$	$-8.01374 + 1.97896I$	0
$u = -0.825360 + 0.810730I$ $a = -0.351958 + 0.038361I$ $b = -0.461158 + 0.784953I$	$3.69246 + 2.73336I$	0
$u = -0.825360 - 0.810730I$ $a = -0.351958 - 0.038361I$ $b = -0.461158 - 0.784953I$	$3.69246 - 2.73336I$	0
$u = -0.914569 + 0.714983I$ $a = -2.01266 + 1.15756I$ $b = -0.42735 + 2.28739I$	$2.94037 + 3.78002I$	0
$u = -0.914569 - 0.714983I$ $a = -2.01266 - 1.15756I$ $b = -0.42735 - 2.28739I$	$2.94037 - 3.78002I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.803599 + 0.854536I$ $a = 1.147680 + 0.373908I$ $b = 0.242272 + 1.334430I$	$0.412018 - 0.093629I$	0
$u = 0.803599 - 0.854536I$ $a = 1.147680 - 0.373908I$ $b = 0.242272 - 1.334430I$	$0.412018 + 0.093629I$	0
$u = 1.158320 + 0.190368I$ $a = 0.167754 + 0.893444I$ $b = 0.764203 + 0.173838I$	$-12.5905 - 10.9283I$	0
$u = 1.158320 - 0.190368I$ $a = 0.167754 - 0.893444I$ $b = 0.764203 - 0.173838I$	$-12.5905 + 10.9283I$	0
$u = 1.17539$ $a = 0.146207$ $b = -0.458837$	-2.69505	0
$u = -0.952369 + 0.691740I$ $a = 0.681656 - 0.231065I$ $b = -0.228720 + 0.289424I$	$-7.05734 + 2.58024I$	0
$u = -0.952369 - 0.691740I$ $a = 0.681656 + 0.231065I$ $b = -0.228720 - 0.289424I$	$-7.05734 - 2.58024I$	0
$u = 0.961775 + 0.681851I$ $a = -0.53426 + 1.66060I$ $b = -1.36616 + 1.77671I$	$-7.54900 - 7.95504I$	0
$u = 0.961775 - 0.681851I$ $a = -0.53426 - 1.66060I$ $b = -1.36616 - 1.77671I$	$-7.54900 + 7.95504I$	0
$u = 0.818966 + 0.001554I$ $a = 0.580471 - 0.902945I$ $b = -0.152851 - 0.091712I$	$-1.210960 - 0.096547I$	$-9.04698 - 0.49427I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.818966 - 0.001554I$ $a = 0.580471 + 0.902945I$ $b = -0.152851 + 0.091712I$	$-1.210960 + 0.096547I$	$-9.04698 + 0.49427I$
$u = 0.942952 + 0.731192I$ $a = -1.396530 - 0.114290I$ $b = -0.91940 - 1.78644I$	$0.31573 - 5.89812I$	0
$u = 0.942952 - 0.731192I$ $a = -1.396530 + 0.114290I$ $b = -0.91940 + 1.78644I$	$0.31573 + 5.89812I$	0
$u = -0.927838 + 0.761144I$ $a = 0.785208 - 0.313176I$ $b = 0.127500 - 0.639227I$	$3.36844 + 3.15964I$	0
$u = -0.927838 - 0.761144I$ $a = 0.785208 + 0.313176I$ $b = 0.127500 + 0.639227I$	$3.36844 - 3.15964I$	0
$u = -0.976002 + 0.728365I$ $a = 2.62210 - 0.71878I$ $b = 1.73953 - 2.92434I$	$0.53617 + 6.68025I$	0
$u = -0.976002 - 0.728365I$ $a = 2.62210 + 0.71878I$ $b = 1.73953 + 2.92434I$	$0.53617 - 6.68025I$	0
$u = 0.968498 + 0.743013I$ $a = -1.79542 - 0.92011I$ $b = -0.34001 - 2.09047I$	$4.47723 - 7.68572I$	0
$u = 0.968498 - 0.743013I$ $a = -1.79542 + 0.92011I$ $b = -0.34001 + 2.09047I$	$4.47723 + 7.68572I$	0
$u = -1.24354$ $a = -0.295996$ $b = -0.455578$	-6.34486	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.163740+0.461882I$ $a=-0.588565-0.524656I$ $b=-0.625090-0.695124I$	$-10.96190-2.93658I$	0
$u=-1.163740-0.461882I$ $a=-0.588565+0.524656I$ $b=-0.625090+0.695124I$	$-10.96190+2.93658I$	0
$u=\ \ 0.950969+0.815183I$ $a=-0.842568-0.412919I$ $b=-0.40778-1.48632I$	$-0.03050-6.07730I$	0
$u=\ \ 0.950969-0.815183I$ $a=-0.842568+0.412919I$ $b=-0.40778+1.48632I$	$-0.03050+6.07730I$	0
$u=-1.003750+0.750910I$ $a=-1.74420+0.88401I$ $b=-0.21123+2.09136I$	$-1.32070+10.58130I$	0
$u=-1.003750-0.750910I$ $a=-1.74420-0.88401I$ $b=-0.21123-2.09136I$	$-1.32070-10.58130I$	0
$u=-1.25820$ $a=\ \ 0.284074$ $b=-0.465152$	-8.00030	0
$u=\ \ 1.027540+0.728234I$ $a=\ \ 0.543272+0.238605I$ $b=\ \ 0.182750+0.291395I$	$-0.91543-7.00074I$	0
$u=\ \ 1.027540-0.728234I$ $a=\ \ 0.543272-0.238605I$ $b=\ \ 0.182750-0.291395I$	$-0.91543+7.00074I$	0
$u=\ \ 1.017960+0.746887I$ $a=\ \ 2.25197+0.69689I$ $b=\ \ 1.39089+2.59915I$	$0.68520-13.01410I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.017960 - 0.746887I$ $a = 2.25197 - 0.69689I$ $b = 1.39089 - 2.59915I$	$0.68520 + 13.01410I$	0
$u = -1.033980 + 0.727418I$ $a = -1.17694 + 0.90389I$ $b = -0.30445 + 1.89924I$	$2.49119 + 6.71148I$	0
$u = -1.033980 - 0.727418I$ $a = -1.17694 - 0.90389I$ $b = -0.30445 - 1.89924I$	$2.49119 - 6.71148I$	0
$u = 0.108092 + 0.727423I$ $a = -0.705735 + 1.003590I$ $b = -0.527076 + 0.119547I$	$-1.57724 - 4.30851I$	$-5.52161 + 6.58902I$
$u = 0.108092 - 0.727423I$ $a = -0.705735 - 1.003590I$ $b = -0.527076 - 0.119547I$	$-1.57724 + 4.30851I$	$-5.52161 - 6.58902I$
$u = -1.051310 + 0.744994I$ $a = 2.08694 - 0.83411I$ $b = 1.12414 - 2.59974I$	$-6.4016 + 17.5413I$	0
$u = -1.051310 - 0.744994I$ $a = 2.08694 + 0.83411I$ $b = 1.12414 + 2.59974I$	$-6.4016 - 17.5413I$	0
$u = 1.093810 + 0.705186I$ $a = -0.99628 - 1.06833I$ $b = -0.21003 - 1.86783I$	$-3.06078 - 7.93711I$	0
$u = 1.093810 - 0.705186I$ $a = -0.99628 + 1.06833I$ $b = -0.21003 + 1.86783I$	$-3.06078 + 7.93711I$	0
$u = -0.029661 + 0.692248I$ $a = 1.018070 + 0.036268I$ $b = 0.263082 + 0.549286I$	$-4.07915 + 2.29856I$	$-6.57680 - 3.02901I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.029661-0.692248I$ $a=\ \ 1.018070-0.036268I$ $b=\ \ 0.263082-0.549286I$	$-4.07915-2.29856I$	$-6.57680+3.02901I$
$u=\ \ 0.578823$ $a=\ \ 0.741496$ $b=\ \ 1.55224$	-0.192881	-16.6490
$u=-0.092449+0.484993I$ $a=\ \ 1.041030-0.007572I$ $b=\ \ 0.568714-0.349700I$	$1.36305-0.94955I$	$2.45800+2.47868I$
$u=-0.092449-0.484993I$ $a=\ \ 1.041030+0.007572I$ $b=\ \ 0.568714+0.349700I$	$1.36305+0.94955I$	$2.45800-2.47868I$
$u=\ \ 0.452989$ $a=\ \ 1.07847$ $b=-0.150343$	-0.830225	-12.7340
$u=\ \ 0.019446+0.429177I$ $a=\ \ 0.09959-2.20834I$ $b=-0.513030-0.399473I$	$-1.93503+0.05091I$	$-6.94725+0.20740I$
$u=\ \ 0.019446-0.429177I$ $a=\ \ 0.09959+2.20834I$ $b=-0.513030+0.399473I$	$-1.93503-0.05091I$	$-6.94725-0.20740I$
$u=\ \ 0.0597196+0.1121540I$ $a=-7.86863+7.87250I$ $b=-0.536157-1.042880I$	$-8.63048-2.56248I$	$-10.54077-0.24573I$
$u=\ \ 0.0597196-0.1121540I$ $a=-7.86863-7.87250I$ $b=-0.536157+1.042880I$	$-8.63048+2.56248I$	$-10.54077+0.24573I$

II.

$\boldsymbol{I_2^u = \langle -u^{20}-u^{19}+\cdots+b-3,\ -u^{22}+2u^{21}+\cdots+a-1,\ u^{23}-5u^{21}+\cdots-3u+1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{22} - 2u^{21} + \cdots - 7u + 1 \\ u^{20} + u^{19} + \cdots - 4u + 3 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2u^{22} + u^{21} + \cdots + 10u + 1 \\ u^{22} - 5u^{20} + \cdots + 2u - 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{22} - 2u^{21} + \cdots - 9u^2 - 4u \\ -u^{21} + u^{20} + \cdots - 4u + 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3u^{22} + 3u^{21} + \cdots + 10u - 3 \\ -3u^{22} + 14u^{20} + \cdots + 9u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{22} - u^{21} + \cdots - 2u - 2 \\ -u^{18} + 3u^{16} + \cdots - 2u + 2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -4u^{21} + u^{20} + \cdots - 3u + 4 \\ u^{22} - 3u^{21} + \cdots - 10u + 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -7u^{22}-u^{21}+36u^{20}-3u^{19}-117u^{18}+18u^{17}+265u^{16}-67u^{15}-458u^{14}+154u^{13}+631u^{12}-260u^{11}-695u^{10}+340u^9+619u^8-336u^7-430u^6+251u^5+220u^4-130u^3-71u^2+35u-2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - 10u^{22} + \cdots + 23u - 1$
c_2	$u^{23} - 5u^{21} + \cdots - 3u + 1$
c_3	$u^{23} + u^{22} + \cdots - 4u - 1$
c_4, c_5	$u^{23} + u^{22} + \cdots - 3u - 1$
c_6	$u^{23} - 5u^{21} + \cdots - 3u - 1$
c_7	$u^{23} + 10u^{22} + \cdots + 23u + 1$
c_8	$u^{23} + 4u^{22} + \cdots - 12u^2 + 1$
c_9	$u^{23} - u^{22} + \cdots - 3u + 1$
c_{10}	$u^{23} - u^{22} + \cdots + 5u + 1$
c_{11}	$u^{23} - 4u^{22} + \cdots + 12u^2 - 1$
c_{12}	$u^{23} - 4u^{22} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{23} + 14y^{22} + \cdots + 179y - 1$
c_2, c_6	$y^{23} - 10y^{22} + \cdots + 23y - 1$
c_3	$y^{23} + y^{22} + \cdots + 6y - 1$
c_4, c_5, c_9	$y^{23} - 27y^{22} + \cdots + 7y - 1$
c_8, c_{11}	$y^{23} - 24y^{22} + \cdots + 24y - 1$
c_{10}	$y^{23} + y^{22} + \cdots + 23y - 1$
c_{12}	$y^{23} - 6y^{22} + \cdots - y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.960230+0.247738I$ $a=-0.445421-0.857887I$ $b=-1.22857-1.02551I$	$-10.05340-1.12097I$	$-13.32091-0.98428I$
$u=-0.960230-0.247738I$ $a=-0.445421+0.857887I$ $b=-1.22857+1.02551I$	$-10.05340+1.12097I$	$-13.32091+0.98428I$
$u=0.819933+0.661161I$ $a=2.49158+0.93915I$ $b=0.22799+2.02762I$	$-7.17279+0.56278I$	$-10.70035+2.99996I$
$u=0.819933-0.661161I$ $a=2.49158-0.93915I$ $b=0.22799-2.02762I$	$-7.17279-0.56278I$	$-10.70035-2.99996I$
$u=-0.738987+0.776088I$ $a=1.54837-0.74664I$ $b=0.30338-2.02562I$	$2.89135+0.01929I$	$-5.10768-1.05060I$
$u=-0.738987-0.776088I$ $a=1.54837+0.74664I$ $b=0.30338+2.02562I$	$2.89135-0.01929I$	$-5.10768+1.05060I$
$u=0.626664+0.874633I$ $a=0.679915+0.210529I$ $b=0.302668+1.034050I$	$0.85084+1.83901I$	$-3.05731-3.59039I$
$u=0.626664-0.874633I$ $a=0.679915-0.210529I$ $b=0.302668-1.034050I$	$0.85084-1.83901I$	$-3.05731+3.59039I$
$u=-0.867766+0.676830I$ $a=1.102970+0.481941I$ $b=0.803757+0.484383I$	$-1.13113+2.61495I$	$-2.02389-3.77185I$
$u=-0.867766-0.676830I$ $a=1.102970-0.481941I$ $b=0.803757-0.484383I$	$-1.13113-2.61495I$	$-2.02389+3.77185I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.11398$ $a = \quad 0.0770912$ $b = -0.605386$	-2.92512	-22.8200
$u = \quad 0.912182 + 0.656074I$ $a = -1.26157 - 0.67309I$ $b = -0.45247 - 2.56173I$	$-7.46677 - 5.68039I$	$-10.93348 + 3.53167I$
$u = \quad 0.912182 - 0.656074I$ $a = -1.26157 + 0.67309I$ $b = -0.45247 + 2.56173I$	$-7.46677 + 5.68039I$	$-10.93348 - 3.53167I$
$u = \quad 0.829536 + 0.188784I$ $a = -1.42070 - 0.44554I$ $b = -1.070560 + 0.384071I$	$-3.88437 - 0.86790I$	$-11.41308 - 0.75638I$
$u = \quad 0.829536 - 0.188784I$ $a = -1.42070 + 0.44554I$ $b = -1.070560 - 0.384071I$	$-3.88437 + 0.86790I$	$-11.41308 + 0.75638I$
$u = -0.745541 + 0.273275I$ $a = -2.60016 + 1.02472I$ $b = -0.518795 + 0.751084I$	$-9.23121 + 3.43605I$	$-15.5954 - 5.1539I$
$u = -0.745541 - 0.273275I$ $a = -2.60016 - 1.02472I$ $b = -0.518795 - 0.751084I$	$-9.23121 - 3.43605I$	$-15.5954 + 5.1539I$
$u = -0.981898 + 0.726177I$ $a = -1.65996 + 0.88439I$ $b = -0.68579 + 2.28734I$	$2.15154 + 5.67157I$	$-6.20081 - 3.57747I$
$u = -0.981898 - 0.726177I$ $a = -1.65996 - 0.88439I$ $b = -0.68579 - 2.28734I$	$2.15154 - 5.67157I$	$-6.20081 + 3.57747I$
$u = -1.29626$ $a = \quad 0.174740$ $b = -0.206960$	-6.05347	4.81490

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.060990 + 0.746848I$ $a = -0.941055 - 0.587804I$ $b = -0.273001 - 1.296020I$	$-0.44369 - 7.85664I$	$-6.66007 + 9.03938I$
$u = \quad 1.060990 - 0.746848I$ $a = -0.941055 + 0.587804I$ $b = -0.273001 + 1.296020I$	$-0.44369 + 7.85664I$	$-6.66007 - 9.03938I$
$u = \quad 0.272505$ $a = -1.23978$ $b = \quad 0.995105$	0.290959	1.03140

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{23}-10u^{22}+\cdots+23u-1)(u^{109}+37u^{108}+\cdots-60u+1)$
c_2	$(u^{23}-5u^{21}+\cdots-3u+1)(u^{109}-u^{108}+\cdots+10u+1)$
c_3	$(u^{23}+u^{22}+\cdots-4u-1)(u^{109}-2u^{108}+\cdots-459u+1)$
c_4, c_5	$(u^{23}+u^{22}+\cdots-3u-1)(u^{109}+2u^{108}+\cdots+40u-1)$
c_6	$(u^{23}-5u^{21}+\cdots-3u-1)(u^{109}-u^{108}+\cdots+10u+1)$
c_7	$(u^{23}+10u^{22}+\cdots+23u+1)(u^{109}+37u^{108}+\cdots-60u+1)$
c_8	$(u^{23}+4u^{22}+\cdots-12u^2+1)(u^{109}-u^{108}+\cdots-97637u-7349)$
c_9	$(u^{23}-u^{22}+\cdots-3u+1)(u^{109}+2u^{108}+\cdots+40u-1)$
c_{10}	$(u^{23}-u^{22}+\cdots+5u+1)(u^{109}+18u^{108}+\cdots-362u-23)$
c_{11}	$(u^{23}-4u^{22}+\cdots+12u^2-1)(u^{109}-u^{108}+\cdots-97637u-7349)$
c_{12}	$(u^{23}-4u^{22}+\cdots-u+1)(u^{109}+9u^{108}+\cdots-1.45471\times10^7u-1528393)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^{23} + 14y^{22} + \cdots + 179y - 1)(y^{109} + 79y^{108} + \cdots - 2776y - 1)$
c_2, c_6	$(y^{23} - 10y^{22} + \cdots + 23y - 1)(y^{109} - 37y^{108} + \cdots - 60y - 1)$
c_3	$(y^{23} + y^{22} + \cdots + 6y - 1)(y^{109} - 6y^{108} + \cdots + 216063y - 1)$
c_4, c_5, c_9	$(y^{23} - 27y^{22} + \cdots + 7y - 1)(y^{109} - 114y^{108} + \cdots + 452y - 1)$
c_8, c_{11}	$(y^{23} - 24y^{22} + \cdots + 24y - 1)$ $\cdot (y^{109} - 87y^{108} + \cdots + 1137045229y - 54007801)$
c_{10}	$(y^{23} + y^{22} + \cdots + 23y - 1)(y^{109} - 2y^{108} + \cdots + 48520y - 529)$
c_{12}	$(y^{23} - 6y^{22} + \cdots - y - 1)$ $\cdot (y^{109} + 39y^{108} + \cdots - 12624874256492y - 2335985162449)$