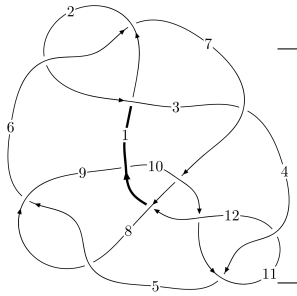
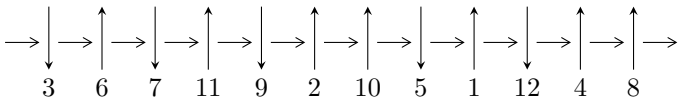
$12a_{0261}$ $(K12a_{0261})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -8.93536 \times 10^{235} u^{147} + 2.60233 \times 10^{236} u^{146} + \cdots + 1.61998 \times 10^{236} b - 4.36700 \times 10^{235},$$
$$- 5.05436 \times 10^{236} u^{147} + 9.67804 \times 10^{236} u^{146} + \cdots + 1.61998 \times 10^{236} a - 1.50588 \times 10^{236},$$
$$u^{148} - 2u^{147} + \cdots - u + 1 \rangle$$
$$I_2^u = \langle -2u^{27} - u^{26} + \cdots + b - 1,\ -u^{27} + 2u^{26} + \cdots + a + 2,\ u^{28} - u^{27} + \cdots - u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 176 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. $\boldsymbol{I_1^u = \langle -8.94 \times 10^{235} u^{147} + 2.60 \times 10^{236} u^{146} + \cdots + 1.62 \times 10^{236} b - 4.37 \times 10^{235},\ -5.05 \times 10^{236} u^{147} + 9.68 \times 10^{236} u^{146} + \cdots + 1.62 \times 10^{236} a - 1.51 \times 10^{236},\ u^{148} - 2u^{147} + \cdots - u + 1 \rangle}$

(i) Arc colorings

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 3.12001u^{147} - 5.97417u^{146} + \cdots + 5.16617u + 0.929564 \\ 0.551572u^{147} - 1.60639u^{146} + \cdots + 6.60221u + 0.269571 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 4.90742u^{147} - 9.88405u^{146} + \cdots + 10.2567u + 2.03757 \\ 2.74186u^{147} - 5.25117u^{146} + \cdots + 8.07769u - 0.659708 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.44700u^{147} + 7.67545u^{146} + \cdots - 9.69461u - 4.30138 \\ 0.766780u^{147} - 0.0367417u^{146} + \cdots - 4.96169u + 0.0605707 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -8.83933u^{147} + 17.8206u^{146} + \cdots - 16.2453u - 4.37980 \\ -5.65335u^{147} + 10.1649u^{146} + \cdots - 8.27590u + 3.13104 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.17140u^{147} - 3.95676u^{146} + \cdots + 19.3209u - 11.3326 \\ -3.30282u^{147} + 6.39633u^{146} + \cdots + 3.20990u - 0.536014 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0723142u^{147} - 1.55046u^{146} + \cdots + 13.5943u - 10.7505 \\ -5.50146u^{147} + 9.54017u^{146} + \cdots + 1.68224u + 0.127919 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.08525u^{147} + 1.56569u^{146} + \cdots + 11.7001u + 5.09065$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{148} + 76u^{147} + \cdots + 11u + 1$
c_2, c_6	$u^{148} - 2u^{147} + \cdots - u + 1$
c_3	$u^{148} + 2u^{147} + \cdots - 7627619u + 456713$
c_4, c_{11}	$u^{148} + 34u^{146} + \cdots + u + 1$
c_5, c_8	$u^{148} - u^{147} + \cdots + 24734u + 1843$
c_7	$u^{148} + 23u^{147} + \cdots + 58u + 1$
c_9	$u^{148} + 13u^{147} + \cdots + 1242562u + 100697$
c_{10}	$u^{148} + 68u^{147} + \cdots + 19u + 1$
c_{12}	$u^{148} - 3u^{147} + \cdots + 52u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{148} - 4y^{147} + \cdots + 103y + 1$
c_2, c_6	$y^{148} + 76y^{147} + \cdots + 11y + 1$
c_3	$y^{148} - 84y^{147} + \cdots - 9230611190501y + 208586764369$
c_4, c_{11}	$y^{148} + 68y^{147} + \cdots + 19y + 1$
c_5, c_8	$y^{148} - 113y^{147} + \cdots - 509628010y + 3396649$
c_7	$y^{148} - 5y^{147} + \cdots - 358y + 1$
c_9	$y^{148} + 35y^{147} + \cdots + 1833695584058y + 10139885809$
c_{10}	$y^{148} + 36y^{147} + \cdots + 171y + 1$
c_{12}	$y^{148} + 7y^{147} + \cdots - 98y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.094195+0.999336I$ $a=\ \ 0.328602+1.117010I$ $b=\ \ 0.137573+1.237080I$	$-3.16447+2.18690I$	0
$u=-0.094195-0.999336I$ $a=\ \ 0.328602-1.117010I$ $b=\ \ 0.137573-1.237080I$	$-3.16447-2.18690I$	0
$u=\ \ 0.978749+0.166975I$ $a=-1.062100+0.222854I$ $b=\ \ 0.688357-0.219779I$	$-3.72173+1.72799I$	0
$u=\ \ 0.978749-0.166975I$ $a=-1.062100-0.222854I$ $b=\ \ 0.688357+0.219779I$	$-3.72173-1.72799I$	0
$u=\ \ 0.975795+0.323601I$ $a=-1.196330+0.307608I$ $b=\ \ 0.647571+0.063171I$	$-3.83865-4.09059I$	0
$u=\ \ 0.975795-0.323601I$ $a=-1.196330-0.307608I$ $b=\ \ 0.647571-0.063171I$	$-3.83865+4.09059I$	0
$u=-0.507310+0.823566I$ $a=-0.492109-1.107460I$ $b=-1.46561-1.24894I$	$-4.54359-4.56469I$	0
$u=-0.507310-0.823566I$ $a=-0.492109+1.107460I$ $b=-1.46561+1.24894I$	$-4.54359+4.56469I$	0
$u=-0.849870+0.428582I$ $a=\ \ 1.272750+0.396740I$ $b=-0.341656+0.132103I$	$-2.83362+0.78922I$	0
$u=-0.849870-0.428582I$ $a=\ \ 1.272750-0.396740I$ $b=-0.341656-0.132103I$	$-2.83362-0.78922I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.598151 + 0.864715I$ $a = 0.372791 + 0.774854I$ $b = 0.53248 + 1.50869I$	$2.23245 - 1.64680I$	0
$u = 0.598151 - 0.864715I$ $a = 0.372791 - 0.774854I$ $b = 0.53248 - 1.50869I$	$2.23245 + 1.64680I$	0
$u = -0.230852 + 1.041610I$ $a = -0.051708 + 0.534460I$ $b = -0.390975 + 0.018729I$	$-3.72477 + 1.28933I$	0
$u = -0.230852 - 1.041610I$ $a = -0.051708 - 0.534460I$ $b = -0.390975 - 0.018729I$	$-3.72477 - 1.28933I$	0
$u = 0.614295 + 0.699956I$ $a = 0.995978 + 0.461045I$ $b = -0.204773 + 0.104363I$	$2.70556 + 6.39419I$	0
$u = 0.614295 - 0.699956I$ $a = 0.995978 - 0.461045I$ $b = -0.204773 - 0.104363I$	$2.70556 - 6.39419I$	0
$u = 0.705243 + 0.804106I$ $a = 0.355815 - 1.028880I$ $b = 0.442914 - 1.019280I$	$1.67100 + 6.12333I$	0
$u = 0.705243 - 0.804106I$ $a = 0.355815 + 1.028880I$ $b = 0.442914 + 1.019280I$	$1.67100 - 6.12333I$	0
$u = -0.302256 + 0.876460I$ $a = 0.038881 + 0.179502I$ $b = 1.33544 + 1.59186I$	$0.94391 - 1.34144I$	0
$u = -0.302256 - 0.876460I$ $a = 0.038881 - 0.179502I$ $b = 1.33544 - 1.59186I$	$0.94391 + 1.34144I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.457920 + 0.801622I$ $a = 0.568224 + 0.576181I$ $b = -0.150439 + 0.781837I$	$0.05173 + 1.90170I$	0
$u = 0.457920 - 0.801622I$ $a = 0.568224 - 0.576181I$ $b = -0.150439 - 0.781837I$	$0.05173 - 1.90170I$	0
$u = -0.551452 + 0.925329I$ $a = -0.217913 + 0.770096I$ $b = -0.32932 + 1.93065I$	$2.92622 - 2.93528I$	0
$u = -0.551452 - 0.925329I$ $a = -0.217913 - 0.770096I$ $b = -0.32932 - 1.93065I$	$2.92622 + 2.93528I$	0
$u = 0.729923 + 0.799401I$ $a = -0.834437 + 0.472703I$ $b = -0.406020 + 0.328911I$	$1.70561 - 0.73296I$	0
$u = 0.729923 - 0.799401I$ $a = -0.834437 - 0.472703I$ $b = -0.406020 - 0.328911I$	$1.70561 + 0.73296I$	0
$u = 0.877976 + 0.242939I$ $a = 1.65181 + 0.19080I$ $b = -0.723758 + 0.321601I$	$-3.7523 - 14.2406I$	0
$u = 0.877976 - 0.242939I$ $a = 1.65181 - 0.19080I$ $b = -0.723758 - 0.321601I$	$-3.7523 + 14.2406I$	0
$u = -0.412626 + 1.022700I$ $a = 0.791782 + 0.699635I$ $b = -0.367077 + 0.591343I$	$-2.37666 + 1.92149I$	0
$u = -0.412626 - 1.022700I$ $a = 0.791782 - 0.699635I$ $b = -0.367077 - 0.591343I$	$-2.37666 - 1.92149I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.803777+0.761287I$ $a=\ \ 0.942167+0.420110I$ $b=\ \ 0.277599+0.467456I$	$0.26947+5.93833I$	0
$u=-0.803777-0.761287I$ $a=\ \ 0.942167-0.420110I$ $b=\ \ 0.277599-0.467456I$	$0.26947-5.93833I$	0
$u=-0.845808+0.256301I$ $a=-1.60157+0.15845I$ $b=\ \ 0.624980+0.413153I$	$-1.42164+8.51643I$	0
$u=-0.845808-0.256301I$ $a=-1.60157-0.15845I$ $b=\ \ 0.624980-0.413153I$	$-1.42164-8.51643I$	0
$u=-0.271784+0.829466I$ $a=-0.581523+1.279840I$ $b=\ \ 0.952850+0.719603I$	$-2.40401-6.32586I$	0
$u=-0.271784-0.829466I$ $a=-0.581523-1.279840I$ $b=\ \ 0.952850-0.719603I$	$-2.40401+6.32586I$	0
$u=\ \ 0.327173+0.807475I$ $a=\ \ 0.416283+0.881244I$ $b=-0.362159+0.639328I$	$-0.30820+1.83950I$	0
$u=\ \ 0.327173-0.807475I$ $a=\ \ 0.416283-0.881244I$ $b=-0.362159-0.639328I$	$-0.30820-1.83950I$	0
$u=-0.732313+0.859267I$ $a=-0.336296-1.067240I$ $b=-0.253821-1.257030I$	$-0.05820-11.61000I$	0
$u=-0.732313-0.859267I$ $a=-0.336296+1.067240I$ $b=-0.253821+1.257030I$	$-0.05820+11.61000I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.538512 + 0.994874I$ $a = -0.334765 + 0.503156I$ $b = -0.832714 - 0.173183I$	$0.40241 + 2.45854I$	0
$u = 0.538512 - 0.994874I$ $a = -0.334765 - 0.503156I$ $b = -0.832714 + 0.173183I$	$0.40241 - 2.45854I$	0
$u = -0.570545 + 0.631994I$ $a = -1.025060 + 0.277355I$ $b = 0.496332 + 0.064601I$	$3.77932 - 1.54987I$	0
$u = -0.570545 - 0.631994I$ $a = -1.025060 - 0.277355I$ $b = 0.496332 - 0.064601I$	$3.77932 + 1.54987I$	0
$u = 0.350751 + 1.098840I$ $a = 0.934047 + 0.146504I$ $b = 1.074220 + 0.535335I$	$-1.356000 + 0.219520I$	0
$u = 0.350751 - 1.098840I$ $a = 0.934047 - 0.146504I$ $b = 1.074220 - 0.535335I$	$-1.356000 - 0.219520I$	0
$u = -0.399311 + 1.082190I$ $a = -0.64562 - 1.28019I$ $b = -0.39699 - 2.90380I$	$-6.47002 - 1.38061I$	0
$u = -0.399311 - 1.082190I$ $a = -0.64562 + 1.28019I$ $b = -0.39699 + 2.90380I$	$-6.47002 + 1.38061I$	0
$u = 0.496928 + 1.049490I$ $a = 0.414745 + 0.477428I$ $b = -0.173860 + 0.655148I$	$-0.37344 + 2.64441I$	0
$u = 0.496928 - 1.049490I$ $a = 0.414745 - 0.477428I$ $b = -0.173860 - 0.655148I$	$-0.37344 - 2.64441I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.829917+0.096494I$ $a=\ 0.999880-0.166069I$ $b=-0.485211-0.294425I$	$-2.47161+1.70417I$	$0.-3.02001I$
$u=-0.829917-0.096494I$ $a=\ 0.999880+0.166069I$ $b=-0.485211+0.294425I$	$-2.47161-1.70417I$	$0.+3.02001I$
$u=\ 0.458761+1.071170I$ $a=-0.729221+0.248734I$ $b=-0.144459-0.256168I$	$-0.50434+4.02422I$	0
$u=\ 0.458761-1.071170I$ $a=-0.729221-0.248734I$ $b=-0.144459+0.256168I$	$-0.50434-4.02422I$	0
$u=\ 0.620790+0.547942I$ $a=\ 0.566415-0.735155I$ $b=\ 0.867114+0.126647I$	$1.70567+2.12132I$	$5.97809-8.47541I$
$u=\ 0.620790-0.547942I$ $a=\ 0.566415+0.735155I$ $b=\ 0.867114-0.126647I$	$1.70567-2.12132I$	$5.97809+8.47541I$
$u=-0.322175+1.128650I$ $a=-1.062420+0.050724I$ $b=-1.59933+0.47016I$	$-3.32302+4.78199I$	0
$u=-0.322175-1.128650I$ $a=-1.062420-0.050724I$ $b=-1.59933-0.47016I$	$-3.32302-4.78199I$	0
$u=\ 0.792737+0.193318I$ $a=\ 1.65458+0.03445I$ $b=-0.777965+0.685230I$	$-7.48672-5.32621I$	$-3.30327+4.49709I$
$u=\ 0.792737-0.193318I$ $a=\ 1.65458-0.03445I$ $b=-0.777965-0.685230I$	$-7.48672+5.32621I$	$-3.30327-4.49709I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.456979+1.100050I$ $a=0.237618+0.851844I$ $b=0.18101+3.78515I$	$-0.81545-3.66987I$	0
$u=-0.456979-1.100050I$ $a=0.237618-0.851844I$ $b=0.18101-3.78515I$	$-0.81545+3.66987I$	0
$u=-0.715111+0.374405I$ $a=-0.195776-0.263669I$ $b=-0.364634+0.389793I$	$0.54126+3.54143I$	$3.75434-0.34615I$
$u=-0.715111-0.374405I$ $a=-0.195776+0.263669I$ $b=-0.364634-0.389793I$	$0.54126-3.54143I$	$3.75434+0.34615I$
$u=0.420682+1.124150I$ $a=-0.330865+0.820359I$ $b=-1.08154+3.92517I$	$-4.84937-1.82765I$	0
$u=0.420682-1.124150I$ $a=-0.330865-0.820359I$ $b=-1.08154-3.92517I$	$-4.84937+1.82765I$	0
$u=0.594507+0.512607I$ $a=0.605447+0.286351I$ $b=0.325128+0.549340I$	$1.22529+1.67906I$	$5.39633-3.05067I$
$u=0.594507-0.512607I$ $a=0.605447-0.286351I$ $b=0.325128-0.549340I$	$1.22529-1.67906I$	$5.39633+3.05067I$
$u=0.450266+1.128750I$ $a=0.86257-1.22449I$ $b=0.74080-3.05187I$	$-7.68132+5.02347I$	0
$u=0.450266-1.128750I$ $a=0.86257+1.22449I$ $b=0.74080+3.05187I$	$-7.68132-5.02347I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.741244+0.254652I$ $a=\ 0.54082-1.51334I$ $b=\ 0.005226-0.332551I$	$0.74086+7.93059I$	$2.74611-7.67444I$
$u=-0.741244-0.254652I$ $a=\ 0.54082+1.51334I$ $b=\ 0.005226+0.332551I$	$0.74086-7.93059I$	$2.74611+7.67444I$
$u=\ 0.451263+1.131820I$ $a=\ 0.067834-1.397070I$ $b=\ 0.71217-3.63104I$	$-7.67016+2.76940I$	0
$u=\ 0.451263-1.131820I$ $a=\ 0.067834+1.397070I$ $b=\ 0.71217+3.63104I$	$-7.67016-2.76940I$	0
$u=-0.537926+1.093450I$ $a=-0.053904+0.775024I$ $b=\ 1.14332+1.50502I$	$-1.12518-8.59303I$	0
$u=-0.537926-1.093450I$ $a=-0.053904-0.775024I$ $b=\ 1.14332-1.50502I$	$-1.12518+8.59303I$	0
$u=\ 0.477248+1.128980I$ $a=-0.259172+0.945359I$ $b=\ 0.56481+3.87576I$	$-4.44020+9.57309I$	0
$u=\ 0.477248-1.128980I$ $a=-0.259172-0.945359I$ $b=\ 0.56481-3.87576I$	$-4.44020-9.57309I$	0
$u=-0.673692+0.371028I$ $a=-1.172060-0.111708I$ $b=-0.149098+0.813558I$	$0.98324+3.90006I$	$8.23651-5.87685I$
$u=-0.673692-0.371028I$ $a=-1.172060+0.111708I$ $b=-0.149098-0.813558I$	$0.98324-3.90006I$	$8.23651+5.87685I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.407315+1.164450I$ $a=-0.671591-0.200838I$ $b=-0.691548-0.595255I$	$-6.13142-2.11386I$	0
$u=-0.407315-1.164450I$ $a=-0.671591+0.200838I$ $b=-0.691548+0.595255I$	$-6.13142+2.11386I$	0
$u=-0.561749+1.102850I$ $a=\ \ 0.089185+0.213451I$ $b=\ \ 0.853807+0.008570I$	$-1.59412-8.43476I$	0
$u=-0.561749-1.102850I$ $a=\ \ 0.089185-0.213451I$ $b=\ \ 0.853807-0.008570I$	$-1.59412+8.43476I$	0
$u=-0.743692+0.159366I$ $a=\ \ 1.58736-0.22169I$ $b=-0.423945-0.252612I$	$-2.52813+1.53343I$	$0.54596-1.85069I$
$u=-0.743692-0.159366I$ $a=\ \ 1.58736+0.22169I$ $b=-0.423945+0.252612I$	$-2.52813-1.53343I$	$0.54596+1.85069I$
$u=\ \ 0.521147+1.129620I$ $a=-0.927754-0.338704I$ $b=-1.12919-0.87813I$	$-0.14290+7.42320I$	0
$u=\ \ 0.521147-1.129620I$ $a=-0.927754+0.338704I$ $b=-1.12919+0.87813I$	$-0.14290-7.42320I$	0
$u=-0.744636+0.100857I$ $a=\ \ 0.815304-0.726174I$ $b=-0.370093-0.297368I$	$-2.51905+1.79037I$	$-1.08608-3.70094I$
$u=-0.744636-0.100857I$ $a=\ \ 0.815304+0.726174I$ $b=-0.370093+0.297368I$	$-2.51905-1.79037I$	$-1.08608+3.70094I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.335342 + 1.202770I$ $a = -0.542905 + 0.996111I$ $b = 0.31098 + 2.76756I$	$-11.72300 - 1.63235I$	0
$u = 0.335342 - 1.202770I$ $a = -0.542905 - 0.996111I$ $b = 0.31098 - 2.76756I$	$-11.72300 + 1.63235I$	0
$u = -0.333069 + 0.665307I$ $a = 0.49623 + 1.56070I$ $b = 0.511761 - 0.246982I$	$-4.05684 + 0.78238I$	$-2.41428 + 1.66037I$
$u = -0.333069 - 0.665307I$ $a = 0.49623 - 1.56070I$ $b = 0.511761 + 0.246982I$	$-4.05684 - 0.78238I$	$-2.41428 - 1.66037I$
$u = -0.274221 + 1.226330I$ $a = 0.582922 + 0.982247I$ $b = 0.20404 + 2.58454I$	$-6.17524 + 4.96683I$	0
$u = -0.274221 - 1.226330I$ $a = 0.582922 - 0.982247I$ $b = 0.20404 - 2.58454I$	$-6.17524 - 4.96683I$	0
$u = -0.385278 + 1.196360I$ $a = -0.581886 - 0.779805I$ $b = -0.48929 - 2.04048I$	$-6.47605 - 2.30153I$	0
$u = -0.385278 - 1.196360I$ $a = -0.581886 + 0.779805I$ $b = -0.48929 + 2.04048I$	$-6.47605 + 2.30153I$	0
$u = -0.508738 + 1.149490I$ $a = -0.053152 - 1.122090I$ $b = -0.36993 - 2.95291I$	$-5.35931 - 6.18141I$	0
$u = -0.508738 - 1.149490I$ $a = -0.053152 + 1.122090I$ $b = -0.36993 + 2.95291I$	$-5.35931 + 6.18141I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.320549+1.216140I$ $a=-0.332873-0.934936I$ $b=-0.00186-2.38927I$	$-6.67201-2.21444I$	0
$u=-0.320549-1.216140I$ $a=-0.332873+0.934936I$ $b=-0.00186+2.38927I$	$-6.67201+2.21444I$	0
$u=0.425964+1.185020I$ $a=0.931362-0.939815I$ $b=1.18213-2.57500I$	$-7.89986-0.93437I$	0
$u=0.425964-1.185020I$ $a=0.931362+0.939815I$ $b=1.18213+2.57500I$	$-7.89986+0.93437I$	0
$u=0.736916+0.051206I$ $a=-1.94600-0.90629I$ $b=0.558879-0.288383I$	$-4.35838-5.05167I$	$-3.25940+7.90426I$
$u=0.736916-0.051206I$ $a=-1.94600+0.90629I$ $b=0.558879+0.288383I$	$-4.35838+5.05167I$	$-3.25940-7.90426I$
$u=-0.533688+1.145760I$ $a=0.986026-0.494540I$ $b=1.43242-1.08748I$	$-1.86160-12.74340I$	0
$u=-0.533688-1.145760I$ $a=0.986026+0.494540I$ $b=1.43242+1.08748I$	$-1.86160+12.74340I$	0
$u=-0.464254+1.176790I$ $a=0.276099-0.367655I$ $b=0.01692-1.52073I$	$-5.71204-6.27548I$	0
$u=-0.464254-1.176790I$ $a=0.276099+0.367655I$ $b=0.01692+1.52073I$	$-5.71204+6.27548I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.685527 + 0.260417I$ $a = -0.36382 - 1.43194I$ $b = 0.062293 - 0.481338I$	$2.36352 - 2.78842I$	$5.99487 + 2.61021I$
$u = 0.685527 - 0.260417I$ $a = -0.36382 + 1.43194I$ $b = 0.062293 + 0.481338I$	$2.36352 + 2.78842I$	$5.99487 - 2.61021I$
$u = 0.470524 + 1.178780I$ $a = -0.221532 - 1.312780I$ $b = -0.21240 - 3.56169I$	$-7.58338 + 9.46926I$	0
$u = 0.470524 - 1.178780I$ $a = -0.221532 + 1.312780I$ $b = -0.21240 + 3.56169I$	$-7.58338 - 9.46926I$	0
$u = 0.173472 + 1.261970I$ $a = 0.119485 - 1.064980I$ $b = -0.17683 - 2.82048I$	$-9.56750 - 0.58327I$	0
$u = 0.173472 - 1.261970I$ $a = 0.119485 + 1.064980I$ $b = -0.17683 + 2.82048I$	$-9.56750 + 0.58327I$	0
$u = -0.052055 + 0.719773I$ $a = -0.361204 - 0.861064I$ $b = -2.43699 + 0.17170I$	$-1.89632 + 4.43860I$	$-2.51555 - 2.71424I$
$u = -0.052055 - 0.719773I$ $a = -0.361204 + 0.861064I$ $b = -2.43699 - 0.17170I$	$-1.89632 - 4.43860I$	$-2.51555 + 2.71424I$
$u = -0.574837 + 1.147180I$ $a = -0.240883 - 1.033160I$ $b = -0.47783 - 2.68338I$	$-5.11108 - 6.06792I$	0
$u = -0.574837 - 1.147180I$ $a = -0.240883 + 1.033160I$ $b = -0.47783 + 2.68338I$	$-5.11108 + 6.06792I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.496998+1.187650I$ $a=\ \ 0.214421-0.805894I$ $b=\ \ 0.15155-2.37554I$	$-5.68511-6.41382I$	0
$u=-0.496998-1.187650I$ $a=\ \ 0.214421+0.805894I$ $b=\ \ 0.15155+2.37554I$	$-5.68511+6.41382I$	0
$u=\ \ 0.530606+1.173690I$ $a=-0.136138+1.059740I$ $b=-1.02384+3.38189I$	$-10.3635+10.2246I$	0
$u=\ \ 0.530606-1.173690I$ $a=-0.136138-1.059740I$ $b=-1.02384-3.38189I$	$-10.3635-10.2246I$	0
$u=\ \ 0.281268+1.259650I$ $a=-0.602164+0.997818I$ $b=-0.34220+2.81243I$	$-8.62415-10.46360I$	0
$u=\ \ 0.281268-1.259650I$ $a=-0.602164-0.997818I$ $b=-0.34220-2.81243I$	$-8.62415+10.46360I$	0
$u=-0.564926+1.177470I$ $a=\ \ 0.045954+1.134820I$ $b=\ \ 0.50216+3.22859I$	$-4.1731-13.7141I$	0
$u=-0.564926-1.177470I$ $a=\ \ 0.045954-1.134820I$ $b=\ \ 0.50216-3.22859I$	$-4.1731+13.7141I$	0
$u=\ \ 0.569389+1.192980I$ $a=-0.064758+1.186030I$ $b=-0.37213+3.42803I$	$-6.6088+19.5371I$	0
$u=\ \ 0.569389-1.192980I$ $a=-0.064758-1.186030I$ $b=-0.37213-3.42803I$	$-6.6088-19.5371I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.347929+0.560423I$ $a=-0.31115-1.70958I$ $b=-0.73600-2.04863I$	$-0.93423-5.35665I$	$6.58639+7.90798I$
$u=-0.347929-0.560423I$ $a=-0.31115+1.70958I$ $b=-0.73600+2.04863I$	$-0.93423+5.35665I$	$6.58639-7.90798I$
$u=0.307412+1.310520I$ $a=0.139548-0.884774I$ $b=-0.45593-2.44833I$	$-8.72224+6.12567I$	0
$u=0.307412-1.310520I$ $a=0.139548+0.884774I$ $b=-0.45593+2.44833I$	$-8.72224-6.12567I$	0
$u=0.608156+1.207850I$ $a=0.336680-0.930581I$ $b=0.47949-2.74871I$	$-6.60922+9.82175I$	0
$u=0.608156-1.207850I$ $a=0.336680+0.930581I$ $b=0.47949+2.74871I$	$-6.60922-9.82175I$	0
$u=0.543606+1.245390I$ $a=0.273062-0.738816I$ $b=0.65790-2.53745I$	$-7.09036+3.70510I$	0
$u=0.543606-1.245390I$ $a=0.273062+0.738816I$ $b=0.65790+2.53745I$	$-7.09036-3.70510I$	0
$u=0.574015+0.126268I$ $a=1.85452-0.05087I$ $b=-1.47749-0.57039I$	$-1.72656-5.40426I$	$1.53709+7.31225I$
$u=0.574015-0.126268I$ $a=1.85452+0.05087I$ $b=-1.47749+0.57039I$	$-1.72656+5.40426I$	$1.53709-7.31225I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.171226+0.547986I$ $a=\ \ 1.02157+2.72115I$ $b=-0.079412+1.148280I$	$-4.47220-1.61677I$	$0.65648+6.33827I$
$u=-0.171226-0.547986I$ $a=\ \ 1.02157-2.72115I$ $b=-0.079412-1.148280I$	$-4.47220+1.61677I$	$0.65648-6.33827I$
$u=\ \ 0.548755+0.018675I$ $a=-2.93170-0.57487I$ $b=\ \ 0.409304-0.558284I$	$-4.77059+1.15573I$	$-3.66714-1.69774I$
$u=\ \ 0.548755-0.018675I$ $a=-2.93170+0.57487I$ $b=\ \ 0.409304+0.558284I$	$-4.77059-1.15573I$	$-3.66714+1.69774I$
$u=\ \ 0.374365+0.312762I$ $a=\ \ 0.37147-1.47803I$ $b=\ \ 0.775279-0.881999I$	$1.59458-0.23339I$	$8.06627+1.34861I$
$u=\ \ 0.374365-0.312762I$ $a=\ \ 0.37147+1.47803I$ $b=\ \ 0.775279+0.881999I$	$1.59458+0.23339I$	$8.06627-1.34861I$
$u=-0.269833+0.241695I$ $a=-1.78785-1.00149I$ $b=\ \ 1.409520-0.107037I$	$1.59970-0.04753I$	$6.39277-0.92731I$
$u=-0.269833-0.241695I$ $a=-1.78785+1.00149I$ $b=\ \ 1.409520+0.107037I$	$1.59970+0.04753I$	$6.39277+0.92731I$

II.

$\boldsymbol{I_2^u = \langle -2u^{27}-u^{26}+\cdots+b-1,\ -u^{27}+2u^{26}+\cdots+a+2,\ u^{28}-u^{27}+\cdots-u+1\rangle}$

(i) Arc colorings

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} u^4+u^2+1 \\ u^4 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^{27}-2u^{26}+\cdots+7u-2 \\ 2u^{27}+u^{26}+\cdots+7u+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3u^{27}-4u^{26}+\cdots+13u-4 \\ 2u^{27}+2u^{26}+\cdots+6u+2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2u^{27}+7u^{26}+\cdots-13u+7 \\ u^{27}-4u^{26}+\cdots-20u^2-4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -5u^{27}+13u^{26}+\cdots-19u+13 \\ 4u^{27}+27u^{25}+\cdots+7u+1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -8u^{27}+2u^{26}+\cdots-7u-9 \\ -5u^{27}+6u^{26}+\cdots-10u+3 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -7u^{27}-2u^{26}+\cdots-2u-14 \\ -5u^{27}+4u^{26}+\cdots-7u+1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -20u^{27}-2u^{26}-135u^{25}-39u^{24}-443u^{23}-210u^{22}-851u^{21}-616u^{20}-997u^{19}-1116u^{18}-637u^{17}-1321u^{16}-157u^{15}-1001u^{14}-126u^{13}-478u^{12}-497u^{11}-165u^{10}-655u^9-167u^8-433u^7-242u^6-157u^5-270u^4-39u^3-171u^2-7u-52$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28} - 15u^{27} + \cdots - 11u + 1$
c_2	$u^{28} - u^{27} + \cdots - u + 1$
c_3	$u^{28} + u^{27} + \cdots + u + 1$
c_4	$u^{28} + u^{27} + \cdots - u + 1$
c_5	$u^{28} + 2u^{27} + \cdots - 11u^2 + 1$
c_6	$u^{28} + u^{27} + \cdots + u + 1$
c_7	$u^{28} - 2u^{27} + \cdots + 6u + 1$
c_8	$u^{28} - 2u^{27} + \cdots - 11u^2 + 1$
c_9	$u^{28} - 2u^{27} + \cdots - 2u + 1$
c_{10}	$u^{28} - 15u^{27} + \cdots - 19u + 1$
c_{11}	$u^{28} - u^{27} + \cdots + u + 1$
c_{12}	$u^{28} + 2u^{27} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} - y^{27} + \cdots - 5y + 1$
c_2, c_6	$y^{28} + 15y^{27} + \cdots + 11y + 1$
c_3	$y^{28} - 17y^{27} + \cdots + 23y + 1$
c_4, c_{11}	$y^{28} + 15y^{27} + \cdots + 19y + 1$
c_5, c_8	$y^{28} - 30y^{27} + \cdots - 22y + 1$
c_7	$y^{28} - 6y^{27} + \cdots - 6y + 1$
c_9	$y^{28} - 6y^{27} + \cdots + 2y + 1$
c_{10}	$y^{28} + 7y^{27} + \cdots - 25y + 1$
c_{12}	$y^{28} + 2y^{27} + \cdots - 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.365439+0.836410I$ $a=-0.387851+0.415870I$ $b=\ \ 0.71789+1.58480I$	$1.32260-1.60130I$	$8.71562+6.45471I$
$u=-0.365439-0.836410I$ $a=-0.387851-0.415870I$ $b=\ \ 0.71789-1.58480I$	$1.32260+1.60130I$	$8.71562-6.45471I$
$u=\ \ 0.381716+1.029330I$ $a=\ \ 0.648516-0.513298I$ $b=\ \ 0.171375+0.757477I$	$-3.08626-2.62316I$	$-1.65800+5.02113I$
$u=\ \ 0.381716-1.029330I$ $a=\ \ 0.648516+0.513298I$ $b=\ \ 0.171375-0.757477I$	$-3.08626+2.62316I$	$-1.65800-5.02113I$
$u=\ \ 0.856236+0.280811I$ $a=-1.387960+0.082806I$ $b=\ \ 0.388646+0.076668I$	$-3.10049-0.21509I$	$-4.06964-3.93322I$
$u=\ \ 0.856236-0.280811I$ $a=-1.387960-0.082806I$ $b=\ \ 0.388646-0.076668I$	$-3.10049+0.21509I$	$-4.06964+3.93322I$
$u=-0.486112+0.995622I$ $a=-0.203990-0.411822I$ $b=-0.240558+0.877728I$	$0.80932-2.87184I$	$9.73391+6.16296I$
$u=-0.486112-0.995622I$ $a=-0.203990+0.411822I$ $b=-0.240558-0.877728I$	$0.80932+2.87184I$	$9.73391-6.16296I$
$u=-0.863022+0.165510I$ $a=\ \ 1.47605+0.06126I$ $b=-0.683724-0.004069I$	$-3.74191+3.30686I$	$-2.33673-2.10493I$
$u=-0.863022-0.165510I$ $a=\ \ 1.47605-0.06126I$ $b=-0.683724+0.004069I$	$-3.74191-3.30686I$	$-2.33673+2.10493I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.490056+0.670198I$ $a=\ 0.417868+0.499022I$ $b=\ 1.194550+0.667265I$	$1.89003-1.13368I$	$6.62059+3.29252I$
$u=-0.490056-0.670198I$ $a=\ 0.417868-0.499022I$ $b=\ 1.194550-0.667265I$	$1.89003+1.13368I$	$6.62059-3.29252I$
$u=\ 0.649260+0.516295I$ $a=-0.978264+0.324319I$ $b=-0.747966+0.047309I$	$-0.10406-4.45468I$	$0.81082+4.92455I$
$u=\ 0.649260-0.516295I$ $a=-0.978264-0.324319I$ $b=-0.747966-0.047309I$	$-0.10406+4.45468I$	$0.81082-4.92455I$
$u=\ 0.549710+1.067170I$ $a=\ 0.025082-0.662017I$ $b=\ 0.681133-0.440731I$	$-1.81915+9.16310I$	$-2.52839-13.26466I$
$u=\ 0.549710-1.067170I$ $a=\ 0.025082+0.662017I$ $b=\ 0.681133+0.440731I$	$-1.81915-9.16310I$	$-2.52839+13.26466I$
$u=\ 0.348454+1.149410I$ $a=\ 0.658802-1.099010I$ $b=\ 0.92388-2.48074I$	$-7.39860+3.04531I$	$-8.09341-4.44196I$
$u=\ 0.348454-1.149410I$ $a=\ 0.658802+1.099010I$ $b=\ 0.92388+2.48074I$	$-7.39860-3.04531I$	$-8.09341+4.44196I$
$u=-0.374671+1.175130I$ $a=-0.512726-1.137850I$ $b=-0.50975-3.13448I$	$-7.86845-0.47406I$	$-6.80610+0.20183I$
$u=-0.374671-1.175130I$ $a=-0.512726+1.137850I$ $b=-0.50975+3.13448I$	$-7.86845+0.47406I$	$-6.80610-0.20183I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.227894 + 0.712348I$ $a = 0.248942 + 1.342120I$ $b = -1.77286 + 1.79816I$	$-1.75291 + 5.42762I$	$-1.77047 - 8.41574I$
$u = 0.227894 - 0.712348I$ $a = 0.248942 - 1.342120I$ $b = -1.77286 - 1.79816I$	$-1.75291 - 5.42762I$	$-1.77047 + 8.41574I$
$u = 0.023362 + 0.732048I$ $a = 0.09845 + 2.19590I$ $b = -0.476032 + 0.772669I$	$-5.01732 - 1.24897I$	$-11.27715 - 0.05900I$
$u = 0.023362 - 0.732048I$ $a = 0.09845 - 2.19590I$ $b = -0.476032 - 0.772669I$	$-5.01732 + 1.24897I$	$-11.27715 + 0.05900I$
$u = -0.496859 + 1.198450I$ $a = -0.124720 - 1.049440I$ $b = -0.13620 - 3.21782I$	$-6.95419 - 8.20241I$	$-4.76290 + 6.44782I$
$u = -0.496859 - 1.198450I$ $a = -0.124720 + 1.049440I$ $b = -0.13620 + 3.21782I$	$-6.95419 + 8.20241I$	$-4.76290 - 6.44782I$
$u = 0.539527 + 1.190270I$ $a = 0.021804 - 0.999223I$ $b = -0.01038 - 2.64689I$	$-5.94690 + 5.37088I$	$-5.57815 - 1.15124I$
$u = 0.539527 - 1.190270I$ $a = 0.021804 + 0.999223I$ $b = -0.01038 + 2.64689I$	$-5.94690 - 5.37088I$	$-5.57815 + 1.15124I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{28}-15u^{27}+\cdots-11u+1)(u^{148}+76u^{147}+\cdots+11u+1)$
c_2	$(u^{28}-u^{27}+\cdots-u+1)(u^{148}-2u^{147}+\cdots-u+1)$
c_3	$(u^{28}+u^{27}+\cdots+u+1)(u^{148}+2u^{147}+\cdots-7627619u+456713)$
c_4	$(u^{28}+u^{27}+\cdots-u+1)(u^{148}+34u^{146}+\cdots+u+1)$
c_5	$(u^{28}+2u^{27}+\cdots-11u^2+1)(u^{148}-u^{147}+\cdots+24734u+1843)$
c_6	$(u^{28}+u^{27}+\cdots+u+1)(u^{148}-2u^{147}+\cdots-u+1)$
c_7	$(u^{28}-2u^{27}+\cdots+6u+1)(u^{148}+23u^{147}+\cdots+58u+1)$
c_8	$(u^{28}-2u^{27}+\cdots-11u^2+1)(u^{148}-u^{147}+\cdots+24734u+1843)$
c_9	$(u^{28}-2u^{27}+\cdots-2u+1)(u^{148}+13u^{147}+\cdots+1242562u+100697)$
c_{10}	$(u^{28}-15u^{27}+\cdots-19u+1)(u^{148}+68u^{147}+\cdots+19u+1)$
c_{11}	$(u^{28}-u^{27}+\cdots+u+1)(u^{148}+34u^{146}+\cdots+u+1)$
c_{12}	$(u^{28}+2u^{27}+\cdots+2u+1)(u^{148}-3u^{147}+\cdots+52u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{28}-y^{27}+\cdots-5y+1)(y^{148}-4y^{147}+\cdots+103y+1)$
c_2, c_6	$(y^{28}+15y^{27}+\cdots+11y+1)(y^{148}+76y^{147}+\cdots+11y+1)$
c_3	$(y^{28}-17y^{27}+\cdots+23y+1)$ $\cdot(y^{148}-84y^{147}+\cdots-9230611190501y+208586764369)$
c_4, c_{11}	$(y^{28}+15y^{27}+\cdots+19y+1)(y^{148}+68y^{147}+\cdots+19y+1)$
c_5, c_8	$(y^{28}-30y^{27}+\cdots-22y+1)$ $\cdot(y^{148}-113y^{147}+\cdots-509628010y+3396649)$
c_7	$(y^{28}-6y^{27}+\cdots-6y+1)(y^{148}-5y^{147}+\cdots-358y+1)$
c_9	$(y^{28}-6y^{27}+\cdots+2y+1)$ $\cdot(y^{148}+35y^{147}+\cdots+1833695584058y+10139885809)$
c_{10}	$(y^{28}+7y^{27}+\cdots-25y+1)(y^{148}+36y^{147}+\cdots+171y+1)$
c_{12}	$(y^{28}+2y^{27}+\cdots-6y+1)(y^{148}+7y^{147}+\cdots-98y+1)$