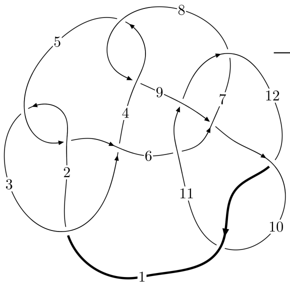
$12a_{0014}$ $(K12a_{0014})$



A knot diagram[1]

Linearized knot diagam

$\to \downarrow \to \uparrow \to \downarrow \to \uparrow \to \uparrow \to \uparrow \to \downarrow \to \uparrow \to \uparrow \to \uparrow \to \downarrow \to \uparrow \to$

3 5 6 8 2 11 12 4 7 1 9 10

Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle &-2.85861 \times 10^{554} u^{134} - 1.62328 \times 10^{554} u^{133} + \cdots + 7.59512 \times 10^{556} b + 5.83950 \times 10^{556}, \\ &6.60944 \times 10^{555} u^{134} + 5.58826 \times 10^{555} u^{133} + \cdots + 3.03805 \times 10^{557} a - 5.01249 \times 10^{557}, \\ &u^{135} + u^{134} + \cdots + 5120u + 1024 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v = \langle &a,\ 1728v^9 - 4936v^8 + 9872v^7 + 12908v^6 - 24680v^5 - 34552v^4 + 91527v^3 + 4936v^2 + 3335b - 613, \\ &v^{10} - 3v^9 + 6v^8 + 7v^7 - 16v^6 - 19v^5 + 58v^4 - 2v^3 - 7v^2 - v + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 145 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. $I_1^u = \langle -2.86 \times 10^{554}u^{134} - 1.62 \times 10^{554}u^{133} + \cdots + 7.60 \times 10^{556}b + 5.84 \times 10^{556},\ 6.61 \times 10^{555}u^{134} + 5.59 \times 10^{555}u^{133} + \cdots + 3.04 \times 10^{557}a - 5.01 \times 10^{557},\ u^{135} + u^{134} + \cdots + 5120u + 1024\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.0217555u^{134} - 0.0183942u^{133} + \cdots - 118.348u + 1.64990 \\ 0.00376375u^{134} + 0.00213726u^{133} + \cdots + 5.03100u - 0.768849 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0231345u^{134} + 0.0198385u^{133} + \cdots + 78.2695u - 13.5936 \\ -0.00174481u^{134} + 0.000798106u^{133} + \cdots + 7.06589u + 2.98825 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.0117679u^{134} - 0.0105468u^{133} + \cdots - 58.9017u + 4.02896 \\ -0.000139894u^{134} - 0.00437016u^{133} + \cdots - 30.6553u - 8.90982 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.00855818u^{134} - 0.00893424u^{133} + \cdots - 68.5627u - 7.86120 \\ -0.000139894u^{134} - 0.00437016u^{133} + \cdots - 30.6553u - 8.90982 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.0179918u^{134} - 0.0162570u^{133} + \cdots - 113.317u + 0.881056 \\ 0.00376375u^{134} + 0.00213726u^{133} + \cdots + 5.03100u - 0.768849 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.00493334u^{134} - 0.00304908u^{133} + \cdots - 27.2183u + 1.43371 \\ 0.00362484u^{134} + 0.00588516u^{133} + \cdots + 41.3444u + 9.29491 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.00927652u^{134} - 0.00766135u^{133} + \cdots - 11.8409u + 3.00848 \\ -0.00413661u^{134} - 0.00548717u^{133} + \cdots - 36.5774u - 8.33864 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.00806844u^{134} - 0.00630388u^{133} + \cdots - 11.2024u + 3.00445 \\ -0.00434251u^{134} - 0.00454724u^{133} + \cdots - 37.9408u - 8.49565 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0466570u^{134} + 0.0350645u^{133} + \cdots + 138.453u - 37.6705$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{135} + 64u^{134} + \cdots + 158u - 1$
c_2, c_5	$u^{135} + 6u^{134} + \cdots - 2u - 1$
c_3	$u^{135} - 6u^{134} + \cdots + 18532724u - 1174793$
c_4, c_8	$u^{135} - u^{134} + \cdots + 5120u - 1024$
c_6	$u^{135} - 3u^{134} + \cdots + 17948537u - 2522669$
c_7	$u^{135} + 3u^{134} + \cdots + 12401u - 47809$
c_9	$u^{135} + 9u^{134} + \cdots + 3u + 1$
c_{10}, c_{12}	$u^{135} + 3u^{134} + \cdots + 23u - 1$
c_{11}	$u^{135} - 23u^{134} + \cdots + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{135} + 20y^{134} + \cdots + 22410y - 1$
c_2, c_5	$y^{135} + 64y^{134} + \cdots + 158y - 1$
c_3	$y^{135} - 24y^{134} + \cdots + 270394515667686y - 1380138592849$
c_4, c_8	$y^{135} + 55y^{134} + \cdots - 24117248y - 1048576$
c_6	$y^{135} + 85y^{134} + \cdots + 285856654348325y - 6363858883561$
c_7	$y^{135} + 149y^{134} + \cdots - 218902272299y - 2285700481$
c_9	$y^{135} - 23y^{134} + \cdots + 9y - 1$
c_{10}, c_{12}	$y^{135} - 95y^{134} + \cdots - 23y - 1$
c_{11}	$y^{135} + 9y^{134} + \cdots - 23y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.433893 + 0.902869I$ $a = 0.425864 + 0.882091I$ $b = -0.003490 + 0.677446I$	$0.69426 - 1.95174I$	0
$u = -0.433893 - 0.902869I$ $a = 0.425864 - 0.882091I$ $b = -0.003490 - 0.677446I$	$0.69426 + 1.95174I$	0
$u = -0.088159 + 0.991363I$ $a = 0.526555 + 0.438584I$ $b = -0.02808 - 1.59756I$	$-1.95084 + 4.11866I$	0
$u = -0.088159 - 0.991363I$ $a = 0.526555 - 0.438584I$ $b = -0.02808 + 1.59756I$	$-1.95084 - 4.11866I$	0
$u = 0.631449 + 0.759674I$ $a = -0.118886 + 1.358980I$ $b = -1.16906 - 1.10258I$	$4.93681 + 3.31408I$	0
$u = 0.631449 - 0.759674I$ $a = -0.118886 - 1.358980I$ $b = -1.16906 + 1.10258I$	$4.93681 - 3.31408I$	0
$u = 0.502757 + 0.881596I$ $a = -2.43306 - 0.45379I$ $b = 0.96563 - 1.13597I$	$0.83592 + 5.69951I$	0
$u = 0.502757 - 0.881596I$ $a = -2.43306 + 0.45379I$ $b = 0.96563 + 1.13597I$	$0.83592 - 5.69951I$	0
$u = -0.815971 + 0.551004I$ $a = 1.58128 - 1.61392I$ $b = -1.03373 - 1.19051I$	$3.37680 + 5.10317I$	0
$u = -0.815971 - 0.551004I$ $a = 1.58128 + 1.61392I$ $b = -1.03373 + 1.19051I$	$3.37680 - 5.10317I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.723890 + 0.651860I$ $a = 1.72127 + 1.34248I$ $b = -1.20491 + 1.04638I$	$4.99306 - 0.38975I$	0
$u = 0.723890 - 0.651860I$ $a = 1.72127 - 1.34248I$ $b = -1.20491 - 1.04638I$	$4.99306 + 0.38975I$	0
$u = -0.286505 + 0.930576I$ $a = 1.90508 - 0.43378I$ $b = -1.67062 - 0.41030I$	$0.509155 + 0.687850I$	0
$u = -0.286505 - 0.930576I$ $a = 1.90508 + 0.43378I$ $b = -1.67062 + 0.41030I$	$0.509155 - 0.687850I$	0
$u = 0.820910 + 0.498296I$ $a = 0.438207 - 0.040079I$ $b = 0.89893 + 1.13522I$	$1.03911 - 2.79672I$	0
$u = 0.820910 - 0.498296I$ $a = 0.438207 + 0.040079I$ $b = 0.89893 - 1.13522I$	$1.03911 + 2.79672I$	0
$u = -0.941752 + 0.162453I$ $a = 0.409172 - 0.067675I$ $b = 0.981886 - 0.759449I$	$-2.45542 + 0.43451I$	0
$u = -0.941752 - 0.162453I$ $a = 0.409172 + 0.067675I$ $b = 0.981886 + 0.759449I$	$-2.45542 - 0.43451I$	0
$u = 0.893004 + 0.316819I$ $a = 0.456893 - 0.202993I$ $b = -0.299724 - 0.257774I$	$-0.44956 - 3.21138I$	0
$u = 0.893004 - 0.316819I$ $a = 0.456893 + 0.202993I$ $b = -0.299724 + 0.257774I$	$-0.44956 + 3.21138I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.590004 + 0.893147I$ $a = 1.68981 + 0.84924I$ $b = -1.59251 + 0.85847I$	$4.52600 + 1.48756I$	0
$u = 0.590004 - 0.893147I$ $a = 1.68981 - 0.84924I$ $b = -1.59251 - 0.85847I$	$4.52600 - 1.48756I$	0
$u = -0.445366 + 0.977234I$ $a = 0.452646 + 0.253352I$ $b = 0.44042 - 1.65879I$	$-0.79606 - 2.83608I$	0
$u = -0.445366 - 0.977234I$ $a = 0.452646 - 0.253352I$ $b = 0.44042 + 1.65879I$	$-0.79606 + 2.83608I$	0
$u = 0.191778 + 1.074470I$ $a = 0.032317 - 1.273820I$ $b = 0.151983 - 0.672457I$	$-3.03176 - 0.85487I$	0
$u = 0.191778 - 1.074470I$ $a = 0.032317 + 1.273820I$ $b = 0.151983 + 0.672457I$	$-3.03176 + 0.85487I$	0
$u = -0.990170 + 0.484858I$ $a = 0.391659 + 0.025478I$ $b = 1.08547 - 1.10609I$	$-1.01744 + 7.35867I$	0
$u = -0.990170 - 0.484858I$ $a = 0.391659 - 0.025478I$ $b = 1.08547 + 1.10609I$	$-1.01744 - 7.35867I$	0
$u = 0.481098 + 0.753333I$ $a = 0.509721 - 0.175540I$ $b = 0.51775 + 1.39847I$	$1.20916 - 1.59276I$	0
$u = 0.481098 - 0.753333I$ $a = 0.509721 + 0.175540I$ $b = 0.51775 - 1.39847I$	$1.20916 + 1.59276I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.443516 + 1.020560I$ $a = 0.238754 - 0.904113I$ $b = -0.86136 + 1.53086I$	$-0.61654 - 3.16359I$	0
$u = -0.443516 - 1.020560I$ $a = 0.238754 + 0.904113I$ $b = -0.86136 - 1.53086I$	$-0.61654 + 3.16359I$	0
$u = 0.339264 + 1.068830I$ $a = -1.47861 + 1.42497I$ $b = 0.426462 + 0.401866I$	$-2.46009 + 0.50056I$	0
$u = 0.339264 - 1.068830I$ $a = -1.47861 - 1.42497I$ $b = 0.426462 - 0.401866I$	$-2.46009 - 0.50056I$	0
$u = -0.623499 + 0.615029I$ $a = -0.33794 - 1.74201I$ $b = -1.17208 + 0.86835I$	$3.69009 + 1.55088I$	0
$u = -0.623499 - 0.615029I$ $a = -0.33794 + 1.74201I$ $b = -1.17208 - 0.86835I$	$3.69009 - 1.55088I$	0
$u = -0.550053 + 0.983794I$ $a = -2.17739 - 0.86338I$ $b = 0.501284 - 0.240213I$	$1.79298 - 3.12616I$	0
$u = -0.550053 - 0.983794I$ $a = -2.17739 + 0.86338I$ $b = 0.501284 + 0.240213I$	$1.79298 + 3.12616I$	0
$u = -0.589368 + 0.630131I$ $a = -4.59614 + 0.09223I$ $b = 0.333908 - 0.021727I$	$2.86400 - 1.41798I$	0
$u = -0.589368 - 0.630131I$ $a = -4.59614 - 0.09223I$ $b = 0.333908 + 0.021727I$	$2.86400 + 1.41798I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.365673 + 0.778346I$ $a = -3.07428 + 0.03139I$ $b = 0.843566 + 0.998417I$	$0.007085 - 0.583291I$	0
$u = -0.365673 - 0.778346I$ $a = -3.07428 - 0.03139I$ $b = 0.843566 - 0.998417I$	$0.007085 + 0.583291I$	0
$u = 0.668626 + 0.525046I$ $a = 0.0856444 + 0.0925644I$ $b = -0.726879 - 1.201160I$	$6.97880 - 6.19911I$	0
$u = 0.668626 - 0.525046I$ $a = 0.0856444 - 0.0925644I$ $b = -0.726879 + 1.201160I$	$6.97880 + 6.19911I$	0
$u = 0.772865 + 0.347439I$ $a = 0.412713 - 0.321525I$ $b = 0.651085 - 0.272576I$	$-1.81324 + 2.17307I$	0
$u = 0.772865 - 0.347439I$ $a = 0.412713 + 0.321525I$ $b = 0.651085 + 0.272576I$	$-1.81324 - 2.17307I$	0
$u = -0.452839 + 0.707788I$ $a = 1.67407 - 0.21929I$ $b = -0.130083 - 0.378680I$	$1.17674 - 1.83944I$	0
$u = -0.452839 - 0.707788I$ $a = 1.67407 + 0.21929I$ $b = -0.130083 + 0.378680I$	$1.17674 + 1.83944I$	0
$u = -0.496150 + 1.048840I$ $a = 2.12716 - 0.01875I$ $b = -0.930265 - 1.012370I$	$4.32893 - 5.56092I$	0
$u = -0.496150 - 1.048840I$ $a = 2.12716 + 0.01875I$ $b = -0.930265 + 1.012370I$	$4.32893 + 5.56092I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.112890 + 1.155770I$ $a = -1.23215 - 0.77542I$ $b = 1.143360 + 0.395454I$	$-4.35305 - 0.80319I$	0
$u = 0.112890 - 1.155770I$ $a = -1.23215 + 0.77542I$ $b = 1.143360 - 0.395454I$	$-4.35305 + 0.80319I$	0
$u = -0.578898 + 1.010340I$ $a = 1.58625 - 0.72032I$ $b = -1.77072 - 0.84919I$	$2.46679 - 6.31017I$	0
$u = -0.578898 - 1.010340I$ $a = 1.58625 + 0.72032I$ $b = -1.77072 + 0.84919I$	$2.46679 + 6.31017I$	0
$u = 0.725689 + 0.400756I$ $a = -3.76868 - 3.42147I$ $b = 0.278904 - 0.172453I$	$1.53614 - 3.00834I$	0
$u = 0.725689 - 0.400756I$ $a = -3.76868 + 3.42147I$ $b = 0.278904 + 0.172453I$	$1.53614 + 3.00834I$	0
$u = 0.481287 + 1.068970I$ $a = 0.197471 - 0.841431I$ $b = 0.010703 - 0.766277I$	$-1.58896 + 6.54144I$	0
$u = 0.481287 - 1.068970I$ $a = 0.197471 + 0.841431I$ $b = 0.010703 + 0.766277I$	$-1.58896 - 6.54144I$	0
$u = -0.656704 + 0.498851I$ $a = 0.566892 + 0.382420I$ $b = -0.087495 + 0.429606I$	$1.28270 - 0.95263I$	0
$u = -0.656704 - 0.498851I$ $a = 0.566892 - 0.382420I$ $b = -0.087495 - 0.429606I$	$1.28270 + 0.95263I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.629267 + 0.993388I$ $a = 0.004352 + 0.963506I$ $b = -1.15966 - 1.47979I$	$3.94029 + 5.57514I$	0
$u = 0.629267 - 0.993388I$ $a = 0.004352 - 0.963506I$ $b = -1.15966 + 1.47979I$	$3.94029 - 5.57514I$	0
$u = 1.040040 + 0.563110I$ $a = 0.0868298 + 0.0960131I$ $b = -0.95954 - 1.06127I$	$5.57738 - 8.05927I$	0
$u = 1.040040 - 0.563110I$ $a = 0.0868298 - 0.0960131I$ $b = -0.95954 + 1.06127I$	$5.57738 + 8.05927I$	0
$u = -1.140180 + 0.387620I$ $a = 0.0904162 - 0.0960153I$ $b = -0.926318 + 0.886409I$	$1.11874 + 5.27197I$	0
$u = -1.140180 - 0.387620I$ $a = 0.0904162 + 0.0960153I$ $b = -0.926318 - 0.886409I$	$1.11874 - 5.27197I$	0
$u = 0.589828 + 1.069090I$ $a = 2.00528 + 0.26829I$ $b = -0.99280 + 1.06486I$	$5.30424 + 11.13160I$	0
$u = 0.589828 - 1.069090I$ $a = 2.00528 - 0.26829I$ $b = -0.99280 - 1.06486I$	$5.30424 - 11.13160I$	0
$u = -0.633947 + 0.436844I$ $a = 0.0846008 + 0.0912729I$ $b = -0.247208 - 1.076090I$	$6.64310 - 2.61859I$	$13.5869 + 5.9059I$
$u = -0.633947 - 0.436844I$ $a = 0.0846008 - 0.0912729I$ $b = -0.247208 + 1.076090I$	$6.64310 + 2.61859I$	$13.5869 - 5.9059I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.552429 + 1.099210I$ $a = 1.173310 - 0.414694I$ $b = -0.471056 - 0.468484I$	$-0.60252 - 3.76215I$	0
$u = -0.552429 - 1.099210I$ $a = 1.173310 + 0.414694I$ $b = -0.471056 + 0.468484I$	$-0.60252 + 3.76215I$	0
$u = 0.582727 + 1.090680I$ $a = -1.82057 + 0.68547I$ $b = 0.577849 + 0.283833I$	$-0.46769 + 8.00362I$	0
$u = 0.582727 - 1.090680I$ $a = -1.82057 - 0.68547I$ $b = 0.577849 - 0.283833I$	$-0.46769 - 8.00362I$	0
$u = -0.646398 + 1.074720I$ $a = -0.001596 - 0.867987I$ $b = -1.18823 + 1.60860I$	$1.76178 - 10.59480I$	0
$u = -0.646398 - 1.074720I$ $a = -0.001596 + 0.867987I$ $b = -1.18823 - 1.60860I$	$1.76178 + 10.59480I$	0
$u = 0.639303 + 1.102260I$ $a = -1.75944 - 0.48026I$ $b = 1.23043 - 1.27483I$	$-0.80905 + 8.28455I$	0
$u = 0.639303 - 1.102260I$ $a = -1.75944 + 0.48026I$ $b = 1.23043 + 1.27483I$	$-0.80905 - 8.28455I$	0
$u = -0.371680 + 0.616968I$ $a = 0.0850048 - 0.0914427I$ $b = -0.60482 + 1.32317I$	$5.89517 + 1.74663I$	$4.15206 + 6.40340I$
$u = -0.371680 - 0.616968I$ $a = 0.0850048 + 0.0914427I$ $b = -0.60482 - 1.32317I$	$5.89517 - 1.74663I$	$4.15206 - 6.40340I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.014431 + 1.282090I$ $a = -1.32591 + 0.49774I$ $b = 1.33035 - 0.50632I$	$-7.94598 + 4.71009I$	0
$u = 0.014431 - 1.282090I$ $a = -1.32591 - 0.49774I$ $b = 1.33035 + 0.50632I$	$-7.94598 - 4.71009I$	0
$u = -0.509603 + 1.177960I$ $a = -1.72450 + 0.20684I$ $b = 1.30628 + 1.11278I$	$-5.66349 - 5.47096I$	0
$u = -0.509603 - 1.177960I$ $a = -1.72450 - 0.20684I$ $b = 1.30628 - 1.11278I$	$-5.66349 + 5.47096I$	0
$u = -1.130630 + 0.611667I$ $a = 0.0864648 - 0.0975943I$ $b = -1.04757 + 1.04934I$	$3.24218 + 13.03280I$	0
$u = -1.130630 - 0.611667I$ $a = 0.0864648 + 0.0975943I$ $b = -1.04757 - 1.04934I$	$3.24218 - 13.03280I$	0
$u = 0.391651 + 1.225990I$ $a = 1.088490 + 0.289570I$ $b = -0.591728 + 0.328514I$	$-5.15906 + 0.74614I$	0
$u = 0.391651 - 1.225990I$ $a = 1.088490 - 0.289570I$ $b = -0.591728 - 0.328514I$	$-5.15906 - 0.74614I$	0
$u = -0.225814 + 1.273210I$ $a = -1.031970 + 0.627472I$ $b = 1.241350 - 0.220611I$	$-7.52069 - 3.51563I$	0
$u = -0.225814 - 1.273210I$ $a = -1.031970 - 0.627472I$ $b = 1.241350 + 0.220611I$	$-7.52069 + 3.51563I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.662169 + 0.075701I$ $a = 2.56174 + 4.32224I$ $b = -0.074759 + 0.451489I$	$0.92608 - 2.64149I$	$17.6522 - 0.3942I$
$u = 0.662169 - 0.075701I$ $a = 2.56174 - 4.32224I$ $b = -0.074759 - 0.451489I$	$0.92608 + 2.64149I$	$17.6522 + 0.3942I$
$u = 0.620268 + 1.182070I$ $a = 1.096130 + 0.449832I$ $b = -0.538917 + 0.534247I$	$-3.04734 + 8.79533I$	0
$u = 0.620268 - 1.182070I$ $a = 1.096130 - 0.449832I$ $b = -0.538917 - 0.534247I$	$-3.04734 - 8.79533I$	0
$u = 0.403972 + 0.517854I$ $a = 2.33572 - 0.74408I$ $b = 0.143086 + 0.404967I$	$0.35725 - 2.80293I$	$2.42705 - 0.32410I$
$u = 0.403972 - 0.517854I$ $a = 2.33572 + 0.74408I$ $b = 0.143086 - 0.404967I$	$0.35725 + 2.80293I$	$2.42705 + 0.32410I$
$u = -0.602855 + 0.254814I$ $a = 2.72144 - 2.58123I$ $b = -0.502158 - 0.739354I$	$1.54023 - 0.58667I$	$7.56757 + 1.83797I$
$u = -0.602855 - 0.254814I$ $a = 2.72144 + 2.58123I$ $b = -0.502158 + 0.739354I$	$1.54023 + 0.58667I$	$7.56757 - 1.83797I$
$u = 0.294810 + 0.580053I$ $a = 0.0856960 - 0.0910701I$ $b = -0.308352 + 1.276130I$	$5.74020 + 6.92480I$	$3.01363 - 13.60035I$
$u = 0.294810 - 0.580053I$ $a = 0.0856960 + 0.0910701I$ $b = -0.308352 - 1.276130I$	$5.74020 - 6.92480I$	$3.01363 + 13.60035I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.686340 + 1.161910I$ $a = -1.62681 + 0.49214I$ $b = 1.30606 + 1.32594I$	$-3.15409 - 13.45310I$	0
$u = -0.686340 - 1.161910I$ $a = -1.62681 - 0.49214I$ $b = 1.30606 - 1.32594I$	$-3.15409 + 13.45310I$	0
$u = 1.344020 + 0.136150I$ $a = 0.0950984 - 0.0647583I$ $b = -0.471899 + 0.378040I$	$0.05421 + 4.55763I$	0
$u = 1.344020 - 0.136150I$ $a = 0.0950984 + 0.0647583I$ $b = -0.471899 - 0.378040I$	$0.05421 - 4.55763I$	0
$u = 0.384450 + 1.300810I$ $a = -0.030097 + 0.608646I$ $b = -0.190987 - 0.463686I$	$3.24444 - 3.62921I$	0
$u = 0.384450 - 1.300810I$ $a = -0.030097 - 0.608646I$ $b = -0.190987 + 0.463686I$	$3.24444 + 3.62921I$	0
$u = -1.249770 + 0.549727I$ $a = 0.0607854 + 0.0863081I$ $b = -0.017969 - 0.512909I$	$4.49122 - 0.85357I$	0
$u = -1.249770 - 0.549727I$ $a = 0.0607854 - 0.0863081I$ $b = -0.017969 + 0.512909I$	$4.49122 + 0.85357I$	0
$u = -0.136573 + 1.365360I$ $a = 1.145410 + 0.440251I$ $b = -0.896421 - 0.512479I$	$-2.40247 - 5.42914I$	0
$u = -0.136573 - 1.365360I$ $a = 1.145410 - 0.440251I$ $b = -0.896421 + 0.512479I$	$-2.40247 + 5.42914I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.744358 + 1.163120I$ $a = 1.66252 + 0.48550I$ $b = -1.13573 + 1.13323I$	$3.6652 + 14.5289I$	0
$u = 0.744358 - 1.163120I$ $a = 1.66252 - 0.48550I$ $b = -1.13573 - 1.13323I$	$3.6652 - 14.5289I$	0
$u = -0.666553 + 1.237420I$ $a = 1.60652 - 0.30023I$ $b = -1.15631 - 1.03713I$	$-1.66694 - 11.66010I$	0
$u = -0.666553 - 1.237420I$ $a = 1.60652 + 0.30023I$ $b = -1.15631 + 1.03713I$	$-1.66694 + 11.66010I$	0
$u = 0.77832 + 1.18182I$ $a = -0.571885 - 0.230633I$ $b = 0.618955 - 0.450301I$	$-2.95130 + 3.55729I$	0
$u = 0.77832 - 1.18182I$ $a = -0.571885 + 0.230633I$ $b = 0.618955 + 0.450301I$	$-2.95130 - 3.55729I$	0
$u = -0.80813 + 1.16214I$ $a = -0.735772 + 0.120500I$ $b = 0.518682 + 0.685982I$	$2.64360 - 6.29046I$	0
$u = -0.80813 - 1.16214I$ $a = -0.735772 - 0.120500I$ $b = 0.518682 - 0.685982I$	$2.64360 + 6.29046I$	0
$u = -0.65588 + 1.25533I$ $a = -0.401258 - 0.284299I$ $b = 0.105477 + 0.481202I$	$4.13066 - 2.35961I$	0
$u = -0.65588 - 1.25533I$ $a = -0.401258 + 0.284299I$ $b = 0.105477 - 0.481202I$	$4.13066 + 2.35961I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.79014 + 1.19093I$ $a = 1.57507 - 0.52400I$ $b = -1.17804 - 1.15638I$	$1.3407 - 19.9336I$	0
$u = -0.79014 - 1.19093I$ $a = 1.57507 + 0.52400I$ $b = -1.17804 + 1.15638I$	$1.3407 + 19.9336I$	0
$u = 0.83652 + 1.17406I$ $a = -0.776566 - 0.188561I$ $b = 0.603281 - 0.750118I$	$0.38712 + 11.78350I$	0
$u = 0.83652 - 1.17406I$ $a = -0.776566 + 0.188561I$ $b = 0.603281 + 0.750118I$	$0.38712 - 11.78350I$	0
$u = 1.22663 + 0.77521I$ $a = 0.0435401 - 0.1234290I$ $b = 0.297296 + 0.416488I$	$1.92024 - 4.49255I$	0
$u = 1.22663 - 0.77521I$ $a = 0.0435401 + 0.1234290I$ $b = 0.297296 - 0.416488I$	$1.92024 + 4.49255I$	0
$u = 0.23708 + 1.43326I$ $a = 1.211770 - 0.275554I$ $b = -1.051090 + 0.550180I$	$-5.87319 + 10.08940I$	0
$u = 0.23708 - 1.43326I$ $a = 1.211770 + 0.275554I$ $b = -1.051090 - 0.550180I$	$-5.87319 - 10.08940I$	0
$u = 0.04867 + 1.45594I$ $a = 0.991471 - 0.338850I$ $b = -0.907655 + 0.317214I$	$-6.41600 + 1.19724I$	0
$u = 0.04867 - 1.45594I$ $a = 0.991471 + 0.338850I$ $b = -0.907655 - 0.317214I$	$-6.41600 - 1.19724I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.122099 + 0.517174I$ $a = 1.009960 + 0.022377I$ $b = 0.064215 + 0.848763I$	$0.66023 - 1.44451I$	$4.74429 + 4.89745I$
$u = -0.122099 - 0.517174I$ $a = 1.009960 - 0.022377I$ $b = 0.064215 - 0.848763I$	$0.66023 + 1.44451I$	$4.74429 - 4.89745I$
$u = -0.073108 + 0.406684I$ $a = 9.86795 - 2.20347I$ $b = -0.465287 + 0.154077I$	$2.17840 - 2.18123I$	$-22.4359 + 2.0088I$
$u = -0.073108 - 0.406684I$ $a = 9.86795 + 2.20347I$ $b = -0.465287 - 0.154077I$	$2.17840 + 2.18123I$	$-22.4359 - 2.0088I$
$u = -0.286740$ $a = 4.63701$ $b = -0.618288$	2.30295	2.03470

II. $\boldsymbol{I_1^v = \langle a,\ 1728v^9 - 4936v^8 + \cdots + 3335b - 613,\ v^{10} - 3v^9 + \cdots - v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -0.518141v^9 + 1.48006v^8 + \cdots - 1.48006v^2 + 0.183808 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -0.462969v^9 + 1.33373v^8 + \cdots - 1.33373v^2 + 1.81379 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.462969v^9 - 1.33373v^8 + \cdots + 1.33373v^2 - 0.813793 \\ 1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.684858v^9 - 1.96192v^8 + \cdots + 1.96192v^2 - 0.942729 \\ 1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.518141v^9 + 1.48006v^8 + \cdots - 1.48006v^2 + 0.183808 \\ -0.518141v^9 + 1.48006v^8 + \cdots - 1.48006v^2 + 0.183808 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.684858v^9 + 1.96192v^8 + \cdots - 1.96192v^2 + 0.942729 \\ -1.14783v^9 + 3.29565v^8 + \cdots - 3.29565v^2 + 1.75652 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.0737631v^9 - 0.147526v^8 + \cdots + 5.22189v - 0.331634 \\ 0.147826v^9 - 0.295652v^8 + \cdots + 7v - 0.756522 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.0740630v^9 + 0.278561v^8 + \cdots + 5.22189v - 0.183808 \\ 0.147826v^9 - 0.295652v^8 + \cdots + 7v - 0.756522 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= \tfrac{1259}{667}v^9 - \tfrac{146}{29}v^8 + \tfrac{6397}{667}v^7 + \tfrac{11075}{667}v^6 - \tfrac{16703}{667}v^5 - \tfrac{29857}{667}v^4 + \tfrac{2799}{29}v^3 + \tfrac{18061}{667}v^2 - \tfrac{151}{23}v + \tfrac{990}{667}$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.38814 + 0.78973I$ $a = 0$ $b = 0.339110 + 0.822375I$	$0.329100 + 0.499304I$	$3.01153 - 0.88894I$
$v = 1.38814 - 0.78973I$ $a = 0$ $b = 0.339110 - 0.822375I$	$0.329100 - 0.499304I$	$3.01153 + 0.88894I$
$v = -1.37799 + 0.80730I$ $a = 0$ $b = 0.339110 + 0.822375I$	$0.32910 - 3.56046I$	$3.07628 + 9.77765I$
$v = -1.37799 - 0.80730I$ $a = 0$ $b = 0.339110 - 0.822375I$	$0.32910 + 3.56046I$	$3.07628 - 9.77765I$
$v = -0.294694 + 0.220725I$ $a = 0$ $b = -0.455697 - 1.200150I$	$5.87256 - 6.43072I$	$6.63163 + 0.01393I$
$v = -0.294694 - 0.220725I$ $a = 0$ $b = -0.455697 + 1.200150I$	$5.87256 + 6.43072I$	$6.63163 - 0.01393I$
$v = 0.338500 + 0.144851I$ $a = 0$ $b = -0.455697 - 1.200150I$	$5.87256 - 2.37095I$	$3.55752 + 5.27247I$
$v = 0.338500 - 0.144851I$ $a = 0$ $b = -0.455697 + 1.200150I$	$5.87256 + 2.37095I$	$3.55752 - 5.27247I$
$v = 1.44605 + 2.50463I$ $a = 0$ $b = -0.766826$	$2.40108 - 2.02988I$	$9.72304 - 3.67600I$
$v = 1.44605 - 2.50463I$ $a = 0$ $b = -0.766826$	$2.40108 + 2.02988I$	$9.72304 + 3.67600I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^5)(u^{135}+64u^{134}+\cdots+158u-1)$
c_2	$((u^2+u+1)^5)(u^{135}+6u^{134}+\cdots-2u-1)$
c_3	$((u^2-u+1)^5)(u^{135}-6u^{134}+\cdots+1.85327\times 10^7u-1174793)$
c_4, c_8	$u^{10}(u^{135}-u^{134}+\cdots+5120u-1024)$
c_5	$((u^2-u+1)^5)(u^{135}+6u^{134}+\cdots-2u-1)$
c_6	$(u^5-u^4-2u^3+u^2+u+1)^2$ $\cdot(u^{135}-3u^{134}+\cdots+17948537u-2522669)$
c_7	$((u^5+u^4+2u^3+u^2+u+1)^2)(u^{135}+3u^{134}+\cdots+12401u-47809)$
c_9	$((u^5-3u^4+4u^3-u^2-u+1)^2)(u^{135}+9u^{134}+\cdots+3u+1)$
c_{10}	$((u^5-u^4-2u^3+u^2+u+1)^2)(u^{135}+3u^{134}+\cdots+23u-1)$
c_{11}	$((u^5-u^4+2u^3-u^2+u-1)^2)(u^{135}-23u^{134}+\cdots+3u-1)$
c_{12}	$((u^5+u^4-2u^3-u^2+u-1)^2)(u^{135}+3u^{134}+\cdots+23u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^5)(y^{135}+20y^{134}+\cdots+22410y-1)$
c_2, c_5	$((y^2+y+1)^5)(y^{135}+64y^{134}+\cdots+158y-1)$
c_3	$(y^2+y+1)^5$ $\cdot(y^{135}-24y^{134}+\cdots+270394515667686y-1380138592849)$
c_4, c_8	$y^{10}(y^{135}+55y^{134}+\cdots-2.41172\times 10^7y-1048576)$
c_6	$(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^{135}+85y^{134}+\cdots+285856654348325y-6363858883561)$
c_7	$(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^{135}+149y^{134}+\cdots-218902272299y-2285700481)$
c_9	$((y^5-y^4+8y^3-3y^2+3y-1)^2)(y^{135}-23y^{134}+\cdots+9y-1)$
c_{10}, c_{12}	$((y^5-5y^4+8y^3-3y^2-y-1)^2)(y^{135}-95y^{134}+\cdots-23y-1)$
c_{11}	$((y^5+3y^4+4y^3+y^2-y-1)^2)(y^{135}+9y^{134}+\cdots-23y-1)$