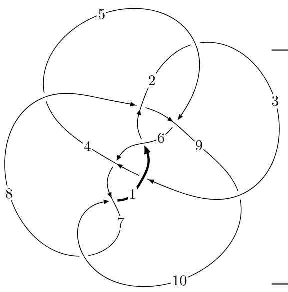
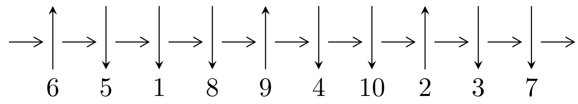
10_{121} $(K10a_{90})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1260218947u^{22} - 19109508090u^{21} + \cdots + 9843161064b + 5089661734,\\
&-2544830867u^{22} - 38196855978u^{21} + \cdots + 1968632212a + 17497959996,\\
&u^{23} + 16u^{22} + \cdots - 10u - 4\rangle\\
I_2^u = \langle &111u^{10}a^3 + 343u^{10}a^2 + \cdots - 317a - 203,\ -u^{10}a^3 + 5u^{10}a^2 + \cdots + 9a^2 + 12,\\
&u^{11} - 5u^{10} + 12u^9 - 15u^8 + 8u^7 + 4u^6 - 8u^5 + 3u^4 + 3u^3 - 3u^2 + 1\rangle\\
I_3^u = \langle &u^9 - 5u^8 + 11u^7 - 12u^6 + 5u^5 + 3u^4 - 5u^3 + 3u^2 + b + u - 2,\\
&2u^9 - 9u^8 + 19u^7 - 21u^6 + 12u^5 - u^4 - 3u^3 + 3u^2 + a + u - 1,\\
&u^{10} - 5u^9 + 12u^8 - 16u^7 + 12u^6 - 3u^5 - 3u^4 + 4u^3 - u^2 - u + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 77 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.

$\boldsymbol{I_1^u = \langle -1.26\times 10^{9}u^{22} - 1.91\times 10^{10}u^{21} + \cdots + 9.84\times 10^{8}b + 5.09\times 10^{9},\ -2.54\times 10^{9}u^{22} - 3.82\times 10^{10}u^{21} + \cdots + 1.97\times 10^{9}a + 1.75\times 10^{10},\ u^{23} + 16u^{22} + \cdots - 10u - 4\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.29269u^{22} + 19.4027u^{21} + \cdots - 9.50831u - 8.88838 \\ 1.28030u^{22} + 19.4140u^{21} + \cdots - 4.03851u - 5.17076 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.319249u^{22} + 5.03061u^{21} + \cdots + 6.76619u - 4.03209 \\ 0.0773747u^{22} + 0.861665u^{21} + \cdots + 1.83960u - 1.27700 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.08318u^{22} + 16.7864u^{21} + \cdots - 13.1020u - 8.83882 \\ -0.0242790u^{22} - 0.125186u^{21} + \cdots + 2.48170u - 2.22746 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.02071u^{22} + 13.6913u^{21} + \cdots - 4.25396u + 6.74097 \\ 2.26372u^{22} + 33.8581u^{21} + \cdots - 16.4513u - 3.77333 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.0123908u^{22} - 0.0112566u^{21} + \cdots - 5.46979u - 3.71763 \\ 1.28030u^{22} + 19.4140u^{21} + \cdots - 4.03851u - 5.17076 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.540830u^{22} + 8.50923u^{21} + \cdots + 5.59024u - 1.78760 \\ -0.298956u^{22} - 4.34029u^{21} + \cdots + 1.33635u - 0.967496 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.221415u^{22} - 3.51881u^{21} + \cdots - 1.62252u - 3.99396 \\ 0.519049u^{22} + 7.71688u^{21} + \cdots + 1.74955u - 3.39079 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{3396085143}{492158053}u^{22} - \frac{53190862554}{492158053}u^{21} + \cdots + \frac{29461471174}{492158053}u + \frac{13339530290}{492158053}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - 19u^{22} + \cdots - 18432u + 2048$
c_2	$u^{23} - 16u^{22} + \cdots - 10u + 4$
c_3, c_6	$u^{23} + u^{22} + \cdots + 2u + 1$
c_4, c_9	$u^{23} + u^{22} + \cdots + u + 1$
c_5, c_8	$u^{23} - u^{22} + \cdots + 2u + 1$
c_7, c_{10}	$u^{23} - 10u^{22} + \cdots - 108u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} + 9y^{22} + \cdots + 2097152y - 4194304$
c_2	$y^{23} - 2y^{22} + \cdots + 252y - 16$
c_3, c_6	$y^{23} + 9y^{22} + \cdots - 16y - 1$
c_4, c_9	$y^{23} - 7y^{22} + \cdots - y - 1$
c_5, c_8	$y^{23} - 3y^{22} + \cdots + 6y - 1$
c_7, c_{10}	$y^{23} + 16y^{22} + \cdots - 1360y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.799030 + 0.571303I$ $a = -0.12013 - 1.57743I$ $b = -0.99718 - 1.19178I$	$1.35281 + 4.50771I$	$12.5679 - 8.0453I$
$u = -0.799030 - 0.571303I$ $a = -0.12013 + 1.57743I$ $b = -0.99718 + 1.19178I$	$1.35281 - 4.50771I$	$12.5679 + 8.0453I$
$u = 0.924432$ $a = -0.417135$ $b = 0.385613$	-1.38648	-7.37670
$u = -0.517217 + 1.045830I$ $a = -0.047708 + 0.890847I$ $b = 0.906994 + 0.510655I$	$6.24675 - 0.93599I$	$3.26085 + 0.04991I$
$u = -0.517217 - 1.045830I$ $a = -0.047708 - 0.890847I$ $b = 0.906994 - 0.510655I$	$6.24675 + 0.93599I$	$3.26085 - 0.04991I$
$u = -1.119710 + 0.513718I$ $a = -0.452909 - 0.773390I$ $b = -0.904431 - 0.633306I$	$0.95729 + 2.04351I$	$2.51837 - 2.36281I$
$u = -1.119710 - 0.513718I$ $a = -0.452909 + 0.773390I$ $b = -0.904431 + 0.633306I$	$0.95729 - 2.04351I$	$2.51837 + 2.36281I$
$u = -0.587912 + 0.172198I$ $a = -0.88228 - 1.27862I$ $b = -0.738880 - 0.599789I$	$1.10859 + 1.69807I$	$0.99491 - 2.62569I$
$u = -0.587912 - 0.172198I$ $a = -0.88228 + 1.27862I$ $b = -0.738880 + 0.599789I$	$1.10859 - 1.69807I$	$0.99491 + 2.62569I$
$u = 0.267486 + 0.510215I$ $a = 0.57156 - 1.32428I$ $b = -0.828550 + 0.062607I$	$2.14619 - 2.15516I$	$1.26567 + 4.32711I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.267486 - 0.510215I$ $a = 0.57156 + 1.32428I$ $b = -0.828550 - 0.062607I$	$2.14619 + 2.15516I$	$1.26567 - 4.32711I$
$u = -1.14560 + 0.90839I$ $a = 0.060381 + 1.065800I$ $b = 1.03734 + 1.16613I$	$-4.47926 + 10.82160I$	$-7.18200 - 7.95225I$
$u = -1.14560 - 0.90839I$ $a = 0.060381 - 1.065800I$ $b = 1.03734 - 1.16613I$	$-4.47926 - 10.82160I$	$-7.18200 + 7.95225I$
$u = -1.14496 + 1.09496I$ $a = 0.038158 - 1.004390I$ $b = -1.05609 - 1.19178I$	$-0.6004 + 16.9749I$	$0. - 9.34400I$
$u = -1.14496 - 1.09496I$ $a = 0.038158 + 1.004390I$ $b = -1.05609 + 1.19178I$	$-0.6004 - 16.9749I$	$0. + 9.34400I$
$u = 0.257593 + 0.139438I$ $a = -3.87302 + 0.15811I$ $b = 1.019710 + 0.499316I$	$1.57996 + 1.95049I$	$0.00371 - 3.34610I$
$u = 0.257593 - 0.139438I$ $a = -3.87302 - 0.15811I$ $b = 1.019710 - 0.499316I$	$1.57996 - 1.95049I$	$0.00371 + 3.34610I$
$u = -1.37621 + 1.06752I$ $a = 0.189943 + 0.547859I$ $b = 0.846254 + 0.551200I$	$3.21418 + 8.47524I$	0
$u = -1.37621 - 1.06752I$ $a = 0.189943 - 0.547859I$ $b = 0.846254 - 0.551200I$	$3.21418 - 8.47524I$	0
$u = -0.84300 + 1.61883I$ $a = 0.299587 - 0.003010I$ $b = 0.247680 - 0.487517I$	$-2.90076 - 2.91786I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.84300 - 1.61883I$ $a = 0.299587 + 0.003010I$ $b = 0.247680 + 0.487517I$	$-2.90076 + 2.91786I$	0
$u = -1.45365 + 1.27820I$ $a = -0.325009 + 0.193081I$ $b = -0.225654 + 0.696100I$	$-0.52992 - 8.08521I$	0
$u = -1.45365 - 1.27820I$ $a = -0.325009 - 0.193081I$ $b = -0.225654 - 0.696100I$	$-0.52992 + 8.08521I$	0

II. $\boldsymbol{I_2^u = \langle 111u^{10}a^3 + 343u^{10}a^2 + \cdots - 317a - 203,\ -u^{10}a^3 + 5u^{10}a^2 + \cdots + 9a^2 + 12,\ u^{11} - 5u^{10} + \cdots - 3u^2 + 1\rangle}$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} a \\ -0.350158a^3u^{10} - 1.08202a^2u^{10} + \cdots + a + 0.640379 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a^2u \\ -0.0820189a^3u^{10} + 0.350158a^2u^{10} + \cdots - a + 0.996845 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.350158a^3u^{10} + 1.08202a^2u^{10} + \cdots - 1.04101a^2 - 0.640379 \\ 0.0504732a^3u^{10} - 0.753943a^2u^{10} + \cdots + 0.876972a^2 + 0.0788644 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0410095a^3u^{10} - 0.675079a^2u^{10} + \cdots + a + 0.501577 \\ -0.0820189a^3u^{10} + 0.350158a^2u^{10} + \cdots - a - 0.00315457 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.350158a^3u^{10} + 1.08202a^2u^{10} + \cdots - 1.04101a^2 - 0.640379 \\ -0.350158a^3u^{10} - 1.08202a^2u^{10} + \cdots + a + 0.640379 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.328076a^3u^{10} + 0.400631a^2u^{10} + \cdots - a - 0.0126183 \\ 0.410095a^3u^{10} - 0.750789a^2u^{10} + \cdots + 2a - 0.984227 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.451104a^3u^{10} + 0.425868a^2u^{10} + \cdots - 0.712934a^2 + 0.482650 \\ 0.246057a^3u^{10} - 1.05047a^2u^{10} + \cdots + 2a + 0.00946372 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{104}{317}u^{10}a^3 - \frac{444}{317}u^{10}a^2 + \cdots + 4a - \frac{6970}{317}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)^{22}$
c_2	$(u^{11}+5u^{10}+12u^9+15u^8+8u^7-4u^6-8u^5-3u^4+3u^3+3u^2-1)^4$
c_3, c_6	$u^{44}+u^{43}+\cdots-8u+1$
c_4, c_9	$u^{44}-u^{43}+\cdots-918u+289$
c_5, c_8	$u^{44}-3u^{43}+\cdots+14u+1$
c_7, c_{10}	$(u^{11}+3u^{10}+\cdots+2u+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)^{22}$
c_2	$(y^{11}-y^{10}+\cdots+6y-1)^4$
c_3, c_6	$y^{44}-9y^{43}+\cdots-8y+1$
c_4, c_9	$y^{44}-13y^{43}+\cdots-899368y+83521$
c_5, c_8	$y^{44}+15y^{43}+\cdots-56y+1$
c_7, c_{10}	$(y^{11}+7y^{10}+\cdots-6y-1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.326966 + 0.916688I$ $a = -0.038498 - 1.048450I$ $b = 0.80389 - 1.55903I$	$2.98579 - 7.03062I$	$1.84059 + 9.69161I$
$u = 0.326966 + 0.916688I$ $a = -0.281007 - 1.284950I$ $b = 0.1356230 + 0.0379857I$	$2.98579 - 2.97085I$	$1.84059 + 2.76341I$
$u = 0.326966 + 0.916688I$ $a = 1.23128 + 1.31612I$ $b = -0.948517 + 0.378099I$	$2.98579 - 7.03062I$	$1.84059 + 9.69161I$
$u = 0.326966 + 0.916688I$ $a = -0.083576 + 0.118139I$ $b = -1.086020 + 0.677732I$	$2.98579 - 2.97085I$	$1.84059 + 2.76341I$
$u = 0.326966 - 0.916688I$ $a = -0.038498 + 1.048450I$ $b = 0.80389 + 1.55903I$	$2.98579 + 7.03062I$	$1.84059 - 9.69161I$
$u = 0.326966 - 0.916688I$ $a = -0.281007 + 1.284950I$ $b = 0.1356230 - 0.0379857I$	$2.98579 + 2.97085I$	$1.84059 - 2.76341I$
$u = 0.326966 - 0.916688I$ $a = 1.23128 - 1.31612I$ $b = -0.948517 - 0.378099I$	$2.98579 + 7.03062I$	$1.84059 - 9.69161I$
$u = 0.326966 - 0.916688I$ $a = -0.083576 - 0.118139I$ $b = -1.086020 - 0.677732I$	$2.98579 + 2.97085I$	$1.84059 - 2.76341I$
$u = 0.864248 + 0.407709I$ $a = -0.129704 + 0.797794I$ $b = -1.09220 + 1.32253I$	$-2.06894 - 4.27767I$	$-9.63582 + 8.52770I$
$u = 0.864248 + 0.407709I$ $a = -1.193510 - 0.275075I$ $b = 0.002110 - 0.500193I$	$-2.06894 - 0.21790I$	$-9.63582 + 1.59949I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.864248 + 0.407709I$ $a = 0.221332 + 0.474348I$ $b = 0.919334 + 0.724336I$	$-2.06894 - 0.21790I$	$-9.63582 + 1.59949I$
$u = 0.864248 + 0.407709I$ $a = 0.44322 - 1.73936I$ $b = 0.437365 - 0.636610I$	$-2.06894 - 4.27767I$	$-9.63582 + 8.52770I$
$u = 0.864248 - 0.407709I$ $a = -0.129704 - 0.797794I$ $b = -1.09220 - 1.32253I$	$-2.06894 + 4.27767I$	$-9.63582 - 8.52770I$
$u = 0.864248 - 0.407709I$ $a = -1.193510 + 0.275075I$ $b = 0.002110 + 0.500193I$	$-2.06894 + 0.21790I$	$-9.63582 - 1.59949I$
$u = 0.864248 - 0.407709I$ $a = 0.221332 - 0.474348I$ $b = 0.919334 - 0.724336I$	$-2.06894 + 0.21790I$	$-9.63582 - 1.59949I$
$u = 0.864248 - 0.407709I$ $a = 0.44322 + 1.73936I$ $b = 0.437365 + 0.636610I$	$-2.06894 + 4.27767I$	$-9.63582 - 8.52770I$
$u = -0.577598 + 0.283449I$ $a = -0.081013 + 0.913235I$ $b = -1.57832 + 1.34962I$	$0.11530 + 7.95431I$	$-9.1705 - 13.4876I$
$u = -0.577598 + 0.283449I$ $a = 0.76538 - 1.71451I$ $b = -0.918479 - 0.926010I$	$0.11530 + 3.89454I$	$-9.17045 - 6.55945I$
$u = -0.577598 + 0.283449I$ $a = -0.64749 - 1.92095I$ $b = -0.043897 - 1.207240I$	$0.11530 + 3.89454I$	$-9.17045 - 6.55945I$
$u = -0.577598 + 0.283449I$ $a = -3.12633 + 0.80240I$ $b = 0.212063 + 0.550445I$	$0.11530 + 7.95431I$	$-9.1705 - 13.4876I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.577598-0.283449I$ $a=-0.081013-0.913235I$ $b=-1.57832-1.34962I$	$0.11530-7.95431I$	$-9.1705+13.4876I$
$u=-0.577598-0.283449I$ $a=0.76538+1.71451I$ $b=-0.918479+0.926010I$	$0.11530-3.89454I$	$-9.17045+6.55945I$
$u=-0.577598-0.283449I$ $a=-0.64749+1.92095I$ $b=-0.043897+1.207240I$	$0.11530-3.89454I$	$-9.17045+6.55945I$
$u=-0.577598-0.283449I$ $a=-3.12633-0.80240I$ $b=0.212063-0.550445I$	$0.11530-7.95431I$	$-9.1705+13.4876I$
$u=1.110200+0.862988I$ $a=0.028627-1.133370I$ $b=0.596743-0.983192I$	$-2.44783-4.73429I$	$-9.46762+3.38077I$
$u=1.110200+0.862988I$ $a=0.094059+0.812487I$ $b=-1.00987+1.23356I$	$-2.44783-4.73429I$	$-9.46762+3.38077I$
$u=1.110200+0.862988I$ $a=-0.521303-0.385563I$ $b=0.177376-0.645337I$	$-2.44783-0.67452I$	$-9.46762-3.54743I$
$u=1.110200+0.862988I$ $a=0.182065+0.439757I$ $b=0.246013+0.877929I$	$-2.44783-0.67452I$	$-9.46762-3.54743I$
$u=1.110200-0.862988I$ $a=0.028627+1.133370I$ $b=0.596743+0.983192I$	$-2.44783+4.73429I$	$-9.46762-3.38077I$
$u=1.110200-0.862988I$ $a=0.094059-0.812487I$ $b=-1.00987-1.23356I$	$-2.44783+4.73429I$	$-9.46762-3.38077I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.110200 - 0.862988I$ $a = -0.521303 + 0.385563I$ $b = 0.177376 + 0.645337I$	$-2.44783 + 0.67452I$	$-9.46762 + 3.54743I$
$u = 1.110200 - 0.862988I$ $a = 0.182065 - 0.439757I$ $b = 0.246013 - 0.877929I$	$-2.44783 + 0.67452I$	$-9.46762 + 3.54743I$
$u = -0.566454$ $a = -0.061706 + 1.273110I$ $b = 1.26958 + 1.41728I$	$-4.02369 - 2.02988I$	$-18.2613 + 3.4641I$
$u = -0.566454$ $a = -0.061706 - 1.273110I$ $b = 1.26958 - 1.41728I$	$-4.02369 + 2.02988I$	$-18.2613 - 3.4641I$
$u = -0.566454$ $a = 2.24127 + 2.50202I$ $b = -0.034953 + 0.721156I$	$-4.02369 - 2.02988I$	$-18.2613 + 3.4641I$
$u = -0.566454$ $a = 2.24127 - 2.50202I$ $b = -0.034953 - 0.721156I$	$-4.02369 + 2.02988I$	$-18.2613 - 3.4641I$
$u = 1.05941 + 1.17096I$ $a = 0.014454 + 0.953147I$ $b = -0.651229 + 1.243080I$	$-1.50728 - 7.24617I$	$-6.43603 + 12.47688I$
$u = 1.05941 + 1.17096I$ $a = -0.307069 - 0.833969I$ $b = 1.10078 - 1.02670I$	$-1.50728 - 7.24617I$	$-6.43603 + 12.47688I$
$u = 1.05941 + 1.17096I$ $a = 0.426989 + 0.526407I$ $b = -0.201428 + 0.560153I$	$-1.50728 - 3.18641I$	$-6.43603 + 5.54868I$
$u = 1.05941 + 1.17096I$ $a = -0.177470 - 0.332583I$ $b = 0.164043 - 1.057670I$	$-1.50728 - 3.18641I$	$-6.43603 + 5.54868I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.05941 - 1.17096I$ $a = 0.014454 - 0.953147I$ $b = -0.651229 - 1.243080I$	$-1.50728 + 7.24617I$	$-6.43603 - 12.47688I$
$u = 1.05941 - 1.17096I$ $a = -0.307069 + 0.833969I$ $b = 1.10078 + 1.02670I$	$-1.50728 + 7.24617I$	$-6.43603 - 12.47688I$
$u = 1.05941 - 1.17096I$ $a = 0.426989 - 0.526407I$ $b = -0.201428 - 0.560153I$	$-1.50728 + 3.18641I$	$-6.43603 - 5.54868I$
$u = 1.05941 - 1.17096I$ $a = -0.177470 + 0.332583I$ $b = 0.164043 + 1.057670I$	$-1.50728 + 3.18641I$	$-6.43603 - 5.54868I$

III.

$$\boldsymbol{I^u_3 = \langle u^9 - 5u^8 + \cdots + b - 2,\ 2u^9 - 9u^8 + \cdots + a - 1,\ u^{10} - 5u^9 + \cdots - u + 1\rangle}$$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix}0\\u\end{pmatrix}$$

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

$$a_9 = \begin{pmatrix}-2u^9 + 9u^8 - 19u^7 + 21u^6 - 12u^5 + u^4 + 3u^3 - 3u^2 - u + 1\\ -u^9 + 5u^8 - 11u^7 + 12u^6 - 5u^5 - 3u^4 + 5u^3 - 3u^2 - u + 2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-u^9 + 3u^8 - 4u^7 + u^6 + u^5 - 2u^3 + u^2 - 2u - 1\\ -2u^9 + 8u^8 - 15u^7 + 13u^6 - 3u^5 - 5u^4 + 5u^3 - 3u^2 - u + 1\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-u^9 + 5u^8 - 12u^7 + 16u^6 - 13u^5 + 6u^4 - u^3 - 2u^2 + u\\ -u^9 + 4u^8 - 8u^7 + 8u^6 - 3u^5 - 3u^4 + 4u^3 - 2u^2 - u + 1\end{pmatrix}$$

$$a_1 = \begin{pmatrix}4u^9 - 18u^8 + 38u^7 - 42u^6 + 23u^5 - 9u^3 + 8u^2 + u - 3\\ -u^8 + 3u^7 - 4u^6 + u^5 + 2u^4 - 3u^3 + 2u^2 - u - 2\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-u^9 + 4u^8 - 8u^7 + 9u^6 - 7u^5 + 4u^4 - 2u^3 - 1\\ -u^9 + 5u^8 - 11u^7 + 12u^6 - 5u^5 - 3u^4 + 5u^3 - 3u^2 - u + 2\end{pmatrix}$$

$$a_4 = \begin{pmatrix}u^9 - 4u^8 + 7u^7 - 4u^6 - 4u^5 + 9u^4 - 7u^3 + 3u^2 + u - 1\\ -u^8 + 4u^7 - 8u^6 + 8u^5 - 4u^4 + u^2 - 1\end{pmatrix}$$

$$a_7 = \begin{pmatrix}-u^9 + 3u^8 - 4u^7 + u^6 + 2u^5 - 3u^4 + 2u^3 - 2u^2 - 2\\ -u^9 + 4u^8 - 7u^7 + 5u^6 - 3u^4 + 2u^3 - u^2 - 2u + 1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 14u^9 - 60u^8 + 124u^7 - 133u^6 + 74u^5 - 2u^4 - 25u^3 + 27u^2 + 6u - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10}+4u^8-u^7+6u^6-3u^5+6u^4-3u^3+4u^2-2u+1$
c_2	$u^{10}-5u^9+12u^8-16u^7+12u^6-3u^5-3u^4+4u^3-u^2-u+1$
c_3, c_6	$u^{10}+3u^9+3u^8-u^7-u^6+7u^5+11u^4+3u^3-3u^2-u+1$
c_4, c_9	$u^{10}+u^9-u^8-2u^7+3u^6-2u^4-u^3+5u^2-4u+1$
c_5, c_8	$u^{10}+u^9+3u^8+2u^7+7u^6+5u^5+8u^4+4u^3+4u^2+u+1$
c_7	$u^{10}-3u^9+9u^8-16u^7+24u^6-27u^5+24u^4-18u^3+10u^2-4u+1$
c_{10}	$u^{10}+3u^9+9u^8+16u^7+24u^6+27u^5+24u^4+18u^3+10u^2+4u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} + 8y^9 + \cdots + 4y + 1$
c_2	$y^{10} - y^9 + 8y^8 - 4y^7 + 14y^6 + 15y^5 + y^4 + 8y^3 + 3y^2 - 3y + 1$
c_3, c_6	$y^{10} - 3y^9 + \cdots - 7y + 1$
c_4, c_9	$y^{10} - 3y^9 + \cdots - 6y + 1$
c_5, c_8	$y^{10} + 5y^9 + \cdots + 7y + 1$
c_7, c_{10}	$y^{10} + 9y^9 + 33y^8 + 62y^7 + 56y^6 + 5y^5 - 26y^4 - 12y^3 + 4y^2 + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.689571 + 0.575966I$ $a = -0.12950 - 1.62825I$ $b = 0.84852 - 1.19738I$	$0.99844 - 4.62197I$	$-7.4943 + 13.1842I$
$u = 0.689571 - 0.575966I$ $a = -0.12950 + 1.62825I$ $b = 0.84852 + 1.19738I$	$0.99844 + 4.62197I$	$-7.4943 - 13.1842I$
$u = 0.117471 + 0.884570I$ $a = -0.748660 + 0.130004I$ $b = -0.202944 - 0.646971I$	$-2.84633 - 2.07393I$	$-9.25779 + 2.43239I$
$u = 0.117471 - 0.884570I$ $a = -0.748660 - 0.130004I$ $b = -0.202944 + 0.646971I$	$-2.84633 + 2.07393I$	$-9.25779 - 2.43239I$
$u = 1.171940 + 0.674004I$ $a = -0.240799 - 0.606453I$ $b = 0.126549 - 0.873027I$	$-2.30790 - 1.97177I$	$-10.18714 + 3.25987I$
$u = 1.171940 - 0.674004I$ $a = -0.240799 + 0.606453I$ $b = 0.126549 + 0.873027I$	$-2.30790 + 1.97177I$	$-10.18714 - 3.25987I$
$u = -0.561171 + 0.194255I$ $a = -0.531466 - 1.276610I$ $b = 0.546232 + 0.613157I$	$0.66134 - 7.13925I$	$-2.98492 + 4.64046I$
$u = -0.561171 - 0.194255I$ $a = -0.531466 + 1.276610I$ $b = 0.546232 - 0.613157I$	$0.66134 + 7.13925I$	$-2.98492 - 4.64046I$
$u = 1.08219 + 1.11471I$ $a = 0.150423 + 0.880176I$ $b = -0.818356 + 1.120190I$	$-1.44035 - 6.19794I$	$-4.57589 + 3.75444I$
$u = 1.08219 - 1.11471I$ $a = 0.150423 - 0.880176I$ $b = -0.818356 - 1.120190I$	$-1.44035 + 6.19794I$	$-4.57589 - 3.75444I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^{22})(u^{10}+4u^8+\cdots-2u+1)$ $\cdot(u^{23}-19u^{22}+\cdots-18432u+2048)$
c_2	$(u^{10}-5u^9+12u^8-16u^7+12u^6-3u^5-3u^4+4u^3-u^2-u+1)$ $\cdot(u^{11}+5u^{10}+12u^9+15u^8+8u^7-4u^6-8u^5-3u^4+3u^3+3u^2-1)^4$ $\cdot(u^{23}-16u^{22}+\cdots-10u+4)$
c_3, c_6	$(u^{10}+3u^9+3u^8-u^7-u^6+7u^5+11u^4+3u^3-3u^2-u+1)$ $\cdot(u^{23}+u^{22}+\cdots+2u+1)(u^{44}+u^{43}+\cdots-8u+1)$
c_4, c_9	$(u^{10}+u^9-u^8-2u^7+3u^6-2u^4-u^3+5u^2-4u+1)$ $\cdot(u^{23}+u^{22}+\cdots+u+1)(u^{44}-u^{43}+\cdots-918u+289)$
c_5, c_8	$(u^{10}+u^9+3u^8+2u^7+7u^6+5u^5+8u^4+4u^3+4u^2+u+1)$ $\cdot(u^{23}-u^{22}+\cdots+2u+1)(u^{44}-3u^{43}+\cdots+14u+1)$
c_7	$(u^{10}-3u^9+9u^8-16u^7+24u^6-27u^5+24u^4-18u^3+10u^2-4u+1)$ $\cdot((u^{11}+3u^{10}+\cdots+2u+1)^4)(u^{23}-10u^{22}+\cdots-108u+16)$
c_{10}	$(u^{10}+3u^9+9u^8+16u^7+24u^6+27u^5+24u^4+18u^3+10u^2+4u+1)$ $\cdot((u^{11}+3u^{10}+\cdots+2u+1)^4)(u^{23}-10u^{22}+\cdots-108u+16)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^{22})(y^{10}+8y^9+\cdots+4y+1)$ $\cdot(y^{23}+9y^{22}+\cdots+2097152y-4194304)$
c_2	$(y^{10}-y^9+8y^8-4y^7+14y^6+15y^5+y^4+8y^3+3y^2-3y+1)$ $\cdot((y^{11}-y^{10}+\cdots+6y-1)^4)(y^{23}-2y^{22}+\cdots+252y-16)$
c_3, c_6	$(y^{10}-3y^9+\cdots-7y+1)(y^{23}+9y^{22}+\cdots-16y-1)$ $\cdot(y^{44}-9y^{43}+\cdots-8y+1)$
c_4, c_9	$(y^{10}-3y^9+\cdots-6y+1)(y^{23}-7y^{22}+\cdots-y-1)$ $\cdot(y^{44}-13y^{43}+\cdots-899368y+83521)$
c_5, c_8	$(y^{10}+5y^9+\cdots+7y+1)(y^{23}-3y^{22}+\cdots+6y-1)$ $\cdot(y^{44}+15y^{43}+\cdots-56y+1)$
c_7, c_{10}	$(y^{10}+9y^9+33y^8+62y^7+56y^6+5y^5-26y^4-12y^3+4y^2+4y+1)$ $\cdot((y^{11}+7y^{10}+\cdots-6y-1)^4)(y^{23}+16y^{22}+\cdots-1360y-256)$