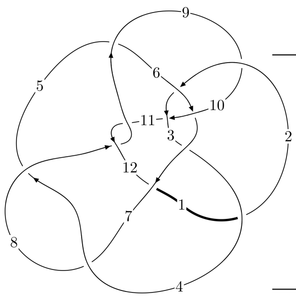
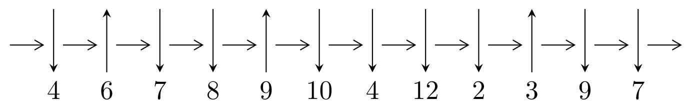
$12n_{0703}$ $(K12n_{0703})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.60229 \times 10^{96} u^{54} + 2.91450 \times 10^{96} u^{53} + \cdots + 1.26296 \times 10^{98} b - 3.52131 \times 10^{97},$$
$$1.21366 \times 10^{98} u^{54} + 2.79487 \times 10^{98} u^{53} + \cdots + 1.32611 \times 10^{99} a + 1.28362 \times 10^{100},\ u^{55} + 2u^{54} + \cdots + 10u -$$
$$I_2^u = \langle -u^{14} - 2u^{13} + 8u^{12} + 16u^{11} - 24u^{10} - 45u^9 + 38u^8 + 56u^7 - 34u^6 - 29u^5 + 9u^4 + 4u^3 + 9u^2 + b + u + 1,$$
$$-2u^{14} - 2u^{13} + \cdots + a + 5,$$
$$u^{15} + 3u^{14} - 6u^{13} - 24u^{12} + 8u^{11} + 69u^{10} + 7u^9 - 94u^8 - 22u^7 + 63u^6 + 20u^5 - 13u^4 - 14u^3 - 10u^2 - 1\rangle$$
$$I_3^u = \langle b^2 + b - a,\ a^2 + a + 1,\ u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 74 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 1.60\times10^{96}u^{54}+2.91\times10^{96}u^{53}+\cdots+1.26\times10^{98}b-3.52\times10^{97},\ 1.21\times10^{98}u^{54}+ 2.79\times10^{98}u^{53}+\cdots+1.33\times10^{99}a+1.28\times10^{100},\ u^{55}+2u^{54}+\cdots+10u-21\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-0.0915205u^{54}-0.210758u^{53}+\cdots-20.1374u-9.67965\\-0.0126868u^{54}-0.0230768u^{53}+\cdots+4.47039u+0.278815\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.0149847u^{54}+0.0198107u^{53}+\cdots+7.10770u+2.36249\\0.0166454u^{54}+0.0346016u^{53}+\cdots+4.03014u+0.137160\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.110827u^{54}-0.258163u^{53}+\cdots-29.3739u-6.63387\\0.0161463u^{54}+0.0324579u^{53}+\cdots+0.912590u-0.403284\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.100369u^{54}-0.231157u^{53}+\cdots-21.4928u-10.3099\\-0.0215354u^{54}-0.0434760u^{53}+\cdots+3.11502u-0.351471\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.0788337u^{54}-0.187681u^{53}+\cdots-24.6078u-9.95846\\-0.0215354u^{54}-0.0434760u^{53}+\cdots+3.11502u-0.351471\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.112884u^{54}+0.258117u^{53}+\cdots+33.6265u+7.39414\\-0.00613650u^{54}-0.00991033u^{53}+\cdots+2.47671u+1.02640\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.115245u^{54}+0.257703u^{53}+\cdots+28.9349u+5.85332\\-0.00189354u^{54}-0.00106986u^{53}+\cdots+2.46134u+1.14169\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0893522u^{54}+0.122027u^{53}+\cdots-35.4397u-10.8689$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{55} + 7u^{54} + \cdots - 107283u + 5687$
c_2	$u^{55} - 2u^{54} + \cdots + 11u + 1$
c_3, c_4, c_7	$u^{55} + 2u^{54} + \cdots + 10u - 21$
c_5	$u^{55} + u^{54} + \cdots - 11533u - 4223$
c_6	$u^{55} + 2u^{54} + \cdots - 28u + 47$
c_8, c_{11}	$u^{55} + 3u^{54} + \cdots - 23u - 7$
c_9	$u^{55} - 5u^{53} + \cdots + 136u - 48$
c_{10}	$u^{55} + 17u^{53} + \cdots + 586u - 227$
c_{12}	$u^{55} + u^{54} + \cdots - 5060u - 2767$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{55} - 99y^{54} + \cdots + 1442878657y - 32341969$
c_2	$y^{55} + 2y^{54} + \cdots + 75y - 1$
c_3, c_4, c_7	$y^{55} - 76y^{54} + \cdots + 6862y - 441$
c_5	$y^{55} + 29y^{54} + \cdots - 23722333y - 17833729$
c_6	$y^{55} - 12y^{54} + \cdots + 71378y - 2209$
c_8, c_{11}	$y^{55} + 5y^{54} + \cdots + 2125y - 49$
c_9	$y^{55} - 10y^{54} + \cdots + 63808y - 2304$
c_{10}	$y^{55} + 34y^{54} + \cdots - 605918y - 51529$
c_{12}	$y^{55} - 107y^{54} + \cdots - 5436606y - 7656289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.843879 + 0.544766I$ $a = 1.298890 - 0.127602I$ $b = 1.156400 + 0.474581I$	$-3.16540 + 3.11054I$	$-14.1931 - 9.0876I$
$u = -0.843879 - 0.544766I$ $a = 1.298890 + 0.127602I$ $b = 1.156400 - 0.474581I$	$-3.16540 - 3.11054I$	$-14.1931 + 9.0876I$
$u = 0.948829 + 0.204011I$ $a = -0.942145 - 0.845434I$ $b = -0.842082 - 0.113281I$	$-2.44958 - 4.10717I$	$-10.9496 + 9.7884I$
$u = 0.948829 - 0.204011I$ $a = -0.942145 + 0.845434I$ $b = -0.842082 + 0.113281I$	$-2.44958 + 4.10717I$	$-10.9496 - 9.7884I$
$u = -0.037941 + 1.123190I$ $a = -0.309131 - 0.625328I$ $b = -0.250371 - 0.018761I$	$-1.10227 + 4.51894I$	0
$u = -0.037941 - 1.123190I$ $a = -0.309131 + 0.625328I$ $b = -0.250371 + 0.018761I$	$-1.10227 - 4.51894I$	0
$u = -1.090260 + 0.307766I$ $a = -0.153294 - 0.936767I$ $b = -0.727540 + 0.848969I$	$-2.42178 - 2.55675I$	0
$u = -1.090260 - 0.307766I$ $a = -0.153294 + 0.936767I$ $b = -0.727540 - 0.848969I$	$-2.42178 + 2.55675I$	0
$u = 0.792699 + 0.232053I$ $a = -1.39064 - 0.28620I$ $b = -1.170460 + 0.185340I$	$-4.12045 - 1.98383I$	$-18.7598 + 3.0273I$
$u = 0.792699 - 0.232053I$ $a = -1.39064 + 0.28620I$ $b = -1.170460 - 0.185340I$	$-4.12045 + 1.98383I$	$-18.7598 - 3.0273I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.150340 + 0.254911I$ $a = -0.425744 + 0.326070I$ $b = -1.380530 - 0.225219I$	$-1.61488 + 0.87614I$	0
$u = -1.150340 - 0.254911I$ $a = -0.425744 - 0.326070I$ $b = -1.380530 + 0.225219I$	$-1.61488 - 0.87614I$	0
$u = -1.124160 + 0.427568I$ $a = 0.599114 + 0.157148I$ $b = 0.573870 + 0.680404I$	$-2.81458 + 0.86949I$	0
$u = -1.124160 - 0.427568I$ $a = 0.599114 - 0.157148I$ $b = 0.573870 - 0.680404I$	$-2.81458 - 0.86949I$	0
$u = 1.213070 + 0.090501I$ $a = 0.454982 - 0.314837I$ $b = 0.627652 + 1.153370I$	$-3.98050 - 5.51374I$	0
$u = 1.213070 - 0.090501I$ $a = 0.454982 + 0.314837I$ $b = 0.627652 - 1.153370I$	$-3.98050 + 5.51374I$	0
$u = 0.742164 + 0.235850I$ $a = 0.299105 + 1.265320I$ $b = -0.453999 + 1.033190I$	$2.30362 + 3.30557I$	$-2.87153 - 3.56943I$
$u = 0.742164 - 0.235850I$ $a = 0.299105 - 1.265320I$ $b = -0.453999 - 1.033190I$	$2.30362 - 3.30557I$	$-2.87153 + 3.56943I$
$u = -1.301400 + 0.156837I$ $a = 0.251488 + 1.049080I$ $b = -0.057943 + 0.886147I$	$-1.28653 - 3.07187I$	0
$u = -1.301400 - 0.156837I$ $a = 0.251488 - 1.049080I$ $b = -0.057943 - 0.886147I$	$-1.28653 + 3.07187I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.078130 + 0.779868I$ $a = 0.937931 + 0.091074I$ $b = 1.219160 + 0.105261I$	$-4.41965 - 10.75660I$	0
$u = 1.078130 - 0.779868I$ $a = 0.937931 - 0.091074I$ $b = 1.219160 - 0.105261I$	$-4.41965 + 10.75660I$	0
$u = -1.062820 + 0.800842I$ $a = -0.700193 - 0.073534I$ $b = -0.941274 + 0.263175I$	$-4.22067 + 1.89516I$	0
$u = -1.062820 - 0.800842I$ $a = -0.700193 + 0.073534I$ $b = -0.941274 - 0.263175I$	$-4.22067 - 1.89516I$	0
$u = -0.181860 + 0.623471I$ $a = 1.072740 - 0.311332I$ $b = 0.846917 + 0.444278I$	$1.18559 + 2.23449I$	$-0.71696 - 3.13365I$
$u = -0.181860 - 0.623471I$ $a = 1.072740 + 0.311332I$ $b = 0.846917 - 0.444278I$	$1.18559 - 2.23449I$	$-0.71696 + 3.13365I$
$u = 1.344180 + 0.263000I$ $a = 0.033573 - 0.599843I$ $b = -0.307839 + 0.697502I$	$-3.77877 - 5.48694I$	0
$u = 1.344180 - 0.263000I$ $a = 0.033573 + 0.599843I$ $b = -0.307839 - 0.697502I$	$-3.77877 + 5.48694I$	0
$u = -0.554000$ $a = 0.302766$ $b = -0.620774$	-1.07952	-9.55000
$u = 0.003980 + 0.413867I$ $a = 1.88223 + 0.89459I$ $b = 0.131386 + 0.662442I$	$0.54485 + 2.00796I$	$-2.63887 - 4.05218I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.003980 - 0.413867I$ $a = 1.88223 - 0.89459I$ $b = 0.131386 - 0.662442I$	$0.54485 - 2.00796I$	$-2.63887 + 4.05218I$
$u = -0.183724 + 0.367833I$ $a = 0.58192 + 1.74816I$ $b = -0.299016 + 0.515843I$	$-1.46466 + 0.28580I$	$-10.27103 - 1.57830I$
$u = -0.183724 - 0.367833I$ $a = 0.58192 - 1.74816I$ $b = -0.299016 - 0.515843I$	$-1.46466 - 0.28580I$	$-10.27103 + 1.57830I$
$u = 1.65391$ $a = 0.249685$ $b = 1.86192$	-9.07692	0
$u = -1.66786 + 0.09211I$ $a = 0.751228 - 0.535995I$ $b = 2.66084 - 0.38730I$	$-12.75570 + 3.35483I$	0
$u = -1.66786 - 0.09211I$ $a = 0.751228 + 0.535995I$ $b = 2.66084 + 0.38730I$	$-12.75570 - 3.35483I$	0
$u = -1.72061 + 0.05114I$ $a = 0.679921 - 0.682618I$ $b = 2.27477 - 0.94586I$	$-12.03510 + 5.10367I$	0
$u = -1.72061 - 0.05114I$ $a = 0.679921 + 0.682618I$ $b = 2.27477 + 0.94586I$	$-12.03510 - 5.10367I$	0
$u = -0.145583 + 0.234667I$ $a = -2.42652 + 0.00455I$ $b = -0.11826 + 1.67678I$	$0.55411 + 4.57385I$	$-7.8171 - 13.5503I$
$u = -0.145583 - 0.234667I$ $a = -2.42652 - 0.00455I$ $b = -0.11826 - 1.67678I$	$0.55411 - 4.57385I$	$-7.8171 + 13.5503I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.266031 + 0.033873I$ $a = 0.13429 + 5.34542I$ $b = 0.444871 - 0.069784I$	$3.84010 + 3.87958I$	$-14.7891 - 1.0481I$
$u = 0.266031 - 0.033873I$ $a = 0.13429 - 5.34542I$ $b = 0.444871 + 0.069784I$	$3.84010 - 3.87958I$	$-14.7891 + 1.0481I$
$u = 1.73181 + 0.18076I$ $a = -0.720894 - 0.731345I$ $b = -2.16250 - 0.49231I$	$-12.24970 - 6.15405I$	0
$u = 1.73181 - 0.18076I$ $a = -0.720894 + 0.731345I$ $b = -2.16250 + 0.49231I$	$-12.24970 + 6.15405I$	0
$u = -1.77155 + 0.23587I$ $a = -0.696419 + 0.603643I$ $b = -2.34613 + 0.51535I$	$-14.1664 + 14.9969I$	0
$u = -1.77155 - 0.23587I$ $a = -0.696419 - 0.603643I$ $b = -2.34613 - 0.51535I$	$-14.1664 - 14.9969I$	0
$u = -1.78772 + 0.04019I$ $a = -0.733763 - 0.585348I$ $b = -2.15718 - 0.56893I$	$-15.0134 + 6.2911I$	0
$u = -1.78772 - 0.04019I$ $a = -0.733763 + 0.585348I$ $b = -2.15718 + 0.56893I$	$-15.0134 - 6.2911I$	0
$u = 1.77789 + 0.25574I$ $a = 0.657004 + 0.451249I$ $b = 2.28450 + 0.38651I$	$-13.8622 - 6.3433I$	0
$u = 1.77789 - 0.25574I$ $a = 0.657004 - 0.451249I$ $b = 2.28450 - 0.38651I$	$-13.8622 + 6.3433I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.79768 + 0.03453I$ $a = 0.527842 - 0.629408I$ $b = 1.97284 - 0.48816I$	$-13.39870 + 1.16047I$	0
$u = 1.79768 - 0.03453I$ $a = 0.527842 + 0.629408I$ $b = 1.97284 + 0.48816I$	$-13.39870 - 1.16047I$	0
$u = 1.82600 + 0.05971I$ $a = -0.823032 - 0.428595I$ $b = -2.11304 - 0.47973I$	$-14.0479 - 3.0438I$	0
$u = 1.82600 - 0.05971I$ $a = -0.823032 + 0.428595I$ $b = -2.11304 + 0.47973I$	$-14.0479 + 3.0438I$	0
$u = -2.00544$ $a = 0.242799$ $b = 1.02879$	-7.47069	0

II. $I_2^u =$
$$\langle -u^{14}-2u^{13}+\cdots+b+1,\ -2u^{14}-2u^{13}+\cdots+a+5,\ u^{15}+3u^{14}+\cdots-10u^2-1\rangle$$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}2u^{14}+2u^{13}+\cdots-u-5\\u^{14}+2u^{13}+\cdots-u-1\end{pmatrix}$$
$$a_9 = \begin{pmatrix}4u^{14}+9u^{13}+\cdots-16u-3\\10u^{14}+17u^{13}+\cdots+5u-7\end{pmatrix}$$
$$a_6 = \begin{pmatrix}5u^{14}+7u^{13}+\cdots+11u+1\\11u^{14}+17u^{13}+\cdots+7u-8\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}8u^{14}+10u^{13}+\cdots-44u^2-8\\7u^{14}+10u^{13}+\cdots-43u^2-4\end{pmatrix}$$
$$a_2 = \begin{pmatrix}u^{14}-9u^{12}+\cdots-u^2-4\\7u^{14}+10u^{13}+\cdots-43u^2-4\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u^{14}-u^{13}+\cdots-3u+4\\-11u^{14}-16u^{13}+\cdots-3u+7\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}13u^{14}+22u^{13}+\cdots+2u-6\\15u^{14}+25u^{13}+\cdots+9u-11\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 26u^{14}+43u^{13}-216u^{12}-339u^{11}+679u^{10}+927u^9-1096u^8-1104u^7+928u^6+563u^5-215u^4-149u^3-204u^2+32u-15$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 8u^{14} + \cdots + 175u - 43$
c_2	$u^{15} - 3u^{14} + \cdots + 2u^2 - 1$
c_3, c_4	$u^{15} + 3u^{14} + \cdots - 10u^2 - 1$
c_5	$u^{15} - u^{14} + \cdots - u^2 - 1$
c_6	$u^{15} + u^{13} + \cdots + u + 1$
c_7	$u^{15} - 3u^{14} + \cdots + 10u^2 + 1$
c_8	$u^{15} - 4u^{14} + \cdots + u + 1$
c_9	$u^{15} - u^{14} + \cdots + 27u - 13$
c_{10}	$u^{15} + u^{14} + \cdots - 7u^2 - 1$
c_{11}	$u^{15} + 4u^{14} + \cdots + u - 1$
c_{12}	$u^{15} - 2u^{14} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} + 2y^{14} + \cdots - 15815y - 1849$
c_2	$y^{15} - 3y^{14} + \cdots + 4y - 1$
c_3, c_4, c_7	$y^{15} - 21y^{14} + \cdots - 20y - 1$
c_5	$y^{15} + 3y^{14} + \cdots - 2y - 1$
c_6	$y^{15} + 2y^{14} + \cdots - 3y - 1$
c_8, c_{11}	$y^{15} + 10y^{14} + \cdots - 3y - 1$
c_9	$y^{15} + 5y^{14} + \cdots + 131y - 169$
c_{10}	$y^{15} + 15y^{14} + \cdots - 14y - 1$
c_{12}	$y^{15} + 4y^{14} + \cdots - 37y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.860177 + 0.509187I$ $a = -1.021030 + 0.032473I$ $b = -0.879433 + 0.229899I$	$-2.90182 - 2.03075I$	$-10.03062 + 3.32590I$
$u = 0.860177 - 0.509187I$ $a = -1.021030 - 0.032473I$ $b = -0.879433 - 0.229899I$	$-2.90182 + 2.03075I$	$-10.03062 - 3.32590I$
$u = 1.320510 + 0.166851I$ $a = -0.090859 + 0.980403I$ $b = -0.175878 + 0.242981I$	$-0.02472 + 2.27007I$	$-5.66786 - 3.21825I$
$u = 1.320510 - 0.166851I$ $a = -0.090859 - 0.980403I$ $b = -0.175878 - 0.242981I$	$-0.02472 - 2.27007I$	$-5.66786 + 3.21825I$
$u = -1.347170 + 0.162955I$ $a = -0.160946 + 0.533747I$ $b = -0.22492 - 1.70994I$	$-3.25137 + 6.18801I$	$-3.54918 - 9.67050I$
$u = -1.347170 - 0.162955I$ $a = -0.160946 - 0.533747I$ $b = -0.22492 + 1.70994I$	$-3.25137 - 6.18801I$	$-3.54918 + 9.67050I$
$u = -1.42579 + 0.12850I$ $a = 0.070901 - 0.902606I$ $b = 0.289612 - 1.144560I$	$-0.93716 + 5.50758I$	$-6.26875 - 6.01276I$
$u = -1.42579 - 0.12850I$ $a = 0.070901 + 0.902606I$ $b = 0.289612 + 1.144560I$	$-0.93716 - 5.50758I$	$-6.26875 + 6.01276I$
$u = -0.206520 + 0.508428I$ $a = 0.860914 - 0.633967I$ $b = -0.115881 - 1.290910I$	$0.74360 - 3.97923I$	$-4.72626 + 2.68613I$
$u = -0.206520 - 0.508428I$ $a = 0.860914 + 0.633967I$ $b = -0.115881 + 1.290910I$	$0.74360 + 3.97923I$	$-4.72626 - 2.68613I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.071627 + 0.286359I$ $a = -4.47522 - 0.75940I$ $b = -0.277531 - 0.478076I$	$4.21917 - 3.97249I$	$6.01465 + 6.05055I$
$u = 0.071627 - 0.286359I$ $a = -4.47522 + 0.75940I$ $b = -0.277531 + 0.478076I$	$4.21917 + 3.97249I$	$6.01465 - 6.05055I$
$u = -1.72665 + 0.09660I$ $a = 0.721441 - 0.590290I$ $b = 2.34637 - 0.60996I$	$-12.29270 + 4.25654I$	$-10.89997 - 2.52513I$
$u = -1.72665 - 0.09660I$ $a = 0.721441 + 0.590290I$ $b = 2.34637 + 0.60996I$	$-12.29270 - 4.25654I$	$-10.89997 + 2.52513I$
$u = 1.90762$ $a = 0.189589$ $b = 1.07533$	-7.29848	9.25600

III. $\boldsymbol{I_3^u = \langle b^2 + b - a,\ a^2 + a + 1,\ u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a \\ b \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a + 1 \\ -ba + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -b \\ ba + a \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -b + 2a \\ a \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -b + a \\ a \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a + 1 \\ -ba - a \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a + 1 \\ -ba + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3ba - a - 9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8, c_{10} c_{11}	$(y^2+y+1)^2$
c_2	y^4+2y^2+3y+1
c_3, c_4, c_7	$(y-1)^4$
c_5, c_6	$y^4-3y^3+5y^2-3y+1$
c_9	y^4
c_{12}	$y^4+4y^3+6y^2-5y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.500000 + 0.866025I$ $b = 0.070696 + 0.758745I$	$-1.64493 + 2.02988I$	$-10.57732 - 1.82047I$
$u = 1.00000$ $a = -0.500000 + 0.866025I$ $b = -1.070700 - 0.758745I$	$-1.64493 + 2.02988I$	$-4.92268 - 2.50966I$
$u = 1.00000$ $a = -0.500000 - 0.866025I$ $b = 0.070696 - 0.758745I$	$-1.64493 - 2.02988I$	$-10.57732 + 1.82047I$
$u = 1.00000$ $a = -0.500000 - 0.866025I$ $b = -1.070700 + 0.758745I$	$-1.64493 - 2.02988I$	$-4.92268 + 2.50966I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^2)(u^{15}-8u^{14}+\cdots+175u-43)$ $\cdot(u^{55}+7u^{54}+\cdots-107283u+5687)$
c_2	$(u^4-2u^3+2u^2-u+1)(u^{15}-3u^{14}+\cdots+2u^2-1)$ $\cdot(u^{55}-2u^{54}+\cdots+11u+1)$
c_3, c_4	$((u-1)^4)(u^{15}+3u^{14}+\cdots-10u^2-1)(u^{55}+2u^{54}+\cdots+10u-21)$
c_5	$(u^4-u^3-u^2+u+1)(u^{15}-u^{14}+\cdots-u^2-1)$ $\cdot(u^{55}+u^{54}+\cdots-11533u-4223)$
c_6	$(u^4-u^3-u^2+u+1)(u^{15}+u^{13}+\cdots+u+1)$ $\cdot(u^{55}+2u^{54}+\cdots-28u+47)$
c_7	$((u+1)^4)(u^{15}-3u^{14}+\cdots+10u^2+1)(u^{55}+2u^{54}+\cdots+10u-21)$
c_8	$((u^2-u+1)^2)(u^{15}-4u^{14}+\cdots+u+1)(u^{55}+3u^{54}+\cdots-23u-7)$
c_9	$u^4(u^{15}-u^{14}+\cdots+27u-13)(u^{55}-5u^{53}+\cdots+136u-48)$
c_{10}	$((u^2+u+1)^2)(u^{15}+u^{14}+\cdots-7u^2-1)$ $\cdot(u^{55}+17u^{53}+\cdots+586u-227)$
c_{11}	$((u^2+u+1)^2)(u^{15}+4u^{14}+\cdots+u-1)(u^{55}+3u^{54}+\cdots-23u-7)$
c_{12}	$(u^4+2u^2+3u+1)(u^{15}-2u^{14}+\cdots+u+1)$ $\cdot(u^{55}+u^{54}+\cdots-5060u-2767)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^2)(y^{15}+2y^{14}+\cdots-15815y-1849)$ $\cdot(y^{55}-99y^{54}+\cdots+1442878657y-32341969)$
c_2	$(y^4+2y^2+3y+1)(y^{15}-3y^{14}+\cdots+4y-1)$ $\cdot(y^{55}+2y^{54}+\cdots+75y-1)$
c_3, c_4, c_7	$((y-1)^4)(y^{15}-21y^{14}+\cdots-20y-1)$ $\cdot(y^{55}-76y^{54}+\cdots+6862y-441)$
c_5	$(y^4-3y^3+5y^2-3y+1)(y^{15}+3y^{14}+\cdots-2y-1)$ $\cdot(y^{55}+29y^{54}+\cdots-23722333y-17833729)$
c_6	$(y^4-3y^3+5y^2-3y+1)(y^{15}+2y^{14}+\cdots-3y-1)$ $\cdot(y^{55}-12y^{54}+\cdots+71378y-2209)$
c_8, c_{11}	$((y^2+y+1)^2)(y^{15}+10y^{14}+\cdots-3y-1)$ $\cdot(y^{55}+5y^{54}+\cdots+2125y-49)$
c_9	$y^4(y^{15}+5y^{14}+\cdots+131y-169)(y^{55}-10y^{54}+\cdots+63808y-2304)$
c_{10}	$((y^2+y+1)^2)(y^{15}+15y^{14}+\cdots-14y-1)$ $\cdot(y^{55}+34y^{54}+\cdots-605918y-51529)$
c_{12}	$(y^4+4y^3+6y^2-5y+1)(y^{15}+4y^{14}+\cdots-37y-1)$ $\cdot(y^{55}-107y^{54}+\cdots-5436606y-7656289)$