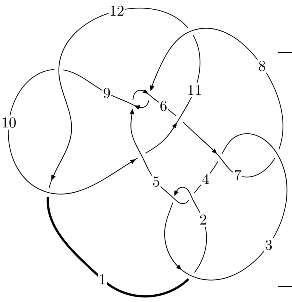
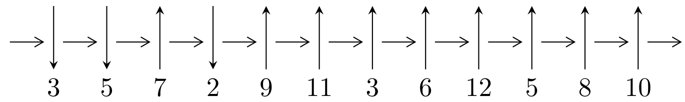
$12n_{0212}$ $(K12n_{0212})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.43322 \times 10^{268} u^{64} + 4.87957 \times 10^{268} u^{63} + \cdots + 4.09619 \times 10^{272} b + 8.91816 \times 10^{272}, \\
& 2.78500 \times 10^{270} u^{64} - 6.50544 \times 10^{270} u^{63} + \cdots + 7.37313 \times 10^{273} a - 4.93581 \times 10^{274}, \\
& u^{65} - 2u^{64} + \cdots - 19008u + 5184 \rangle \\
I_2^u = \langle & u^6 - u^4 + u^2 + b - u,\ u^7 + u^6 - u^5 - 3u^4 + u^3 + 3u^2 + a - 3,\ u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v = \langle & a,\ -18315v^5 + 20514v^4 - 76517v^3 + 68962v^2 + 11867b + 4895v + 9310, \\
& 9v^6 - 3v^5 + 38v^4 - 6v^3 + 7v^2 - 3v + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 representations.

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[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. $\boldsymbol{I^u_1 = \langle -1.43 \times 10^{268} u^{64} + 4.88 \times 10^{268} u^{63} + \cdots + 4.10 \times 10^{272} b + 8.92 \times 10^{272},\ 2.79 \times 10^{270} u^{64} - 6.51 \times 10^{270} u^{63} + \cdots + 7.37 \times 10^{273} a - 4.94 \times 10^{274},\ u^{65} - 2u^{64} + \cdots - 19008u + 5184 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.000377723u^{64} + 0.000882317u^{63} + \cdots - 24.2190u + 6.69432 \\ 0.0000349893u^{64} - 0.000119125u^{63} + \cdots + 6.31596u - 2.17719 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.000281496u^{64} + 0.000444213u^{63} + \cdots - 2.66344u - 1.87984 \\ 0.0000716784u^{64} - 0.0000602668u^{63} + \cdots - 2.06803u + 1.30681 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.000209817u^{64} + 0.000383947u^{63} + \cdots - 4.73147u - 0.573035 \\ 0.0000716784u^{64} - 0.0000602668u^{63} + \cdots - 2.06803u + 1.30681 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.000110706u^{64} - 0.000268775u^{63} + \cdots + 6.05995u - 1.93909 \\ 0.000214065u^{64} - 0.000335465u^{63} + \cdots + 2.94068u + 0.325061 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0000382070u^{64} + 0.0000348721u^{63} + \cdots - 4.30269u + 2.47351 \\ 0.000100912u^{64} - 0.000304602u^{63} + \cdots + 8.12093u - 1.65906 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.000284710u^{64} + 0.000546492u^{63} + \cdots - 12.1877u + 2.72060 \\ 0.000172387u^{64} - 0.000396564u^{63} + \cdots + 8.99806u - 2.35482 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.000100309u^{64} - 0.000149136u^{63} + \cdots + 0.894466u - 0.119551 \\ -0.000143803u^{64} + 0.000150522u^{63} + \cdots + 1.65869u - 1.49182 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.000313975u^{64} + 0.000618260u^{63} + \cdots - 13.5334u + 3.85944 \\ 0.0000715938u^{64} - 0.000222008u^{63} + \cdots + 9.24221u - 2.88513 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.000148358u^{64} - 0.000310823u^{63} + \cdots + 4.46935u - 2.06733 \\ 0.000108769u^{64} - 0.000131377u^{63} + \cdots + 0.525836u + 0.505205 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00132072u^{64} + 0.00246498u^{63} + \cdots - 45.0317u + 16.1770$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 68u^{64} + \cdots + 59u + 1$
c_2, c_4	$u^{65} - 10u^{64} + \cdots - 11u + 1$
c_3, c_7	$u^{65} - 2u^{64} + \cdots + 640u - 256$
c_5, c_8	$u^{65} + 3u^{64} + \cdots + 3u + 1$
c_6	$u^{65} + 2u^{64} + \cdots - 19008u - 5184$
c_9, c_{12}	$u^{65} + 8u^{64} + \cdots + 1080u + 81$
c_{10}	$9(9u^{65} + 18u^{64} + \cdots - 294572u - 29917)$
c_{11}	$9(9u^{65} + 42u^{64} + \cdots + 608293u + 315227)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 132y^{64} + \cdots + 7503y - 1$
c_2, c_4	$y^{65} - 68y^{64} + \cdots + 59y - 1$
c_3, c_7	$y^{65} + 48y^{64} + \cdots + 901120y - 65536$
c_5, c_8	$y^{65} + 37y^{64} + \cdots + 11y - 1$
c_6	$y^{65} + 36y^{64} + \cdots - 462827520y - 26873856$
c_9, c_{12}	$y^{65} - 30y^{64} + \cdots + 422172y - 6561$
c_{10}	$81(81y^{65} + 5796y^{64} + \cdots + 1.08032 \times 10^{10}y - 8.95027 \times 10^{8})$
c_{11}	$81(81y^{65} - 558y^{64} + \cdots - 1.06335 \times 10^{12}y - 9.93681 \times 10^{10})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.987989 + 0.000953I$ $a = -2.12082 + 1.54640I$ $b = 1.33246 - 1.66976I$	$-2.66486 - 2.32248I$	$5.14580 + 2.29349I$
$u = -0.987989 - 0.000953I$ $a = -2.12082 - 1.54640I$ $b = 1.33246 + 1.66976I$	$-2.66486 + 2.32248I$	$5.14580 - 2.29349I$
$u = -0.748540 + 0.696645I$ $a = 0.226780 + 1.145830I$ $b = -0.874173 - 0.089609I$	$1.04936 + 1.32007I$	$10.95788 - 0.41796I$
$u = -0.748540 - 0.696645I$ $a = 0.226780 - 1.145830I$ $b = -0.874173 + 0.089609I$	$1.04936 - 1.32007I$	$10.95788 + 0.41796I$
$u = 0.055143 + 1.022190I$ $a = 0.05532 - 1.41633I$ $b = -0.271016 - 0.120884I$	$-2.21134 + 0.65096I$	$2.94304 - 0.27515I$
$u = 0.055143 - 1.022190I$ $a = 0.05532 + 1.41633I$ $b = -0.271016 + 0.120884I$	$-2.21134 - 0.65096I$	$2.94304 + 0.27515I$
$u = 0.963379$ $a = -0.0469319$ $b = 0.578355$	5.22479	24.0830
$u = -0.286459 + 1.010510I$ $a = 0.78431 + 1.39006I$ $b = -0.316087 + 1.221670I$	$1.45815 + 1.19485I$	$9.19775 - 4.74594I$
$u = -0.286459 - 1.010510I$ $a = 0.78431 - 1.39006I$ $b = -0.316087 - 1.221670I$	$1.45815 - 1.19485I$	$9.19775 + 4.74594I$
$u = 0.726229 + 0.814196I$ $a = -0.121481 - 0.226198I$ $b = -0.807017 + 0.074160I$	$-2.55567 + 2.51492I$	$6.00000 - 3.00902I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.726229 - 0.814196I$ $a = -0.121481 + 0.226198I$ $b = -0.807017 - 0.074160I$	$-2.55567 - 2.51492I$	$6.00000 + 3.00902I$
$u = -0.891332 + 0.686560I$ $a = 0.0513899 - 0.0389433I$ $b = -0.565696 + 0.133789I$	$1.17561 - 6.59366I$	$15.1731 + 8.7497I$
$u = -0.891332 - 0.686560I$ $a = 0.0513899 + 0.0389433I$ $b = -0.565696 - 0.133789I$	$1.17561 + 6.59366I$	$15.1731 - 8.7497I$
$u = 0.218273 + 1.185850I$ $a = -0.011907 - 0.174978I$ $b = -1.58075 + 0.11150I$	$-3.79735 + 2.57206I$	0
$u = 0.218273 - 1.185850I$ $a = -0.011907 + 0.174978I$ $b = -1.58075 - 0.11150I$	$-3.79735 - 2.57206I$	0
$u = -0.627540 + 0.484254I$ $a = 1.321520 + 0.352976I$ $b = -0.573718 + 0.068027I$	$1.19155 + 0.95389I$	$10.21513 - 0.37317I$
$u = -0.627540 - 0.484254I$ $a = 1.321520 - 0.352976I$ $b = -0.573718 - 0.068027I$	$1.19155 - 0.95389I$	$10.21513 + 0.37317I$
$u = -0.485202 + 1.151820I$ $a = 0.294894 + 1.249500I$ $b = -0.567218 + 0.263601I$	$-0.92912 - 5.51849I$	0
$u = -0.485202 - 1.151820I$ $a = 0.294894 - 1.249500I$ $b = -0.567218 - 0.263601I$	$-0.92912 + 5.51849I$	0
$u = -0.001950 + 1.261610I$ $a = -0.529291 + 1.160890I$ $b = -1.249780 + 0.587678I$	$-5.91253 + 0.89151I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.001950-1.261610I$ $a=-0.529291-1.160890I$ $b=-1.249780-0.587678I$	$-5.91253-0.89151I$	0
$u=-0.181767+1.284800I$ $a=0.394438+1.295480I$ $b=0.520041+0.490473I$	$-13.75280+0.18156I$	0
$u=-0.181767-1.284800I$ $a=0.394438-1.295480I$ $b=0.520041-0.490473I$	$-13.75280-0.18156I$	0
$u=0.666243+0.215627I$ $a=0.63298+3.14043I$ $b=0.528259+0.129647I$	$-9.22847-0.59840I$	$0.51834-6.09970I$
$u=0.666243-0.215627I$ $a=0.63298-3.14043I$ $b=0.528259-0.129647I$	$-9.22847+0.59840I$	$0.51834+6.09970I$
$u=0.667926+0.125084I$ $a=3.07822-0.34270I$ $b=-1.44314+0.42007I$	$-1.45078-0.59119I$	$2.85675-3.51070I$
$u=0.667926-0.125084I$ $a=3.07822+0.34270I$ $b=-1.44314-0.42007I$	$-1.45078+0.59119I$	$2.85675+3.51070I$
$u=0.375714+1.275330I$ $a=-0.01142-1.46097I$ $b=-1.39649-0.60732I$	$-5.14289+4.65238I$	0
$u=0.375714-1.275330I$ $a=-0.01142+1.46097I$ $b=-1.39649+0.60732I$	$-5.14289-4.65238I$	0
$u=1.370430+0.169263I$ $a=-0.311596+0.742406I$ $b=1.14616-2.08345I$	$-0.61197-3.88642I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.370430 - 0.169263I$ $a = -0.311596 - 0.742406I$ $b = 1.14616 + 2.08345I$	$-0.61197 + 3.88642I$	0
$u = 0.224303 + 0.571448I$ $a = 1.08323 - 6.98590I$ $b = -1.15343 - 1.78571I$	$-0.766193 - 0.710691I$	$-8.2875 - 12.4812I$
$u = 0.224303 - 0.571448I$ $a = 1.08323 + 6.98590I$ $b = -1.15343 + 1.78571I$	$-0.766193 + 0.710691I$	$-8.2875 + 12.4812I$
$u = -0.271460 + 0.550386I$ $a = 0.171011 - 0.156416I$ $b = -1.073610 + 0.399773I$	$1.52187 - 6.09633I$	$2.3393 + 14.1949I$
$u = -0.271460 - 0.550386I$ $a = 0.171011 + 0.156416I$ $b = -1.073610 - 0.399773I$	$1.52187 + 6.09633I$	$2.3393 - 14.1949I$
$u = 0.553293 + 1.271240I$ $a = 0.553265 - 0.871213I$ $b = 0.249245 - 0.493678I$	$-12.27680 + 5.48243I$	0
$u = 0.553293 - 1.271240I$ $a = 0.553265 + 0.871213I$ $b = 0.249245 + 0.493678I$	$-12.27680 - 5.48243I$	0
$u = 0.060757 + 0.566257I$ $a = -0.169552 + 0.223408I$ $b = 1.169990 - 0.272700I$	$3.05269 - 0.72062I$	$-0.37252 - 2.34749I$
$u = 0.060757 - 0.566257I$ $a = -0.169552 - 0.223408I$ $b = 1.169990 + 0.272700I$	$3.05269 + 0.72062I$	$-0.37252 + 2.34749I$
$u = -0.541890$ $a = 0.432973$ $b = 0.203067$	0.709590	14.3470

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.22284 + 1.47296I$ $a = 0.233664 + 0.102031I$ $b = 1.89702 + 0.23201I$	$-8.45370 + 1.77642I$	0
$u = 0.22284 - 1.47296I$ $a = 0.233664 - 0.102031I$ $b = 1.89702 - 0.23201I$	$-8.45370 - 1.77642I$	0
$u = -0.53597 + 1.39821I$ $a = -0.146182 - 0.038643I$ $b = 1.399900 - 0.050013I$	$-7.04530 - 8.03742I$	0
$u = -0.53597 - 1.39821I$ $a = -0.146182 + 0.038643I$ $b = 1.399900 + 0.050013I$	$-7.04530 + 8.03742I$	0
$u = 0.497138$ $a = 6.35919$ $b = -1.12723$	-0.408756	31.3810
$u = 0.72094 + 1.40121I$ $a = -0.313940 + 1.369360I$ $b = 1.89330 + 1.11991I$	$-4.34514 + 11.16830I$	0
$u = 0.72094 - 1.40121I$ $a = -0.313940 - 1.369360I$ $b = 1.89330 - 1.11991I$	$-4.34514 - 11.16830I$	0
$u = 0.097484 + 0.387248I$ $a = 0.01203 - 2.23100I$ $b = -0.493159 + 0.407995I$	$-1.70444 + 0.86317I$	$-1.80335 - 2.14625I$
$u = 0.097484 - 0.387248I$ $a = 0.01203 + 2.23100I$ $b = -0.493159 - 0.407995I$	$-1.70444 - 0.86317I$	$-1.80335 + 2.14625I$
$u = -0.88341 + 1.34912I$ $a = -0.447992 - 1.029800I$ $b = 1.177480 - 0.641815I$	$-7.46828 - 10.68780I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.88341 - 1.34912I$ $a = -0.447992 + 1.029800I$ $b = 1.177480 + 0.641815I$	$-7.46828 + 10.68780I$	0
$u = -0.51591 + 1.53296I$ $a = 0.030967 - 1.340990I$ $b = 2.10343 - 1.45671I$	$-6.56044 - 4.64446I$	0
$u = -0.51591 - 1.53296I$ $a = 0.030967 + 1.340990I$ $b = 2.10343 + 1.45671I$	$-6.56044 + 4.64446I$	0
$u = 0.82368 + 1.39986I$ $a = -0.450753 + 0.978865I$ $b = 1.237730 + 0.645893I$	$-10.53090 + 4.21781I$	0
$u = 0.82368 - 1.39986I$ $a = -0.450753 - 0.978865I$ $b = 1.237730 - 0.645893I$	$-10.53090 - 4.21781I$	0
$u = -1.52984 + 0.86914I$ $a = -0.354905 - 0.297066I$ $b = 1.52741 + 0.94608I$	$-5.31966 + 2.30754I$	0
$u = -1.52984 - 0.86914I$ $a = -0.354905 + 0.297066I$ $b = 1.52741 - 0.94608I$	$-5.31966 - 2.30754I$	0
$u = 0.99000 + 1.57649I$ $a = 0.478911 - 1.130600I$ $b = -2.01241 - 1.65324I$	$-11.1904 + 16.3453I$	0
$u = 0.99000 - 1.57649I$ $a = 0.478911 + 1.130600I$ $b = -2.01241 + 1.65324I$	$-11.1904 - 16.3453I$	0
$u = -0.65125 + 2.02422I$ $a = -0.213696 - 0.852249I$ $b = 1.51737 - 2.34323I$	$-4.34300 + 1.86014I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.65125 - 2.02422I$ $a = -0.213696 + 0.852249I$ $b = 1.51737 + 2.34323I$	$-4.34300 - 1.86014I$	0
$u = -0.90018 + 2.02783I$ $a = 0.247259 + 0.974849I$ $b = -2.21700 + 2.52211I$	$-14.1808 - 8.5511I$	0
$u = -0.90018 - 2.02783I$ $a = 0.247259 - 0.974849I$ $b = -2.21700 - 2.52211I$	$-14.1808 + 8.5511I$	0
$u = 2.26622 + 0.12631I$ $a = -0.013705 - 0.386355I$ $b = -0.43221 + 3.40125I$	$-7.12119 - 6.12750I$	0
$u = 2.26622 - 0.12631I$ $a = -0.013705 + 0.386355I$ $b = -0.43221 - 3.40125I$	$-7.12119 + 6.12750I$	0

II. $\boldsymbol{I_2^u = \langle u^6 - u^4 + u^2 + b - u,\ u^7 + u^6 - u^5 - 3u^4 + u^3 + 3u^2 + a - 3,\ u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^7 - u^6 + u^5 + 3u^4 - u^3 - 3u^2 + 3 \\ -u^6 + u^4 - u^2 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^7 - u^6 + u^5 + 2u^4 - u^3 - 2u^2 + 2 \\ -u^6 - u^2 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 - 1 \\ -u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^7 - u^6 + u^5 + 3u^4 - u^3 - 3u^2 + 3 \\ -u^6 + u^4 - u^2 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ -u^7 - u^6 + 2u^5 + u^4 - 2u^3 - 2u^2 + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^7 + 4u^6 - 2u^5 - 5u^4 + 3u^3 + 5u^2 - 5u - 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^8$
c_3, c_7	y^8
c_5, c_8	$y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1$
c_6, c_{11}	$y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1$
c_9, c_{10}, c_{12}	$y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.570868+0.730671I$ $a=\ \ 1.21928+2.03110I$ $b=-1.44082+1.43962I$	$-0.604279+1.131230I$	$6.13774-5.30650I$
$u=-0.570868-0.730671I$ $a=\ \ 1.21928-2.03110I$ $b=-1.44082-1.43962I$	$-0.604279-1.131230I$	$6.13774+5.30650I$
$u=\ \ 0.855237+0.665892I$ $a=-1.230330+0.083902I$ $b=\ \ 0.44992+1.37717I$	$-3.80435+2.57849I$	$-1.88107-3.45077I$
$u=\ \ 0.855237-0.665892I$ $a=-1.230330-0.083902I$ $b=\ \ 0.44992-1.37717I$	$-3.80435-2.57849I$	$-1.88107+3.45077I$
$u=\ \ 1.09818$ $a=\ \ 0.337834$ $b=-0.407427$	4.85780	0.988100
$u=-1.031810+0.655470I$ $a=-0.370895+0.073482I$ $b=\ \ 0.136119-0.548347I$	$0.73474-6.44354I$	$-1.17016+2.68172I$
$u=-1.031810-0.655470I$ $a=-0.370895-0.073482I$ $b=\ \ 0.136119+0.548347I$	$0.73474+6.44354I$	$-1.17016-2.68172I$
$u=-0.603304$ $a=\ \ 2.42604$ $b=-0.883019$	-0.799899	1.83890

III. $\boldsymbol{I_1^v = \langle a,\ -18315v^5 + 20514v^4 + \cdots + 11867b + 9310,\ 9v^6 - 3v^5 + 38v^4 - 6v^3 + 7v^2 - 3v + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0 \\ 1.54336v^5 - 1.72866v^4 + \cdots - 0.412488v - 0.784529 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -3.02073v^5 + 0.380467v^4 + \cdots - 3.21968v - 0.339176 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -3.02073v^5 + 0.380467v^4 + \cdots - 3.21968v + 0.660824 \\ -3.02073v^5 + 0.380467v^4 + \cdots - 3.21968v - 0.339176 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.626443v^5 + 0.0634533v^4 + \cdots + 2.34609v - 0.335637 \\ -0.861549v^5 - 0.0654757v^4 + \cdots - 0.715682v + 0.732788 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 3.57437v^5 - 0.956350v^4 + \cdots + 2.47712v - 0.821859 \\ 6.59510v^5 - 1.33682v^4 + \cdots + 5.69681v - 1.48268 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 3.02073v^5 - 0.380467v^4 + \cdots + 3.21968v - 0.660824 \\ 6.59510v^5 - 1.33682v^4 + \cdots + 5.69681v - 1.48268 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.02073v^5 - 0.380467v^4 + \cdots + 3.21968v - 0.660824 \\ 3.02073v^5 - 0.380467v^4 + \cdots + 3.21968v + 0.339176 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.54336v^5 - 1.72866v^4 + \cdots - 0.412488v - 0.784529 \\ 1.54336v^5 - 1.72866v^4 + \cdots - 0.412488v - 0.784529 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.39429v^5 + 0.443920v^4 + \cdots - 0.873599v + 0.325187 \\ -3.88228v^5 + 0.314991v^4 + \cdots - 3.93537v + 0.393613 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{224001}{11867}v^5 - \frac{36660}{11867}v^4 + \frac{906833}{11867}v^3 + \frac{26609}{11867}v^2 + \frac{40841}{11867}v + \frac{96708}{11867}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1$
c_2, c_7	$u^6 + u^5 - u^4 - 2u^3 + u + 1$
c_3, c_4	$u^6 - u^5 - u^4 + 2u^3 - u + 1$
c_5	$u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1$
c_6	u^6
c_9	$(u+1)^6$
c_{10}	$9(9u^6 + 12u^5 + 2u^4 - u^3 + 4u^2 + 4u + 1)$
c_{11}	$9(9u^6 - 30u^5 + 41u^4 - 30u^3 + 15u^2 - 5u + 1)$
c_{12}	$(u-1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_8	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$
c_2, c_3, c_4 c_7	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_6	y^6
c_9, c_{12}	$(y-1)^6$
c_{10}	$81(81y^6 - 108y^5 + 100y^4 - 63y^3 + 28y^2 - 8y + 1)$
c_{11}	$81(81y^6 - 162y^5 + 151y^4 + 48y^3 + 7y^2 + 5y + 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.178337 + 0.463585I$ $a = 0$ $b = 1.002190 + 0.295542I$	$3.53554 + 0.92430I$	$14.9081 - 3.3454I$
$v = -0.178337 - 0.463585I$ $a = 0$ $b = 1.002190 - 0.295542I$	$3.53554 - 0.92430I$	$14.9081 + 3.3454I$
$v = 0.246749 + 0.226622I$ $a = 0$ $b = -1.073950 - 0.558752I$	$1.64493 + 5.69302I$	$7.23419 + 3.25470I$
$v = 0.246749 - 0.226622I$ $a = 0$ $b = -1.073950 + 0.558752I$	$1.64493 - 5.69302I$	$7.23419 - 3.25470I$
$v = 0.09825 + 2.00069I$ $a = 0$ $b = -0.428243 - 0.664531I$	$-0.245672 - 0.924305I$	$8.52440 + 0.42550I$
$v = 0.09825 - 2.00069I$ $a = 0$ $b = -0.428243 + 0.664531I$	$-0.245672 + 0.924305I$	$8.52440 - 0.42550I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^8(u^6-3u^5+5u^4-4u^3+2u^2-u+1)$ $\cdot(u^{65}+68u^{64}+\cdots+59u+1)$
c_2	$((u-1)^8)(u^6+u^5+\cdots+u+1)(u^{65}-10u^{64}+\cdots-11u+1)$
c_3	$u^8(u^6-u^5+\cdots-u+1)(u^{65}-2u^{64}+\cdots+640u-256)$
c_4	$((u+1)^8)(u^6-u^5+\cdots-u+1)(u^{65}-10u^{64}+\cdots-11u+1)$
c_5	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)$ $\cdot(u^{65}+3u^{64}+\cdots+3u+1)$
c_6	$u^6(u^8+u^7-u^6-2u^5+u^4+2u^3-2u-1)$ $\cdot(u^{65}+2u^{64}+\cdots-19008u-5184)$
c_7	$u^8(u^6+u^5+\cdots+u+1)(u^{65}-2u^{64}+\cdots+640u-256)$
c_8	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)$ $\cdot(u^8-3u^7+7u^6-10u^5+11u^4-10u^3+6u^2-4u+1)$ $\cdot(u^{65}+3u^{64}+\cdots+3u+1)$
c_9	$(u+1)^6(u^8-u^7-3u^6+2u^5+3u^4-2u-1)$ $\cdot(u^{65}+8u^{64}+\cdots+1080u+81)$
c_{10}	$81(9u^6+12u^5+2u^4-u^3+4u^2+4u+1)$ $\cdot(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(9u^{65}+18u^{64}+\cdots-294572u-29917)$
c_{11}	$81(9u^6-30u^5+41u^4-30u^3+15u^2-5u+1)$ $\cdot(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)$ $\cdot(9u^{65}+42u^{64}+\cdots+608293u+315227)$
c_{12}	$(u-1)^6(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{65}+8u^{64}+\cdots+1080u+81)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^8)(y^6+y^5+\cdots+3y+1)(y^{65}-132y^{64}+\cdots+7503y-1)$
c_2, c_4	$(y-1)^8(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{65}-68y^{64}+\cdots+59y-1)$
c_3, c_7	$y^8(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{65}+48y^{64}+\cdots+901120y-65536)$
c_5, c_8	$(y^6+y^5+5y^4+6y^2+3y+1)$ $\cdot(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)$ $\cdot(y^{65}+37y^{64}+\cdots+11y-1)$
c_6	$y^6(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)$ $\cdot(y^{65}+36y^{64}+\cdots-462827520y-26873856)$
c_9, c_{12}	$(y-1)^6(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot(y^{65}-30y^{64}+\cdots+422172y-6561)$
c_{10}	$6561(81y^6-108y^5+100y^4-63y^3+28y^2-8y+1)$ $\cdot(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot(81y^{65}+5796y^{64}+\cdots+10803168570y-895026889)$
c_{11}	$6561(81y^6-162y^5+151y^4+48y^3+7y^2+5y+1)$ $\cdot(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)$ $\cdot(81y^{65}-558y^{64}+\cdots-1063347056943y-99368061529)$