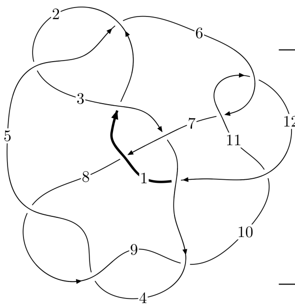
$12n_{0392}$ $(K12n_{0392})$



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow$$

$$3 \quad 5 \quad 7 \quad 9 \quad 2 \quad 11 \quad 1 \quad 5 \quad 4 \quad 12 \quad 6 \quad 4$$

Solving Sequence

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

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

$$I_1^u = \langle -18u^{26} + 125u^{25} + \cdots + 4b - 220,\ -9u^{26} + 43u^{25} + \cdots + 16a + 312,\ u^{27} - 7u^{26} + \cdots + 128u - 16\rangle$$
$$I_2^u = \langle 22944250a^7u^4 - 33783291a^6u^4 + \cdots + 121889135a + 78299476,\ 2a^6u^4 - a^5u^4 + \cdots - 13a + 5,$$
$$u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle$$
$$I_3^u = \langle 2u^{17} + 4u^{16} + \cdots + b + 3,\ u^{17} + 4u^{16} + \cdots + 2a - 1,\ u^{18} + 2u^{17} + \cdots + u + 2\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 85 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. $\boldsymbol{I^u_1 = \langle -18u^{26} + 125u^{25} + \cdots + 4b - 220,\ -9u^{26} + 43u^{25} + \cdots + 16a + 312,\ u^{27} - 7u^{26} + \cdots + 128u - 16\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.562500u^{26} - 2.68750u^{25} + \cdots + 128.250u - 19.5000 \\ \frac{9}{2}u^{26} - \frac{125}{4}u^{25} + \cdots - \frac{903}{2}u + 55 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{9}{16}u^{26} - \frac{57}{16}u^{25} + \cdots - \frac{135}{2}u + 10 \\ \frac{3}{8}u^{26} - \frac{19}{8}u^{25} + \cdots - 62u + 9 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{75}{16}u^{26} - \frac{349}{16}u^{25} + \cdots - \frac{1055}{4}u + 42 \\ \frac{57}{4}u^{26} - \frac{333}{4}u^{25} + \cdots - 918u + 121 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.562500u^{26} - 2.68750u^{25} + \cdots + 128.250u - 19.5000 \\ \frac{21}{4}u^{26} - 33u^{25} + \cdots - \frac{601}{2}u + 35 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -3.43750u^{26} + 19.5625u^{25} + \cdots - 25.2500u + 11.5000 \\ -\frac{5}{4}u^{26} + \frac{19}{2}u^{25} + \cdots + \frac{183}{2}u - 9 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2.12500u^{26} - 11.7500u^{25} + \cdots - 299.750u + 46.5000 \\ \frac{25}{8}u^{26} - \frac{135}{8}u^{25} + \cdots - \frac{453}{2}u + 34 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{13}{8}u^{26} - \frac{35}{4}u^{25} + \cdots - \frac{111}{4}u + \frac{9}{2} \\ -\frac{11}{8}u^{26} + \frac{57}{8}u^{25} + \cdots + \frac{203}{2}u - 16 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{5}{2}u^{26} + \frac{27}{2}u^{25} + \cdots + 66u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{27}+13u^{26}+\cdots+640u-256$
c_2, c_5	$u^{27}+7u^{26}+\cdots+128u+16$
c_3, c_4, c_8 c_9	$u^{27}-u^{24}+\cdots+u+1$
c_6, c_{11}	$u^{27}-9u^{26}+\cdots-176u+32$
c_7	$u^{27}-2u^{26}+\cdots+3u+1$
c_{10}	$u^{27}-9u^{26}+\cdots+768u+1024$
c_{12}	$u^{27}+2u^{26}+\cdots+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{27} + y^{26} + \cdots + 1384448y - 65536$
c_2, c_5	$y^{27} + 13y^{26} + \cdots + 640y - 256$
c_3, c_4, c_8 c_9	$y^{27} + 26y^{25} + \cdots - 5y - 1$
c_6, c_{11}	$y^{27} + 9y^{26} + \cdots + 768y - 1024$
c_7	$y^{27} - 28y^{26} + \cdots - 33y - 1$
c_{10}	$y^{27} + 17y^{26} + \cdots + 196608y - 1048576$
c_{12}	$y^{27} + 44y^{26} + \cdots + 43y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.105020 + 1.000790I$ $a = 0.488571 - 0.501972I$ $b = -0.442028 - 0.586779I$	$-1.48211 - 1.37107I$	$-5.86313 + 4.22011I$
$u = 0.105020 - 1.000790I$ $a = 0.488571 + 0.501972I$ $b = -0.442028 + 0.586779I$	$-1.48211 + 1.37107I$	$-5.86313 - 4.22011I$
$u = 0.960149 + 0.220645I$ $a = -1.19030 - 0.88560I$ $b = -0.40669 - 1.51529I$	$-3.42062 - 10.51250I$	$-2.02610 + 6.29525I$
$u = 0.960149 - 0.220645I$ $a = -1.19030 + 0.88560I$ $b = -0.40669 + 1.51529I$	$-3.42062 + 10.51250I$	$-2.02610 - 6.29525I$
$u = -0.914332 + 0.494714I$ $a = -0.185333 + 0.579265I$ $b = 0.383928 + 0.944693I$	$3.55128 + 0.44727I$	$1.70598 + 5.83861I$
$u = -0.914332 - 0.494714I$ $a = -0.185333 - 0.579265I$ $b = 0.383928 - 0.944693I$	$3.55128 - 0.44727I$	$1.70598 - 5.83861I$
$u = -0.567653 + 0.888742I$ $a = 0.362550 - 0.525693I$ $b = -0.627644 - 0.668484I$	$-0.19746 - 2.14437I$	$-2.39759 + 4.10548I$
$u = -0.567653 - 0.888742I$ $a = 0.362550 + 0.525693I$ $b = -0.627644 + 0.668484I$	$-0.19746 + 2.14437I$	$-2.39759 - 4.10548I$
$u = 0.907665 + 0.211669I$ $a = 1.28828 + 0.73242I$ $b = 0.427679 + 1.271000I$	$-4.63592 - 4.02746I$	$-3.88519 + 2.04862I$
$u = 0.907665 - 0.211669I$ $a = 1.28828 - 0.73242I$ $b = 0.427679 - 1.271000I$	$-4.63592 + 4.02746I$	$-3.88519 - 2.04862I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.782200 + 0.463303I$ $a = -0.855769 - 0.381199I$ $b = 0.482293 - 1.128990I$	$3.60283 - 2.96457I$	$0.31391 + 6.24123I$
$u = 0.782200 - 0.463303I$ $a = -0.855769 + 0.381199I$ $b = 0.482293 + 1.128990I$	$3.60283 + 2.96457I$	$0.31391 - 6.24123I$
$u = 0.430772 + 1.068380I$ $a = -0.168300 + 0.664974I$ $b = -0.42525 + 1.51993I$	$-3.69679 + 3.48476I$	$-13.31039 - 2.89782I$
$u = 0.430772 - 1.068380I$ $a = -0.168300 - 0.664974I$ $b = -0.42525 - 1.51993I$	$-3.69679 - 3.48476I$	$-13.31039 + 2.89782I$
$u = 0.610468 + 1.088930I$ $a = -0.267324 - 0.684625I$ $b = 1.07720 - 1.97646I$	$1.72849 + 8.21568I$	$-1.80289 - 11.79925I$
$u = 0.610468 - 1.088930I$ $a = -0.267324 + 0.684625I$ $b = 1.07720 + 1.97646I$	$1.72849 - 8.21568I$	$-1.80289 + 11.79925I$
$u = -0.812166 + 1.037250I$ $a = -0.307751 + 0.460402I$ $b = 0.775885 + 0.808103I$	$2.00054 - 6.71137I$	$5.59443 + 7.11847I$
$u = -0.812166 - 1.037250I$ $a = -0.307751 - 0.460402I$ $b = 0.775885 - 0.808103I$	$2.00054 + 6.71137I$	$5.59443 - 7.11847I$
$u = 0.314258 + 1.294970I$ $a = -0.734896 + 0.716407I$ $b = -0.460968 - 0.046381I$	$-9.49935 + 0.08820I$	$-8.66011 - 0.47394I$
$u = 0.314258 - 1.294970I$ $a = -0.734896 - 0.716407I$ $b = -0.460968 + 0.046381I$	$-9.49935 - 0.08820I$	$-8.66011 + 0.47394I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.568799 + 1.214060I$ $a = 0.374995 + 1.080590I$ $b = -1.38523 + 1.89586I$	$-7.66112 + 9.39517I$	$-6.37444 - 5.16259I$
$u = 0.568799 - 1.214060I$ $a = 0.374995 - 1.080590I$ $b = -1.38523 - 1.89586I$	$-7.66112 - 9.39517I$	$-6.37444 + 5.16259I$
$u = 0.583706 + 1.232160I$ $a = -0.495185 - 1.079000I$ $b = 1.39179 - 2.00551I$	$-6.5130 + 16.0862I$	$-4.70147 - 9.04652I$
$u = 0.583706 - 1.232160I$ $a = -0.495185 + 1.079000I$ $b = 1.39179 + 2.00551I$	$-6.5130 - 16.0862I$	$-4.70147 + 9.04652I$
$u = 0.295074 + 1.337790I$ $a = 0.784593 - 0.621842I$ $b = 0.280592 + 0.245697I$	$-8.59495 - 6.20996I$	$-7.14590 + 4.78100I$
$u = 0.295074 - 1.337790I$ $a = 0.784593 + 0.621842I$ $b = 0.280592 - 0.245697I$	$-8.59495 + 6.20996I$	$-7.14590 - 4.78100I$
$u = 0.472076$ $a = 1.31174$ $b = -0.143102$	-1.09573	-8.89420

II. $\boldsymbol{I^u_2 = \langle 2.29\times 10^7 a^7u^4 - 3.38\times 10^7 a^6u^4 + \cdots + 1.22\times 10^8 a + 7.83\times 10^7,\ 2a^6u^4 - a^5u^4 + \cdots - 13a + 5,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} a \\ -0.152525a^7u^4 + 0.224579a^6u^4 + \cdots - 0.810275a - 0.520506 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a^2u \\ -0.0581439a^7u^4 + 0.207419a^6u^4 + \cdots + 0.849709a + 0.0905920 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} a^3u^2 + a \\ -0.0582063a^7u^4 + 0.399323a^6u^4 + \cdots + 0.137201a - 0.457433 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} a \\ -0.152525a^7u^4 + 0.224579a^6u^4 + \cdots - 0.810275a - 0.520506 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.00165024a^7u^4 - 0.254221a^6u^4 + \cdots - 1.89342a + 0.571381 \\ 0.173042a^7u^4 - 0.0836413a^6u^4 + \cdots - 1.43436a + 0.112553 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0109763a^7u^4 - 0.288743a^6u^4 + \cdots - 0.102938a + 0.823334 \\ 0.581663a^7u^4 + 0.775628a^6u^4 + \cdots + 0.143633a + 0.940342 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.823892a^7u^4 - 0.601307a^6u^4 + \cdots - 1.11580a + 0.598288 \\ 1.04050a^7u^4 + 0.372132a^6u^4 + \cdots - 0.973792a + 1.25647 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{431301936}{150429427}a^7u^4 - \frac{176114536}{150429427}a^6u^4 + \cdots + \frac{1120165784}{150429427}a - \frac{579968226}{150429427}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5+3u^4+4u^3+u^2-u-1)^8$
c_2, c_5	$(u^5-u^4+2u^3-u^2+u-1)^8$
c_3, c_4, c_8 c_9	$u^{40}+u^{39}+\cdots-18u+1$
c_6, c_{11}	$(u^4+u^3+u^2+1)^{10}$
c_7	$u^{40}-5u^{39}+\cdots+6786u+4091$
c_{10}	$(u^4-u^3+3u^2-2u+1)^{10}$
c_{12}	$u^{40}+3u^{39}+\cdots+51794u+10331$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^8$
c_2, c_5	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^8$
c_3, c_4, c_8 c_9	$y^{40} + 15y^{39} + \cdots - 60y + 1$
c_6, c_{11}	$(y^4 + y^3 + 3y^2 + 2y + 1)^{10}$
c_7	$y^{40} + 3y^{39} + \cdots - 154444932y + 16736281$
c_{10}	$(y^4 + 5y^3 + 7y^2 + 2y + 1)^{10}$
c_{12}	$y^{40} + 15y^{39} + \cdots - 1122430816y + 106729561$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.339110 + 0.822375I$ $a = 0.887800 - 0.823092I$ $b = -0.602228 - 0.591346I$	$-2.18504 - 1.63338I$	$-2.34185 - 1.86585I$
$u = 0.339110 + 0.822375I$ $a = -0.338775 + 1.230210I$ $b = 0.404723 + 1.019570I$	$-2.18504 + 4.69454I$	$-2.34185 - 6.99545I$
$u = 0.339110 + 0.822375I$ $a = -0.481121 - 0.490646I$ $b = 2.29252 + 0.64029I$	$-2.18504 + 4.69454I$	$-2.34185 - 6.99545I$
$u = 0.339110 + 0.822375I$ $a = -1.30373 - 0.59561I$ $b = 0.27467 - 2.40003I$	$4.81671 + 0.11547I$	$1.311623 + 0.478094I$
$u = 0.339110 + 0.822375I$ $a = -1.46190 - 0.67259I$ $b = 1.46239 - 1.70199I$	$4.81671 + 2.94568I$	$1.31162 - 9.33939I$
$u = 0.339110 + 0.822375I$ $a = 1.35254 + 1.11532I$ $b = -0.15556 + 1.64570I$	$4.81671 + 2.94568I$	$1.31162 - 9.33939I$
$u = 0.339110 + 0.822375I$ $a = 0.024114 + 0.200518I$ $b = -1.84727 - 1.41620I$	$-2.18504 - 1.63338I$	$-2.34185 - 1.86585I$
$u = 0.339110 + 0.822375I$ $a = 1.75976 + 0.59364I$ $b = -0.648103 + 1.146440I$	$4.81671 + 0.11547I$	$1.311623 + 0.478094I$
$u = 0.339110 - 0.822375I$ $a = 0.887800 + 0.823092I$ $b = -0.602228 + 0.591346I$	$-2.18504 + 1.63338I$	$-2.34185 + 1.86585I$
$u = 0.339110 - 0.822375I$ $a = -0.338775 - 1.230210I$ $b = 0.404723 - 1.019570I$	$-2.18504 - 4.69454I$	$-2.34185 + 6.99545I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.339110 - 0.822375I$ $a = -0.481121 + 0.490646I$ $b = 2.29252 - 0.64029I$	$-2.18504 - 4.69454I$	$-2.34185 + 6.99545I$
$u = 0.339110 - 0.822375I$ $a = -1.30373 + 0.59561I$ $b = 0.27467 + 2.40003I$	$4.81671 - 0.11547I$	$1.311623 - 0.478094I$
$u = 0.339110 - 0.822375I$ $a = -1.46190 + 0.67259I$ $b = 1.46239 + 1.70199I$	$4.81671 - 2.94568I$	$1.31162 + 9.33939I$
$u = 0.339110 - 0.822375I$ $a = 1.35254 - 1.11532I$ $b = -0.15556 - 1.64570I$	$4.81671 - 2.94568I$	$1.31162 + 9.33939I$
$u = 0.339110 - 0.822375I$ $a = 0.024114 - 0.200518I$ $b = -1.84727 + 1.41620I$	$-2.18504 + 1.63338I$	$-2.34185 + 1.86585I$
$u = 0.339110 - 0.822375I$ $a = 1.75976 - 0.59364I$ $b = -0.648103 - 1.146440I$	$4.81671 - 0.11547I$	$1.311623 - 0.478094I$
$u = -0.766826$ $a = 0.549386 + 0.507019I$ $b = 0.452245 - 0.131425I$	$2.74473 - 1.41510I$	$0.34560 + 4.90874I$
$u = -0.766826$ $a = 0.549386 - 0.507019I$ $b = 0.452245 + 0.131425I$	$2.74473 + 1.41510I$	$0.34560 - 4.90874I$
$u = -0.766826$ $a = 0.078079 + 1.311900I$ $b = 0.277726 + 0.804944I$	$2.74473 + 1.41510I$	$0.34560 - 4.90874I$
$u = -0.766826$ $a = 0.078079 - 1.311900I$ $b = 0.277726 - 0.804944I$	$2.74473 - 1.41510I$	$0.34560 + 4.90874I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.766826$ $a=1.38939+1.09929I$ $b=0.58051+1.38468I$	$-4.25702+3.16396I$	$-3.30788-2.56480I$
$u=-0.766826$ $a=1.38939-1.09929I$ $b=0.58051-1.38468I$	$-4.25702-3.16396I$	$-3.30788+2.56480I$
$u=-0.766826$ $a=-1.22285+1.36610I$ $b=-0.38676+1.48347I$	$-4.25702+3.16396I$	$-3.30788-2.56480I$
$u=-0.766826$ $a=-1.22285-1.36610I$ $b=-0.38676-1.48347I$	$-4.25702-3.16396I$	$-3.30788+2.56480I$
$u=-0.455697+1.200150I$ $a=0.459956-0.714930I$ $b=-0.596601-0.998981I$	$-0.72676-2.98573I$	$-2.91758-1.41016I$
$u=-0.455697+1.200150I$ $a=0.570507-1.025120I$ $b=-1.59735-1.91202I$	$-7.72850-1.23687I$	$-6.57105+0.93379I$
$u=-0.455697+1.200150I$ $a=-0.066285-0.811197I$ $b=-0.418344-0.464261I$	$-0.72676-5.81594I$	$-2.91758+8.40733I$
$u=-0.455697+1.200150I$ $a=-0.683595+0.994828I$ $b=1.39769+2.15846I$	$-7.72850-7.56480I$	$-6.57105+6.06338I$
$u=-0.455697+1.200150I$ $a=1.103220+0.549135I$ $b=0.411410-0.510767I$	$-7.72850-1.23687I$	$-6.57105+0.93379I$
$u=-0.455697+1.200150I$ $a=-0.580054+0.496951I$ $b=0.11645+1.53667I$	$-0.72676-5.81594I$	$-2.91758+8.40733I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.455697 + 1.200150I$ $a = -1.038940 - 0.748270I$ $b = -0.548374 + 0.401816I$	$-7.72850 - 7.56480I$	$-6.57105 + 6.06338I$
$u = -0.455697 + 1.200150I$ $a = 0.002489 + 0.164794I$ $b = -0.369744 + 0.444563I$	$-0.72676 - 2.98573I$	$-2.91758 - 1.41016I$
$u = -0.455697 - 1.200150I$ $a = 0.459956 + 0.714930I$ $b = -0.596601 + 0.998981I$	$-0.72676 + 2.98573I$	$-2.91758 + 1.41016I$
$u = -0.455697 - 1.200150I$ $a = 0.570507 + 1.025120I$ $b = -1.59735 + 1.91202I$	$-7.72850 + 1.23687I$	$-6.57105 - 0.93379I$
$u = -0.455697 - 1.200150I$ $a = -0.066285 + 0.811197I$ $b = -0.418344 + 0.464261I$	$-0.72676 + 5.81594I$	$-2.91758 - 8.40733I$
$u = -0.455697 - 1.200150I$ $a = -0.683595 - 0.994828I$ $b = 1.39769 - 2.15846I$	$-7.72850 + 7.56480I$	$-6.57105 - 6.06338I$
$u = -0.455697 - 1.200150I$ $a = 1.103220 - 0.549135I$ $b = 0.411410 + 0.510767I$	$-7.72850 + 1.23687I$	$-6.57105 - 0.93379I$
$u = -0.455697 - 1.200150I$ $a = -0.580054 - 0.496951I$ $b = 0.11645 - 1.53667I$	$-0.72676 + 5.81594I$	$-2.91758 - 8.40733I$
$u = -0.455697 - 1.200150I$ $a = -1.038940 + 0.748270I$ $b = -0.548374 - 0.401816I$	$-7.72850 + 7.56480I$	$-6.57105 - 6.06338I$
$u = -0.455697 - 1.200150I$ $a = 0.002489 - 0.164794I$ $b = -0.369744 - 0.444563I$	$-0.72676 + 2.98573I$	$-2.91758 + 1.41016I$

III.

$$\boldsymbol{I_3^u = \langle 2u^{17}+4u^{16}+\cdots+b+3,\ u^{17}+4u^{16}+\cdots+2a-1,\ u^{18}+2u^{17}+\cdots+u+2\rangle}$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{17} - 2u^{16} + \cdots + 2u + \frac{1}{2} \\ -2u^{17} - 4u^{16} + \cdots - 4u^2 - 3 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{2}u^{17} + 2u^{16} + \cdots + 5u + \frac{3}{2} \\ u^{17} + 2u^{16} + \cdots + u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{17} - u^{16} + \cdots - 2u - 7 \\ -4u^{17} - 9u^{16} + \cdots - 9u - 6 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^{17} - 2u^{16} + \cdots + 2u + \frac{1}{2} \\ -3u^{17} - 7u^{16} + \cdots - 2u - 5 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{3}{2}u^{17} + u^{16} + \cdots + 8u + \frac{3}{2} \\ -u^{17} - u^{16} + \cdots + u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{1}{2}u^{17} - 4u^{16} + \cdots - 8u - \frac{13}{2} \\ -3u^{17} - 6u^{16} + \cdots - 7u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{3}{2}u^{17} - u^{16} + \cdots - 4u - \frac{17}{2} \\ -2u^{17} - 4u^{16} + \cdots - 6u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^{17} + 6u^{16} - u^{15} + 42u^{14} + 28u^{13} + 114u^{12} + 103u^{11} + 179u^{10} + 184u^9 + 171u^8 + 200u^7 + 124u^6 + 116u^5 + 104u^4 + 17u^3 + 82u^2 - 12u + 24$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18} - 10u^{17} + \cdots - 31u + 4$
c_2	$u^{18} + 2u^{17} + \cdots + u + 2$
c_3, c_8, c_9	$u^{18} + 8u^{16} + \cdots + 3u^2 + 1$
c_4	$u^{18} + 8u^{16} + \cdots + 3u^2 + 1$
c_5	$u^{18} - 2u^{17} + \cdots - u + 2$
c_6	$u^{18} - 2u^{17} + \cdots + 5u^2 + 1$
c_7	$u^{18} + 2u^{17} + \cdots - u^2 + 1$
c_{10}	$u^{18} + 8u^{17} + \cdots + 10u + 1$
c_{11}	$u^{18} + 2u^{17} + \cdots + 5u^2 + 1$
c_{12}	$u^{18} - 2u^{17} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{18} + 2y^{17} + \cdots + 15y + 16$
c_2, c_5	$y^{18} + 10y^{17} + \cdots + 31y + 4$
c_3, c_4, c_8 c_9	$y^{18} + 16y^{17} + \cdots + 6y + 1$
c_6, c_{11}	$y^{18} + 8y^{17} + \cdots + 10y + 1$
c_7	$y^{18} + 12y^{17} + \cdots - 2y + 1$
c_{10}	$y^{18} + 12y^{17} + \cdots + 10y + 1$
c_{12}	$y^{18} - 8y^{17} + \cdots - 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.981310 + 0.253960I$ $a = -0.170640 + 0.664485I$ $b = 0.361254 + 0.716420I$	$3.92201 + 1.01481I$	$9.79163 - 3.00403I$
$u = -0.981310 - 0.253960I$ $a = -0.170640 - 0.664485I$ $b = 0.361254 - 0.716420I$	$3.92201 - 1.01481I$	$9.79163 + 3.00403I$
$u = -0.328225 + 1.000660I$ $a = -0.082288 - 0.739992I$ $b = 0.91593 - 1.17432I$	$-3.31131 - 4.67882I$	$-11.61723 + 7.16331I$
$u = -0.328225 - 1.000660I$ $a = -0.082288 + 0.739992I$ $b = 0.91593 + 1.17432I$	$-3.31131 + 4.67882I$	$-11.61723 - 7.16331I$
$u = 0.380092 + 0.983829I$ $a = 1.38047 + 0.47143I$ $b = -0.58784 + 1.75887I$	$3.70424 + 0.63886I$	$-6.05292 - 1.95753I$
$u = 0.380092 - 0.983829I$ $a = 1.38047 - 0.47143I$ $b = -0.58784 - 1.75887I$	$3.70424 - 0.63886I$	$-6.05292 + 1.95753I$
$u = -0.283854 + 0.855152I$ $a = 0.579753 + 0.661116I$ $b = -1.47974 + 1.16317I$	$-2.71569 + 2.14208I$	$-12.8091 - 7.3341I$
$u = -0.283854 - 0.855152I$ $a = 0.579753 - 0.661116I$ $b = -1.47974 - 1.16317I$	$-2.71569 - 2.14208I$	$-12.8091 + 7.3341I$
$u = 0.544716 + 1.021100I$ $a = -1.113210 - 0.501413I$ $b = 0.65241 - 1.74620I$	$4.89940 + 5.26946I$	$-0.57060 - 6.44056I$
$u = 0.544716 - 1.021100I$ $a = -1.113210 + 0.501413I$ $b = 0.65241 + 1.74620I$	$4.89940 - 5.26946I$	$-0.57060 + 6.44056I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.582727 + 0.579138I$ $a = -1.06558 - 1.15811I$ $b = 0.48001 - 1.75959I$	$6.26078 - 0.75053I$	$5.05157 + 1.48269I$
$u = 0.582727 - 0.579138I$ $a = -1.06558 + 1.15811I$ $b = 0.48001 + 1.75959I$	$6.26078 + 0.75053I$	$5.05157 - 1.48269I$
$u = 0.242753 + 0.766873I$ $a = 1.65221 + 0.85517I$ $b = -0.73209 + 1.72171I$	$4.64682 + 2.16850I$	$-1.86140 + 1.62519I$
$u = 0.242753 - 0.766873I$ $a = 1.65221 - 0.85517I$ $b = -0.73209 - 1.72171I$	$4.64682 - 2.16850I$	$-1.86140 - 1.62519I$
$u = -0.687587 + 1.152070I$ $a = -0.252159 + 0.422500I$ $b = 0.728223 + 1.164210I$	$1.34269 - 7.01585I$	$-4.35793 + 9.22386I$
$u = -0.687587 - 1.152070I$ $a = -0.252159 - 0.422500I$ $b = 0.728223 - 1.164210I$	$1.34269 + 7.01585I$	$-4.35793 - 9.22386I$
$u = -0.469311 + 1.274980I$ $a = 0.321439 - 0.522684I$ $b = -0.338152 - 0.733061I$	$-0.65466 - 3.82739I$	$-1.57397 + 9.48512I$
$u = -0.469311 - 1.274980I$ $a = 0.321439 + 0.522684I$ $b = -0.338152 + 0.733061I$	$-0.65466 + 3.82739I$	$-1.57397 - 9.48512I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^5+3u^4+4u^3+u^2-u-1)^8)(u^{18}-10u^{17}+\cdots-31u+4)$ $\cdot(u^{27}+13u^{26}+\cdots+640u-256)$
c_2	$((u^5-u^4+2u^3-u^2+u-1)^8)(u^{18}+2u^{17}+\cdots+u+2)$ $\cdot(u^{27}+7u^{26}+\cdots+128u+16)$
c_3, c_8, c_9	$(u^{18}+8u^{16}+\cdots+3u^2+1)(u^{27}-u^{24}+\cdots+u+1)$ $\cdot(u^{40}+u^{39}+\cdots-18u+1)$
c_4	$(u^{18}+8u^{16}+\cdots+3u^2+1)(u^{27}-u^{24}+\cdots+u+1)$ $\cdot(u^{40}+u^{39}+\cdots-18u+1)$
c_5	$((u^5-u^4+2u^3-u^2+u-1)^8)(u^{18}-2u^{17}+\cdots-u+2)$ $\cdot(u^{27}+7u^{26}+\cdots+128u+16)$
c_6	$((u^4+u^3+u^2+1)^{10})(u^{18}-2u^{17}+\cdots+5u^2+1)$ $\cdot(u^{27}-9u^{26}+\cdots-176u+32)$
c_7	$(u^{18}+2u^{17}+\cdots-u^2+1)(u^{27}-2u^{26}+\cdots+3u+1)$ $\cdot(u^{40}-5u^{39}+\cdots+6786u+4091)$
c_{10}	$((u^4-u^3+3u^2-2u+1)^{10})(u^{18}+8u^{17}+\cdots+10u+1)$ $\cdot(u^{27}-9u^{26}+\cdots+768u+1024)$
c_{11}	$((u^4+u^3+u^2+1)^{10})(u^{18}+2u^{17}+\cdots+5u^2+1)$ $\cdot(u^{27}-9u^{26}+\cdots-176u+32)$
c_{12}	$(u^{18}-2u^{17}+\cdots-2u+1)(u^{27}+2u^{26}+\cdots+u+1)$ $\cdot(u^{40}+3u^{39}+\cdots+51794u+10331)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^8)(y^{18} + 2y^{17} + \cdots + 15y + 16)$ $\cdot (y^{27} + y^{26} + \cdots + 1384448y - 65536)$
c_2, c_5	$((y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^8)(y^{18} + 10y^{17} + \cdots + 31y + 4)$ $\cdot (y^{27} + 13y^{26} + \cdots + 640y - 256)$
c_3, c_4, c_8 c_9	$(y^{18} + 16y^{17} + \cdots + 6y + 1)(y^{27} + 26y^{25} + \cdots - 5y - 1)$ $\cdot (y^{40} + 15y^{39} + \cdots - 60y + 1)$
c_6, c_{11}	$((y^4 + y^3 + 3y^2 + 2y + 1)^{10})(y^{18} + 8y^{17} + \cdots + 10y + 1)$ $\cdot (y^{27} + 9y^{26} + \cdots + 768y - 1024)$
c_7	$(y^{18} + 12y^{17} + \cdots - 2y + 1)(y^{27} - 28y^{26} + \cdots - 33y - 1)$ $\cdot (y^{40} + 3y^{39} + \cdots - 154444932y + 16736281)$
c_{10}	$((y^4 + 5y^3 + 7y^2 + 2y + 1)^{10})(y^{18} + 12y^{17} + \cdots + 10y + 1)$ $\cdot (y^{27} + 17y^{26} + \cdots + 196608y - 1048576)$
c_{12}	$(y^{18} - 8y^{17} + \cdots - 6y + 1)(y^{27} + 44y^{26} + \cdots + 43y - 1)$ $\cdot (y^{40} + 15y^{39} + \cdots - 1122430816y + 106729561)$