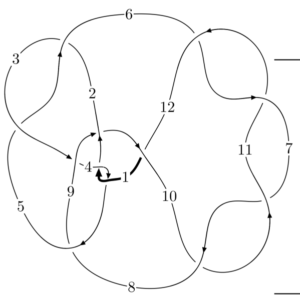
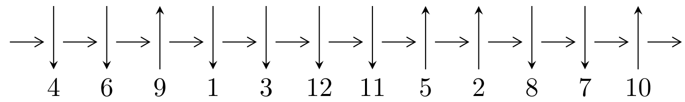
$12a_{0940}$ $(K12a_{0940})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5951u^{31} + 29371u^{30} + \cdots + 32768b + 13889,\ 28929u^{31} + 106501u^{30} + \cdots + 32768a - 89345,$$
$$u^{32} + 4u^{31} + \cdots + u + 1\rangle$$
$$I_2^u = \langle 1.48022 \times 10^{51}u^{53} - 9.91042 \times 10^{51}u^{52} + \cdots + 4.83516 \times 10^{51}b + 9.88707 \times 10^{50},$$
$$4.13434 \times 10^{51}u^{53} - 4.03971 \times 10^{52}u^{52} + \cdots + 4.83516 \times 10^{51}a + 1.72588 \times 10^{52},\ u^{54} - 9u^{53} + \cdots - 2u + 1$$
$$I_3^u = \langle b + a,\ 16a^4 + 8a^3 + 4a^2 + 1,\ u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $I^u_1 = \langle 5951u^{31} + 29371u^{30} + \cdots + 32768b + 13889,\ 28929u^{31} + 106501u^{30} + \cdots + 32768a - 89345,\ u^{32} + 4u^{31} + \cdots + u + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.882843u^{31} - 3.25015u^{30} + \cdots - 0.148376u + 2.72659 \\ -0.181610u^{31} - 0.896332u^{30} + \cdots - 2.44537u - 0.423859 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.712952u^{31} - 2.65460u^{30} + \cdots + 0.0938721u + 2.54498 \\ -0.146393u^{31} - 0.853058u^{30} + \cdots - 2.60175u - 0.326263 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{1}{4}u^{31} - \frac{5}{4}u^{30} + \cdots - \frac{5}{2}u - \frac{1}{4} \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{1}{4}u^{31} - \frac{3}{4}u^{30} + \cdots + \frac{7}{4}u^2 + \frac{5}{4} \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.701233u^{31} - 2.35382u^{30} + \cdots + 2.29700u + 3.15045 \\ -0.181610u^{31} - 0.896332u^{30} + \cdots - 2.44537u - 0.423859 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.511902u^{31} + 1.97064u^{30} + \cdots + 1.14709u + 0.383606 \\ -0.204498u^{31} - 0.925323u^{30} + \cdots - 1.20575u + 0.325104 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.258972u^{31} - 0.793884u^{30} + \cdots - 1.97913u + 1.25995 \\ 0.0112000u^{31} + 0.0545349u^{30} + \cdots - 0.0267944u - 0.0126648 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.250061u^{31} - 0.750305u^{30} + \cdots - 3.99988u - 0.749939 \\ 0.0000915527u^{31} + 0.000457764u^{30} + \cdots + 1.99982u - 0.0000915527 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{86015}{65536}u^{31} - \frac{380923}{65536}u^{30} + \cdots - \frac{995329}{32768}u - \frac{249857}{65536}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4 c_5	$u^{32} + 4u^{31} + \cdots + u + 1$
c_3	$u^{32} + 3u^{31} + \cdots + 896u + 512$
c_6, c_7, c_{10} c_{11}	$u^{32} + 18u^{30} + \cdots - u + 4$
c_8, c_9	$16(16u^{32} - 24u^{31} + \cdots - u + 1)$
c_{12}	$u^{32} + 8u^{31} + \cdots + 8305u + 2848$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$y^{32} + 14y^{31} + \cdots + 33y + 1$
c_3	$y^{32} - 9y^{31} + \cdots - 2670592y + 262144$
c_6, c_7, c_{10} c_{11}	$y^{32} + 36y^{31} + \cdots + 31y + 16$
c_8, c_9	$256(256y^{32} - 1472y^{31} + \cdots + 17y + 1)$
c_{12}	$y^{32} + 32y^{30} + \cdots + 102863903y + 8111104$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.256599 + 0.986885I$ $a = -0.10049 - 1.49632I$ $b = 0.337537 + 0.540320I$	$3.01027 + 5.04884I$	$0.30701 - 11.56239I$
$u = -0.256599 - 0.986885I$ $a = -0.10049 + 1.49632I$ $b = 0.337537 - 0.540320I$	$3.01027 - 5.04884I$	$0.30701 + 11.56239I$
$u = 0.345644 + 1.009830I$ $a = 2.27410 + 0.29415I$ $b = 0.565585 - 0.855832I$	$7.16766 - 6.68129I$	$1.93207 + 9.16461I$
$u = 0.345644 - 1.009830I$ $a = 2.27410 - 0.29415I$ $b = 0.565585 + 0.855832I$	$7.16766 + 6.68129I$	$1.93207 - 9.16461I$
$u = -1.009820 + 0.356535I$ $a = 0.0303863 + 0.0965767I$ $b = 0.314094 - 0.529406I$	$-2.38238 + 1.00937I$	$-8.36774 + 3.96678I$
$u = -1.009820 - 0.356535I$ $a = 0.0303863 - 0.0965767I$ $b = 0.314094 + 0.529406I$	$-2.38238 - 1.00937I$	$-8.36774 - 3.96678I$
$u = 0.192413 + 0.860169I$ $a = -2.53919 - 0.65062I$ $b = -0.169632 + 0.678086I$	$0.86200 - 3.30892I$	$-5.34169 + 10.20096I$
$u = 0.192413 - 0.860169I$ $a = -2.53919 + 0.65062I$ $b = -0.169632 - 0.678086I$	$0.86200 + 3.30892I$	$-5.34169 - 10.20096I$
$u = -0.951470 + 0.602157I$ $a = -0.034445 - 0.220687I$ $b = -0.231296 + 0.765884I$	$3.88599 + 2.41937I$	$-3.11602 + 0.15009I$
$u = -0.951470 - 0.602157I$ $a = -0.034445 + 0.220687I$ $b = -0.231296 - 0.765884I$	$3.88599 - 2.41937I$	$-3.11602 - 0.15009I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.281511+1.125070I$ $a=-0.416521+1.283760I$ $b=-0.516289-0.577005I$	$11.55230+7.75949I$	$4.97482-8.49376I$
$u=-0.281511-1.125070I$ $a=-0.416521-1.283760I$ $b=-0.516289+0.577005I$	$11.55230-7.75949I$	$4.97482+8.49376I$
$u=-1.220860+0.244274I$ $a=\quad 0.0399097-0.0594691I$ $b=-0.566108+0.372615I$	$-1.73949-1.91549I$	$2.47585+12.40549I$
$u=-1.220860-0.244274I$ $a=\quad 0.0399097+0.0594691I$ $b=-0.566108-0.372615I$	$-1.73949+1.91549I$	$2.47585-12.40549I$
$u=-0.094959+0.725357I$ $a=\quad 1.48981+1.00716I$ $b=-0.129239-0.554693I$	$0.025535+1.139960I$	$-8.50574-4.30443I$
$u=-0.094959-0.725357I$ $a=\quad 1.48981-1.00716I$ $b=-0.129239+0.554693I$	$0.025535-1.139960I$	$-8.50574+4.30443I$
$u=\quad 0.420269+1.246540I$ $a=\quad 1.82639+0.12302I$ $b=\quad 1.14437-0.83909I$	$8.23091-6.44551I$	$4.12576+4.32269I$
$u=\quad 0.420269-1.246540I$ $a=\quad 1.82639-0.12302I$ $b=\quad 1.14437+0.83909I$	$8.23091+6.44551I$	$4.12576-4.32269I$
$u=\quad 0.314298+1.327880I$ $a=-1.72841+0.10017I$ $b=-1.238090+0.535901I$	$17.7364-5.5790I$	$7.02792+4.53110I$
$u=\quad 0.314298-1.327880I$ $a=-1.72841-0.10017I$ $b=-1.238090-0.535901I$	$17.7364+5.5790I$	$7.02792-4.53110I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.355850 + 0.236568I$ $a = -0.0739722 + 0.0539747I$ $b = 0.760876 - 0.360985I$	$5.62503 - 3.78657I$	$5.70330 + 6.74787I$
$u = -1.355850 - 0.236568I$ $a = -0.0739722 - 0.0539747I$ $b = 0.760876 + 0.360985I$	$5.62503 + 3.78657I$	$5.70330 - 6.74787I$
$u = 0.518418 + 1.275920I$ $a = -1.72300 - 0.24772I$ $b = -1.29171 + 1.03781I$	$4.24362 - 9.76929I$	$-1.25839 + 5.39032I$
$u = 0.518418 - 1.275920I$ $a = -1.72300 + 0.24772I$ $b = -1.29171 - 1.03781I$	$4.24362 + 9.76929I$	$-1.25839 - 5.39032I$
$u = 0.55321 + 1.32014I$ $a = 1.64721 + 0.26796I$ $b = 1.42278 - 1.08044I$	$5.7810 - 13.9685I$	$0. + 9.87189I$
$u = 0.55321 - 1.32014I$ $a = 1.64721 - 0.26796I$ $b = 1.42278 + 1.08044I$	$5.7810 + 13.9685I$	$0. - 9.87189I$
$u = 0.57387 + 1.35873I$ $a = -1.59057 - 0.27419I$ $b = -1.52973 + 1.09458I$	$13.6556 - 16.7401I$	$0. + 8.51609I$
$u = 0.57387 - 1.35873I$ $a = -1.59057 + 0.27419I$ $b = -1.52973 - 1.09458I$	$13.6556 + 16.7401I$	$0. - 8.51609I$
$u = 0.280609 + 0.273796I$ $a = -2.70544 - 0.09547I$ $b = 0.602370 + 0.560777I$	$6.37411 + 2.65460I$	$3.56626 - 0.84161I$
$u = 0.280609 - 0.273796I$ $a = -2.70544 + 0.09547I$ $b = 0.602370 - 0.560777I$	$6.37411 - 2.65460I$	$3.56626 + 0.84161I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.027669 + 0.289263I$ $a = 1.85423 - 0.48024I$ $b = -0.225524 - 0.449890I$	$-0.136971 + 0.967105I$	$-2.67074 - 6.06482I$
$u = -0.027669 - 0.289263I$ $a = 1.85423 + 0.48024I$ $b = -0.225524 + 0.449890I$	$-0.136971 - 0.967105I$	$-2.67074 + 6.06482I$

II.

$\boldsymbol{I_2^u = \langle 1.48 \times 10^{51} u^{53} - 9.91 \times 10^{51} u^{52} + \cdots + 4.84 \times 10^{51} b + 9.89 \times 10^{50},\ 4.13 \times 10^{51} u^{53} - 4.04 \times 10^{52} u^{52} + \cdots + 4.84 \times 10^{51} a + 1.73 \times 10^{52},\ u^{54} - 9u^{53} + \cdots - 2u + 1 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.855058u^{53} + 8.35487u^{52} + \cdots + 22.7938u - 3.56943 \\ -0.306136u^{53} + 2.04966u^{52} + \cdots + 0.686080u - 0.204483 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.69713u^{53} + 16.4737u^{52} + \cdots + 25.0991u - 3.91216 \\ 0.325290u^{53} - 3.70225u^{52} + \cdots - 3.54168u + 0.678390 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{53} + 9u^{52} + \cdots - 2u + 2 \\ 0.680220u^{53} - 6.68054u^{52} + \cdots - 5.48108u + 1.66012 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.66012u^{53} + 15.6213u^{52} + \cdots + 15.9415u - 1.16085 \\ 0.558559u^{53} - 4.66115u^{52} + \cdots - 3.02055u - 0.319780 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.548922u^{53} + 6.30521u^{52} + \cdots + 22.1077u - 3.36495 \\ -0.306136u^{53} + 2.04966u^{52} + \cdots + 0.686080u - 0.204483 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -4.24669u^{53} + 40.3428u^{52} + \cdots + 47.5723u - 10.7217 \\ 1.00050u^{53} - 9.85994u^{52} + \cdots - 14.3356u + 3.91478 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1.09133u^{53} - 9.91498u^{52} + \cdots - 1.16671u + 2.04731 \\ 1.21711u^{53} - 11.7466u^{52} + \cdots - 13.4328u + 2.67483 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -3.66332u^{53} + 34.7291u^{52} + \cdots + 35.8008u - 7.42606 \\ 1.03810u^{53} - 9.90418u^{52} + \cdots - 10.8850u + 1.65805 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.617081u^{53} + 4.53776u^{52} + \cdots - 18.3869u - 0.980733$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4 c_5	$u^{54} - 9u^{53} + \cdots - 2u + 1$
c_3	$(u^{27} - u^{26} + \cdots + u^2 + 1)^2$
c_6, c_7, c_{10} c_{11}	$(u^{27} - u^{26} + \cdots + 2u - 1)^2$
c_8, c_9	$u^{54} - 3u^{53} + \cdots - 84818u + 19843$
c_{12}	$(u^{27} + 7u^{26} + \cdots + 8u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$y^{54} + 35y^{53} + \cdots - 40y^2 + 1$
c_3	$(y^{27} - 9y^{26} + \cdots - 2y - 1)^2$
c_6, c_7, c_{10} c_{11}	$(y^{27} + 31y^{26} + \cdots - 2y - 1)^2$
c_8, c_9	$y^{54} - 25y^{53} + \cdots - 3824037376y + 393744649$
c_{12}	$(y^{27} - y^{26} + \cdots - 34y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.921500 + 0.406968I$ $a = -0.098143 + 0.354459I$ $b = -0.651210 + 0.363163I$	$12.35320 - 1.66777I$	0
$u = 0.921500 - 0.406968I$ $a = -0.098143 - 0.354459I$ $b = -0.651210 - 0.363163I$	$12.35320 + 1.66777I$	0
$u = 0.161760 + 0.956165I$ $a = -1.253050 - 0.064754I$ $b = -0.432000 + 1.105310I$	$1.02184 - 2.57835I$	0
$u = 0.161760 - 0.956165I$ $a = -1.253050 + 0.064754I$ $b = -0.432000 - 1.105310I$	$1.02184 + 2.57835I$	0
$u = 0.951163 + 0.106722I$ $a = 0.0322837 + 0.0980914I$ $b = -0.964619 - 0.798896I$	$0.61653 + 4.47788I$	0
$u = 0.951163 - 0.106722I$ $a = 0.0322837 - 0.0980914I$ $b = -0.964619 + 0.798896I$	$0.61653 - 4.47788I$	0
$u = -0.496329 + 0.944022I$ $a = -1.41814 + 0.28063I$ $b = -0.314214 - 0.391944I$	$5.18145 + 2.85128I$	0
$u = -0.496329 - 0.944022I$ $a = -1.41814 - 0.28063I$ $b = -0.314214 + 0.391944I$	$5.18145 - 2.85128I$	0
$u = -0.104807 + 0.924218I$ $a = 1.22909 - 2.98282I$ $b = 1.78798 - 2.72445I$	$3.33132 - 1.17026I$	0
$u = -0.104807 - 0.924218I$ $a = 1.22909 + 2.98282I$ $b = 1.78798 + 2.72445I$	$3.33132 + 1.17026I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.065225+1.079720I$ $a=-2.58821+1.35436I$ $b=-3.02330+1.65605I$	$3.33132+1.17026I$	0
$u=-0.065225-1.079720I$ $a=-2.58821-1.35436I$ $b=-3.02330-1.65605I$	$3.33132-1.17026I$	0
$u=\ \ 1.078320+0.085758I$ $a=-0.0871196-0.0116251I$ $b=\ \ 1.093670+0.737998I$	$1.91204+8.19998I$	0
$u=\ \ 1.078320-0.085758I$ $a=-0.0871196+0.0116251I$ $b=\ \ 1.093670-0.737998I$	$1.91204-8.19998I$	0
$u=\ \ 0.217196+1.068080I$ $a=\ \ 1.161920-0.060988I$ $b=\ \ 0.58155-1.41426I$	$8.47823-4.92710I$	0
$u=\ \ 0.217196-1.068080I$ $a=\ \ 1.161920+0.060988I$ $b=\ \ 0.58155+1.41426I$	$8.47823+4.92710I$	0
$u=-0.247345+0.829128I$ $a=-0.72161+2.41160I$ $b=-1.71107+1.84680I$	$10.49150-2.51533I$	$0.+2.69602I$
$u=-0.247345-0.829128I$ $a=-0.72161-2.41160I$ $b=-1.71107-1.84680I$	$10.49150+2.51533I$	$0.-2.69602I$
$u=\ \ 1.166100+0.065400I$ $a=\ \ 0.1176700-0.0348076I$ $b=-1.188090-0.680911I$	$9.5734+10.6398I$	0
$u=\ \ 1.166100-0.065400I$ $a=\ \ 0.1176700+0.0348076I$ $b=-1.188090+0.680911I$	$9.5734-10.6398I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.079756+1.170660I$ $a=\ 1.74117-0.92940I$ $b=\ 2.27864-1.57510I$	$10.49150+2.51533I$	0
$u=-0.079756-1.170660I$ $a=\ 1.74117+0.92940I$ $b=\ 2.27864+1.57510I$	$10.49150-2.51533I$	0
$u=-0.073769+0.784432I$ $a=\ 1.58283+0.11155I$ $b=\ 0.193099-0.493602I$	$0.014623+1.045880I$	$-6.08117-3.01333I$
$u=-0.073769-0.784432I$ $a=\ 1.58283-0.11155I$ $b=\ 0.193099+0.493602I$	$0.014623-1.045880I$	$-6.08117+3.01333I$
$u=\ 0.669915+0.361204I$ $a=-0.255426-0.498666I$ $b=\ 0.703198+1.038370I$	$5.18145+2.85128I$	$-1.63883-2.96428I$
$u=\ 0.669915-0.361204I$ $a=-0.255426+0.498666I$ $b=\ 0.703198-1.038370I$	$5.18145-2.85128I$	$-1.63883+2.96428I$
$u=\ 0.725355+0.171684I$ $a=\ 0.393009-0.079118I$ $b=\ 0.684272-0.663809I$	$4.24468-2.34352I$	$2.62935+2.39389I$
$u=\ 0.725355-0.171684I$ $a=\ 0.393009+0.079118I$ $b=\ 0.684272+0.663809I$	$4.24468+2.34352I$	$2.62935-2.39389I$
$u=-0.283137+1.260080I$ $a=-1.284500+0.024403I$ $b=-1.054780-0.274542I$	$4.24468+2.34352I$	0
$u=-0.283137-1.260080I$ $a=-1.284500-0.024403I$ $b=-1.054780+0.274542I$	$4.24468-2.34352I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.409264 + 1.225760I$ $a = -0.834431 - 0.811290I$ $b = -1.023220 - 0.245867I$	4.95798	0
$u = 0.409264 - 1.225760I$ $a = -0.834431 + 0.811290I$ $b = -1.023220 + 0.245867I$	4.95798	0
$u = -0.534434 + 1.240260I$ $a = 1.216300 - 0.185339I$ $b = 0.813574 + 0.675546I$	$0.61653 + 4.47788I$	0
$u = -0.534434 - 1.240260I$ $a = 1.216300 + 0.185339I$ $b = 0.813574 - 0.675546I$	$0.61653 - 4.47788I$	0
$u = 0.614014 + 1.218040I$ $a = 0.596564 + 0.709582I$ $b = 0.715946 - 0.008325I$	$6.91814 - 2.81912I$	0
$u = 0.614014 - 1.218040I$ $a = 0.596564 - 0.709582I$ $b = 0.715946 + 0.008325I$	$6.91814 + 2.81912I$	0
$u = -0.58989 + 1.32429I$ $a = -1.153210 + 0.187803I$ $b = -0.919398 - 0.829277I$	$1.91204 + 8.19998I$	0
$u = -0.58989 - 1.32429I$ $a = -1.153210 - 0.187803I$ $b = -0.919398 + 0.829277I$	$1.91204 - 8.19998I$	0
$u = 0.71899 + 1.27750I$ $a = -0.555253 - 0.611476I$ $b = -0.668003 + 0.225605I$	$14.8083 - 4.6242I$	0
$u = 0.71899 - 1.27750I$ $a = -0.555253 + 0.611476I$ $b = -0.668003 - 0.225605I$	$14.8083 + 4.6242I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.38748 + 1.41670I$ $a = 0.871541 + 0.567468I$ $b = 1.235770 - 0.001891I$	$6.91814 + 2.81912I$	0
$u = 0.38748 - 1.41670I$ $a = 0.871541 - 0.567468I$ $b = 1.235770 + 0.001891I$	$6.91814 - 2.81912I$	0
$u = -0.23579 + 1.45379I$ $a = 1.156770 + 0.055901I$ $b = 1.358030 + 0.376262I$	$12.35320 + 1.66777I$	0
$u = -0.23579 - 1.45379I$ $a = 1.156770 - 0.055901I$ $b = 1.358030 - 0.376262I$	$12.35320 - 1.66777I$	0
$u = -0.62331 + 1.38795I$ $a = 1.111630 - 0.185532I$ $b = 1.007310 + 0.927914I$	$9.5734 + 10.6398I$	0
$u = -0.62331 - 1.38795I$ $a = 1.111630 + 0.185532I$ $b = 1.007310 - 0.927914I$	$9.5734 - 10.6398I$	0
$u = -0.434092 + 0.000491I$ $a = 2.00424 - 2.44799I$ $b = -1.037490 - 0.346331I$	$8.47823 - 4.92710I$	$-0.19733 + 2.17668I$
$u = -0.434092 - 0.000491I$ $a = 2.00424 + 2.44799I$ $b = -1.037490 + 0.346331I$	$8.47823 + 4.92710I$	$-0.19733 - 2.17668I$
$u = 0.42273 + 1.51942I$ $a = -0.823087 - 0.482299I$ $b = -1.298270 + 0.142651I$	$14.8083 + 4.6242I$	0
$u = 0.42273 - 1.51942I$ $a = -0.823087 + 0.482299I$ $b = -1.298270 - 0.142651I$	$14.8083 - 4.6242I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.095617 + 0.346723I$ $a = 1.93962 + 1.62724I$ $b = -0.436010 - 0.692684I$	$0.014623 + 1.045880I$	$-6.08117 - 3.01333I$
$u = 0.095617 - 0.346723I$ $a = 1.93962 - 1.62724I$ $b = -0.436010 + 0.692684I$	$0.014623 - 1.045880I$	$-6.08117 + 3.01333I$
$u = -0.271515 + 0.130422I$ $a = -3.58247 + 1.91151I$ $b = 0.768628 + 0.413076I$	$1.02184 - 2.57835I$	$-3.18083 + 3.65038I$
$u = -0.271515 - 0.130422I$ $a = -3.58247 - 1.91151I$ $b = 0.768628 - 0.413076I$	$1.02184 + 2.57835I$	$-3.18083 - 3.65038I$

III. $I_3^u = \langle b + a,\ 16a^4 + 8a^3 + 4a^2 + 1,\ u + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a \\ -a \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2a \\ -3a \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2a \\ -a \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 8a^3 + 2a \\ -4a^3 - 3a \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 8a^3 + 4a^2 + 1 \\ -12a^3 - 2a^2 - \frac{1}{2} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 4a^2 \\ -6a^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -a^2 - 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$(y-1)^4$
c_3	y^4
c_6, c_7, c_{10} c_{11}	$y^4 + 5y^3 + 7y^2 + 2y + 1$
c_8, c_9	$256(256y^4 + 64y^3 + 48y^2 + 8y + 1)$
c_{12}	$y^4 + y^3 + 3y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -0.425904 + 0.455646I$ $b = 0.425904 - 0.455646I$	$5.14581 - 3.16396I$	$-1.97378 + 0.38812I$
$u = -1.00000$ $a = -0.425904 - 0.455646I$ $b = 0.425904 + 0.455646I$	$5.14581 + 3.16396I$	$-1.97378 - 0.38812I$
$u = -1.00000$ $a = 0.175904 + 0.360171I$ $b = -0.175904 - 0.360171I$	$-1.85594 + 1.41510I$	$-1.90122 - 0.12671I$
$u = -1.00000$ $a = 0.175904 - 0.360171I$ $b = -0.175904 + 0.360171I$	$-1.85594 - 1.41510I$	$-1.90122 + 0.12671I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^4)(u^{32}+4u^{31}+\cdots+u+1)(u^{54}-9u^{53}+\cdots-2u+1)$
c_3	$u^4(u^{27}-u^{26}+\cdots+u^2+1)^2(u^{32}+3u^{31}+\cdots+896u+512)$
c_4, c_5	$((u+1)^4)(u^{32}+4u^{31}+\cdots+u+1)(u^{54}-9u^{53}+\cdots-2u+1)$
c_6, c_7	$(u^4-u^3+3u^2-2u+1)(u^{27}-u^{26}+\cdots+2u-1)^2$ $\cdot\,(u^{32}+18u^{30}+\cdots-u+4)$
c_8	$256(16u^4+8u^3+4u^2+1)(16u^{32}-24u^{31}+\cdots-u+1)$ $\cdot\,(u^{54}-3u^{53}+\cdots-84818u+19843)$
c_9	$256(16u^4-8u^3+4u^2+1)(16u^{32}-24u^{31}+\cdots-u+1)$ $\cdot\,(u^{54}-3u^{53}+\cdots-84818u+19843)$
c_{10}, c_{11}	$(u^4+u^3+3u^2+2u+1)(u^{27}-u^{26}+\cdots+2u-1)^2$ $\cdot\,(u^{32}+18u^{30}+\cdots-u+4)$
c_{12}	$(u^4+u^3+u^2+1)(u^{27}+7u^{26}+\cdots+8u+1)^2$ $\cdot\,(u^{32}+8u^{31}+\cdots+8305u+2848)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$((y-1)^4)(y^{32}+14y^{31}+\cdots+33y+1)(y^{54}+35y^{53}+\cdots-40y^2+1)$
c_3	$y^4(y^{27}-9y^{26}+\cdots-2y-1)^2$ $\cdot(y^{32}-9y^{31}+\cdots-2670592y+262144)$
c_6, c_7, c_{10} c_{11}	$(y^4+5y^3+7y^2+2y+1)(y^{27}+31y^{26}+\cdots-2y-1)^2$ $\cdot(y^{32}+36y^{31}+\cdots+31y+16)$
c_8, c_9	$65536(256y^4+64y^3+48y^2+8y+1)$ $\cdot(256y^{32}-1472y^{31}+\cdots+17y+1)$ $\cdot(y^{54}-25y^{53}+\cdots-3824037376y+393744649)$
c_{12}	$(y^4+y^3+3y^2+2y+1)(y^{27}-y^{26}+\cdots-34y-1)^2$ $\cdot(y^{32}+32y^{30}+\cdots+102863903y+8111104)$