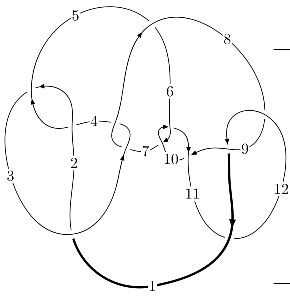
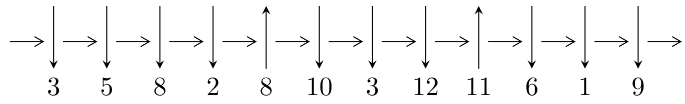
$12n_{0072}$ $(K12n_{0072})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 2.81279 \times 10^{18} u^{59} - 1.05287 \times 10^{19} u^{58} + \cdots + 6.77112 \times 10^{17} b - 1.27731 \times 10^{18},$$
$$9.49759 \times 10^{17} u^{59} - 1.92602 \times 10^{18} u^{58} + \cdots + 6.77112 \times 10^{17} a - 3.84134 \times 10^{17},\ u^{60} - 5u^{59} + \cdots + 2u + 1$$
$$I_2^u = \langle -u^8 + u^7 + u^6 - 2u^5 + u^3 - 2u^2 + b + u - 1,\ -u^8 + u^7 + u^6 - 2u^5 + u^3 - 2u^2 + a + u - 1,$$
$$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1\rangle$$
$$I_3^u = \langle -a^2 + b + a - 1,\ a^3 - 2a^2 + a - 1,\ u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 72 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.

$$\boldsymbol{I_1^u = \langle 2.81\times 10^{18}u^{59} - 1.05\times 10^{19}u^{58} + \cdots + 6.77\times 10^{17}b - 1.28\times 10^{18},\ 9.50\times 10^{17}u^{59} - 1.93\times 10^{18}u^{58} + \cdots + 6.77\times 10^{17}a - 3.84\times 10^{17},\ u^{60} - 5u^{59} + \cdots + 2u + 1\rangle}$$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -1.40266u^{59} + 2.84446u^{58} + \cdots - 20.1139u + 0.567312 \\ -4.15409u^{59} + 15.5494u^{58} + \cdots + 1.51219u + 1.88640 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -4.29143u^{59} + 12.8571u^{58} + \cdots - 15.7514u + 0.224484 \\ -5.29000u^{59} + 18.1522u^{58} + \cdots - 3.12746u + 0.655392 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.47255u^{59} + 1.96750u^{58} + \cdots - 24.9698u - 0.484933 \\ -4.22398u^{59} + 14.6724u^{58} + \cdots - 3.34373u + 0.834159 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.93062u^{59} - 6.99368u^{58} + \cdots - 6.44373u + 1.45359 \\ 0.932046u^{59} - 1.69858u^{58} + \cdots + 6.18018u + 1.88449 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.88449u^{59} + 10.3545u^{58} + \cdots + 20.5308u + 2.41119 \\ 2.65941u^{59} - 9.86960u^{58} + \cdots - 2.40765u - 1.93062 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - u^5 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -3.11073u^{59} + 10.8706u^{58} + \cdots + 6.04965u - 1.15134 \\ -2.11216u^{59} + 5.57554u^{58} + \cdots - 6.57426u - 1.58225 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$

$$\frac{254104713520312101}{338556134519489602}u^{59} - \frac{287234417535105935}{338556134519489602}u^{58} + \cdots + \frac{98118824282269304349}{338556134519489602}u - \frac{403682827173379753}{169278067259744801}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{60} + 17u^{59} + \cdots + 51u + 1$
c_2, c_4	$u^{60} - 11u^{59} + \cdots + u + 1$
c_3, c_7	$u^{60} - 2u^{59} + \cdots - 512u - 512$
c_5	$u^{60} + 3u^{59} + \cdots - u - 1$
c_6, c_{10}	$u^{60} + 2u^{59} + \cdots - 28u - 8$
c_8, c_{12}	$u^{60} - 5u^{59} + \cdots + 2u + 1$
c_9	$u^{60} - 24u^{59} + \cdots + 336u + 64$
c_{11}	$u^{60} + 31u^{59} + \cdots + 52u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{60} + 63y^{59} + \cdots - 259y + 1$
c_2, c_4	$y^{60} - 17y^{59} + \cdots - 51y + 1$
c_3, c_7	$y^{60} + 60y^{59} + \cdots + 262144y + 262144$
c_5	$y^{60} - 69y^{59} + \cdots - 55y + 1$
c_6, c_{10}	$y^{60} + 24y^{59} + \cdots - 336y + 64$
c_8, c_{12}	$y^{60} - 31y^{59} + \cdots - 52y + 1$
c_9	$y^{60} + 20y^{59} + \cdots - 486656y + 4096$
c_{11}	$y^{60} + y^{59} + \cdots - 1872y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.337858 + 0.894600I$ $a = 0.13383 + 1.43636I$ $b = -1.48207 + 0.70345I$	$7.94883 + 2.76650I$	$-3.24347 - 1.05730I$
$u = 0.337858 - 0.894600I$ $a = 0.13383 - 1.43636I$ $b = -1.48207 - 0.70345I$	$7.94883 - 2.76650I$	$-3.24347 + 1.05730I$
$u = 0.275210 + 0.913906I$ $a = -0.05027 - 1.70048I$ $b = 1.38687 - 0.67504I$	$6.81572 + 9.76098I$	$-4.86985 - 5.65372I$
$u = 0.275210 - 0.913906I$ $a = -0.05027 + 1.70048I$ $b = 1.38687 + 0.67504I$	$6.81572 - 9.76098I$	$-4.86985 + 5.65372I$
$u = -0.933032$ $a = 4.22833$ $b = 4.57203$	-3.01686	-67.5230
$u = 0.888711 + 0.272847I$ $a = -0.078190 - 0.558523I$ $b = 0.405126 + 0.581562I$	$1.58683 - 3.66181I$	$-4.28823 + 9.48383I$
$u = 0.888711 - 0.272847I$ $a = -0.078190 + 0.558523I$ $b = 0.405126 - 0.581562I$	$1.58683 + 3.66181I$	$-4.28823 - 9.48383I$
$u = 0.925197 + 0.542464I$ $a = 0.489920 - 0.539197I$ $b = 0.407019 + 0.364942I$	$1.95619 - 3.10505I$	$0. + 4.26282I$
$u = 0.925197 - 0.542464I$ $a = 0.489920 + 0.539197I$ $b = 0.407019 - 0.364942I$	$1.95619 + 3.10505I$	$0. - 4.26282I$
$u = 0.775160 + 0.782039I$ $a = 1.08347 - 1.85556I$ $b = 2.09668 - 0.60592I$	$10.65710 + 0.79828I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.775160 - 0.782039I$ $a = 1.08347 + 1.85556I$ $b = 2.09668 + 0.60592I$	$10.65710 - 0.79828I$	0
$u = 0.639144 + 0.625775I$ $a = 0.407955 + 0.337968I$ $b = -0.642419 + 0.534726I$	$2.79847 - 1.51236I$	$-1.81428 + 3.54798I$
$u = 0.639144 - 0.625775I$ $a = 0.407955 - 0.337968I$ $b = -0.642419 - 0.534726I$	$2.79847 + 1.51236I$	$-1.81428 - 3.54798I$
$u = 1.053880 + 0.334060I$ $a = 0.281699 + 0.729493I$ $b = 0.305612 - 0.503382I$	$0.75501 + 1.63619I$	0
$u = 1.053880 - 0.334060I$ $a = 0.281699 - 0.729493I$ $b = 0.305612 + 0.503382I$	$0.75501 - 1.63619I$	0
$u = -1.042430 + 0.414082I$ $a = -0.353731 - 1.109550I$ $b = -1.17215 - 1.41693I$	$-2.88310 + 2.96934I$	0
$u = -1.042430 - 0.414082I$ $a = -0.353731 + 1.109550I$ $b = -1.17215 + 1.41693I$	$-2.88310 - 2.96934I$	0
$u = -1.085610 + 0.332010I$ $a = -1.27018 - 2.13218I$ $b = -1.40022 - 1.45408I$	$-4.66678 + 1.12394I$	0
$u = -1.085610 - 0.332010I$ $a = -1.27018 + 2.13218I$ $b = -1.40022 + 1.45408I$	$-4.66678 - 1.12394I$	0
$u = 0.844243 + 0.760095I$ $a = -1.12133 + 1.75611I$ $b = -2.35320 + 0.80071I$	$10.45220 - 6.50197I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.844243 - 0.760095I$ $a = -1.12133 - 1.75611I$ $b = -2.35320 - 0.80071I$	$10.45220 + 6.50197I$	0
$u = -1.141290 + 0.233441I$ $a = 1.112610 + 0.300698I$ $b = 1.85544 + 0.38885I$	$-3.30337 - 0.69653I$	0
$u = -1.141290 - 0.233441I$ $a = 1.112610 - 0.300698I$ $b = 1.85544 - 0.38885I$	$-3.30337 + 0.69653I$	0
$u = -1.035450 + 0.539611I$ $a = 2.13511 + 1.38666I$ $b = 2.82243 + 0.20160I$	$3.27029 + 1.99564I$	0
$u = -1.035450 - 0.539611I$ $a = 2.13511 - 1.38666I$ $b = 2.82243 - 0.20160I$	$3.27029 - 1.99564I$	0
$u = 0.325660 + 0.762789I$ $a = 0.550531 - 1.183860I$ $b = 0.204288 + 0.081198I$	$1.25130 + 3.50817I$	$-4.71158 - 4.55526I$
$u = 0.325660 - 0.762789I$ $a = 0.550531 + 1.183860I$ $b = 0.204288 - 0.081198I$	$1.25130 - 3.50817I$	$-4.71158 + 4.55526I$
$u = 1.058140 + 0.503774I$ $a = 0.862782 - 0.336531I$ $b = 1.78762 - 0.38804I$	$-2.23222 - 3.63610I$	0
$u = 1.058140 - 0.503774I$ $a = 0.862782 + 0.336531I$ $b = 1.78762 + 0.38804I$	$-2.23222 + 3.63610I$	0
$u = -1.096800 + 0.538710I$ $a = -2.26195 - 1.34848I$ $b = -3.18815 - 0.39611I$	$2.24129 + 8.72496I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.096800 - 0.538710I$ $a = -2.26195 + 1.34848I$ $b = -3.18815 + 0.39611I$	$2.24129 - 8.72496I$	0
$u = 1.103150 + 0.529889I$ $a = -0.90009 + 1.69435I$ $b = -1.069960 + 0.856532I$	$-3.28631 - 6.19021I$	0
$u = 1.103150 - 0.529889I$ $a = -0.90009 - 1.69435I$ $b = -1.069960 - 0.856532I$	$-3.28631 + 6.19021I$	0
$u = 0.096441 + 0.769173I$ $a = 0.709332 + 0.054966I$ $b = -0.1034940 - 0.0442376I$	$-1.35021 + 2.66631I$	$-2.81466 - 3.68602I$
$u = 0.096441 - 0.769173I$ $a = 0.709332 - 0.054966I$ $b = -0.1034940 + 0.0442376I$	$-1.35021 - 2.66631I$	$-2.81466 + 3.68602I$
$u = -0.484975 + 0.602832I$ $a = 0.07018 - 2.49429I$ $b = -1.59748 - 1.32332I$	$4.88218 + 2.55090I$	$-5.75322 - 3.65479I$
$u = -0.484975 - 0.602832I$ $a = 0.07018 + 2.49429I$ $b = -1.59748 + 1.32332I$	$4.88218 - 2.55090I$	$-5.75322 + 3.65479I$
$u = -0.355933 + 0.652328I$ $a = -0.10224 + 2.47624I$ $b = 1.46844 + 1.04544I$	$4.38705 - 4.06822I$	$-6.35132 + 1.53091I$
$u = -0.355933 - 0.652328I$ $a = -0.10224 - 2.47624I$ $b = 1.46844 - 1.04544I$	$4.38705 + 4.06822I$	$-6.35132 - 1.53091I$
$u = 1.127800 + 0.566306I$ $a = -0.440646 + 0.632335I$ $b = -1.31378 + 1.01990I$	$-1.10174 - 8.51688I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.127800 - 0.566306I$ $a = -0.440646 - 0.632335I$ $b = -1.31378 - 1.01990I$	$-1.10174 + 8.51688I$	0
$u = -1.197690 + 0.405791I$ $a = 0.367973 - 0.288662I$ $b = 0.525918 - 0.753873I$	$-5.12612 + 1.38879I$	0
$u = -1.197690 - 0.405791I$ $a = 0.367973 + 0.288662I$ $b = 0.525918 + 0.753873I$	$-5.12612 - 1.38879I$	0
$u = 1.186970 + 0.490457I$ $a = 0.232541 + 0.230233I$ $b = 0.436907 + 0.672759I$	$-4.52134 - 7.29315I$	0
$u = 1.186970 - 0.490457I$ $a = 0.232541 - 0.230233I$ $b = 0.436907 - 0.672759I$	$-4.52134 + 7.29315I$	0
$u = 0.312115 + 0.635855I$ $a = 0.281014 - 0.263517I$ $b = 1.50466 - 0.17613I$	$-1.03251 + 1.61115I$	$-5.03240 - 0.45414I$
$u = 0.312115 - 0.635855I$ $a = 0.281014 + 0.263517I$ $b = 1.50466 + 0.17613I$	$-1.03251 - 1.61115I$	$-5.03240 + 0.45414I$
$u = -0.692437 + 0.039676I$ $a = 1.343570 + 0.174908I$ $b = 0.691006 + 0.039688I$	$-1.092530 + 0.001807I$	$-8.18169 + 0.37203I$
$u = -0.692437 - 0.039676I$ $a = 1.343570 - 0.174908I$ $b = 0.691006 - 0.039688I$	$-1.092530 - 0.001807I$	$-8.18169 - 0.37203I$
$u = -1.293890 + 0.191302I$ $a = 0.184711 + 0.635831I$ $b = 0.353270 - 0.535335I$	$2.43582 + 0.64946I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.293890 - 0.191302I$ $a = 0.184711 - 0.635831I$ $b = 0.353270 + 0.535335I$	$2.43582 - 0.64946I$	0
$u = 0.459124 + 0.506719I$ $a = -0.06558 + 1.82861I$ $b = 0.108857 + 0.574464I$	$-0.435329 - 0.564285I$	$-6.58756 + 0.11639I$
$u = 0.459124 - 0.506719I$ $a = -0.06558 - 1.82861I$ $b = 0.108857 - 0.574464I$	$-0.435329 + 0.564285I$	$-6.58756 - 0.11639I$
$u = 1.165420 + 0.613877I$ $a = 1.78237 - 1.00307I$ $b = 2.52278 + 0.05328I$	$5.45561 - 8.29310I$	0
$u = 1.165420 - 0.613877I$ $a = 1.78237 + 1.00307I$ $b = 2.52278 - 0.05328I$	$5.45561 + 8.29310I$	0
$u = -1.301730 + 0.255705I$ $a = 0.233918 - 0.675467I$ $b = 0.351604 + 0.513151I$	$1.58747 - 5.92424I$	0
$u = -1.301730 - 0.255705I$ $a = 0.233918 + 0.675467I$ $b = 0.351604 - 0.513151I$	$1.58747 + 5.92424I$	0
$u = 1.196470 + 0.595496I$ $a = -2.01101 + 0.96883I$ $b = -2.93963 + 0.12005I$	$4.0303 - 15.2628I$	0
$u = 1.196470 - 0.595496I$ $a = -2.01101 - 0.96883I$ $b = -2.93963 - 0.12005I$	$4.0303 + 15.2628I$	0
$u = -0.151881$ $a = 4.55507$ $b = 0.484061$	-0.986470	-9.89900

II. $\boldsymbol{I_2^u = \langle -u^8+u^7+u^6-2u^5+u^3-2u^2+b+u-1,\ -u^8+u^7+u^6-2u^5+u^3-2u^2+a+u-1,\ u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^8-u^7-u^6+2u^5-u^3+2u^2-u+1 \\ u^8-u^7-u^6+2u^5-u^3+2u^2-u+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^8-u^7-u^6+2u^5-u^3+2u^2-u+2 \\ u^8-u^7-u^6+2u^5-u^3+3u^2-u+1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^8-u^7-u^6+2u^5-u^3+2u^2-u+1 \\ u^8-u^7-u^6+2u^5-u^3+2u^2-u+1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^4+u^2-1 \\ -u^4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^8-u^7+u^5-4u^4+5u^3+7u^2-4u-6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_7	u^9
c_4	$(u+1)^9$
c_5, c_9	$u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1$
c_6	$u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1$
c_8	$u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1$
c_{10}	$u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1$
c_{11}	$u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1$
c_{12}	$u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_7	y^9
c_5, c_9	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_6, c_{10}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_8, c_{12}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_{11}	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.772920 + 0.510351I$ $a = 0.624323 + 0.742839I$ $b = 0.624323 + 0.742839I$	$0.13850 - 2.09337I$	$-5.80108 + 4.26451I$
$u = 0.772920 - 0.510351I$ $a = 0.624323 - 0.742839I$ $b = 0.624323 - 0.742839I$	$0.13850 + 2.09337I$	$-5.80108 - 4.26451I$
$u = -0.825933$ $a = 3.14628$ $b = 3.14628$	-2.84338	-2.07210
$u = -1.173910 + 0.391555I$ $a = -0.250943 - 1.026430I$ $b = -0.250943 - 1.026430I$	$-6.01628 + 1.33617I$	$-17.3564 - 0.5967I$
$u = -1.173910 - 0.391555I$ $a = -0.250943 + 1.026430I$ $b = -0.250943 + 1.026430I$	$-6.01628 - 1.33617I$	$-17.3564 + 0.5967I$
$u = 0.141484 + 0.739668I$ $a = 0.642765 + 0.088097I$ $b = 0.642765 + 0.088097I$	$-2.26187 + 2.45442I$	$-11.99086 - 2.54651I$
$u = 0.141484 - 0.739668I$ $a = 0.642765 - 0.088097I$ $b = 0.642765 - 0.088097I$	$-2.26187 - 2.45442I$	$-11.99086 + 2.54651I$
$u = 1.172470 + 0.500383I$ $a = -0.089286 + 0.842785I$ $b = -0.089286 + 0.842785I$	$-5.24306 - 7.08493I$	$-15.8155 + 4.8919I$
$u = 1.172470 - 0.500383I$ $a = -0.089286 - 0.842785I$ $b = -0.089286 - 0.842785I$	$-5.24306 + 7.08493I$	$-15.8155 - 4.8919I$

III. $\boldsymbol{I_3^u = \langle -a^2 + b + a - 1,\ a^3 - 2a^2 + a - 1,\ u + 1\rangle}$

(i) Arc colorings

$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_1 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$

$a_3 = \begin{pmatrix} a \\ a^2 - a + 1 \end{pmatrix}$

$a_2 = \begin{pmatrix} 2 \\ a^2 - a + 1 \end{pmatrix}$

$a_8 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$

$a_4 = \begin{pmatrix} -a^2 + 3a - 1 \\ a \end{pmatrix}$

$a_5 = \begin{pmatrix} -a^2 + a + 1 \\ 0 \end{pmatrix}$

$a_7 = \begin{pmatrix} 0 \\ a^2 - a - 1 \end{pmatrix}$

$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_6 = \begin{pmatrix} 0 \\ a^2 - a - 1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= a^2 - 2a - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0.122561 + 0.744862I$ $b = \quad 0.337641 - 0.562280I$	$1.37919 + 2.82812I$	$-7.78492 - 1.30714I$
$u = -1.00000$ $a = \quad 0.122561 - 0.744862I$ $b = \quad 0.337641 + 0.562280I$	$1.37919 - 2.82812I$	$-7.78492 + 1.30714I$
$u = -1.00000$ $a = \quad 1.75488$ $b = \quad 2.32472$	-2.75839	-7.43020

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^9)(u^3-u^2+2u-1)(u^{60}+17u^{59}+\cdots+51u+1)$
c_2	$((u-1)^9)(u^3+u^2-1)(u^{60}-11u^{59}+\cdots+u+1)$
c_3	$u^9(u^3-u^2+2u-1)(u^{60}-2u^{59}+\cdots-512u-512)$
c_4	$((u+1)^9)(u^3-u^2+1)(u^{60}-11u^{59}+\cdots+u+1)$
c_5	(u^3+3u^2+2u-1) $\cdot(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{60}+3u^{59}+\cdots-u-1)$
c_6	$u^3(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot(u^{60}+2u^{59}+\cdots-28u-8)$
c_7	$u^9(u^3+u^2+2u+1)(u^{60}-2u^{59}+\cdots-512u-512)$
c_8	$(u-1)^3(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)$ $\cdot(u^{60}-5u^{59}+\cdots+2u+1)$
c_9	$u^3(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{60}-24u^{59}+\cdots+336u+64)$
c_{10}	$u^3(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(u^{60}+2u^{59}+\cdots-28u-8)$
c_{11}	$(u-1)^3(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{60}+31u^{59}+\cdots+52u+1)$
c_{12}	$(u+1)^3(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{60}-5u^{59}+\cdots+2u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^9)(y^3+3y^2+2y-1)(y^{60}+63y^{59}+\cdots-259y+1)$
c_2, c_4	$((y-1)^9)(y^3-y^2+2y-1)(y^{60}-17y^{59}+\cdots-51y+1)$
c_3, c_7	$y^9(y^3+3y^2+2y-1)(y^{60}+60y^{59}+\cdots+262144y+262144)$
c_5	$(y^3-5y^2+10y-1)$ $\cdot(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{60}-69y^{59}+\cdots-55y+1)$
c_6, c_{10}	$y^3(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{60}+24y^{59}+\cdots-336y+64)$
c_8, c_{12}	$(y-1)^3(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{60}-31y^{59}+\cdots-52y+1)$
c_9	$y^3(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{60}+20y^{59}+\cdots-486656y+4096)$
c_{11}	$(y-1)^3(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{60}+y^{59}+\cdots-1872y+1)$