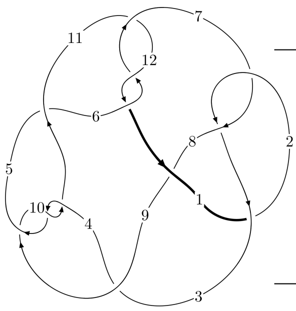
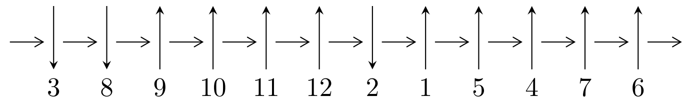
$12a_{0719}$ ($K12a_{0719}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle u^4 + 2u^2 + b,\ u^{28} - u^{27} + \cdots + 4a - 5,\ u^{29} + 14u^{27} + \cdots + u + 1\rangle \\
I^u_2 &= \langle -217988152638u^{47} + 1406532927108u^{46} + \cdots + 3784892885959b - 5225681996414, \\
&\quad 17960627004036u^{47} - 14379379524196u^{46} + \cdots + 3784892885959a - 93018602061573, \\
&\quad u^{48} - u^{47} + \cdots - 12u + 1\rangle \\
I^u_3 &= \langle b - 1,\ a^2 + au - 1,\ u^2 + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 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. $\boldsymbol{I_1^u = \langle u^4 + 2u^2 + b,\ u^{28} - u^{27} + \cdots + 4a - 5,\ u^{29} + 14u^{27} + \cdots + u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{1}{4}u^{28} + \frac{1}{4}u^{27} + \cdots - \frac{11}{2}u^2 + \frac{5}{4} \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{27} - \frac{1}{2}u^{26} + \cdots - u + \frac{1}{2} \\ -\frac{1}{4}u^{28} + \frac{1}{4}u^{27} + \cdots + \frac{3}{2}u^2 + \frac{1}{4} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{4}u^{28} + \frac{1}{4}u^{27} + \cdots - \frac{13}{2}u^2 + \frac{5}{4} \\ \frac{1}{4}u^{28} - \frac{1}{4}u^{27} + \cdots - \frac{1}{2}u^2 - \frac{1}{4} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{1}{4}u^{28} + \frac{1}{4}u^{27} + \cdots - \frac{7}{2}u^2 + \frac{5}{4} \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{1}{4}u^{28} + \frac{1}{4}u^{27} + \cdots + \frac{7}{2}u + \frac{1}{4} \\ u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^{28} - u^{27} + 27u^{26} - 10u^{25} + 159u^{24} - 38u^{23} + 522u^{22} - 51u^{21} + 990u^{20} + 75u^{19} + 912u^{18} + 361u^{17} - 172u^{16} + 442u^{15} - 1278u^{14} - 914u^{12} - 460u^{11} + 325u^{10} - 287u^9 + 589u^8 + 114u^7 + 18u^6 + 133u^5 - 128u^4 + 3u^3 + 18u^2 - 13u + 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{29} + 13u^{28} + \cdots + 17u + 4$
c_2, c_7	$u^{29} + 3u^{28} + \cdots - u - 2$
c_3, c_5	$u^{29} - 3u^{28} + \cdots + 80u - 32$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$u^{29} + 14u^{27} + \cdots + u - 1$
c_8	$u^{29} + 9u^{28} + \cdots + 95u + 6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 7y^{28} + \cdots - 271y - 16$
c_2, c_7	$y^{29} - 13y^{28} + \cdots + 17y - 4$
c_3, c_5	$y^{29} - 19y^{28} + \cdots - 7424y - 1024$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$y^{29} + 28y^{28} + \cdots + y - 1$
c_8	$y^{29} - y^{28} + \cdots + 5569y - 36$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.837271 + 0.076877I$ $a = -2.37885 + 0.65426I$ $b = -1.85683 + 0.43644I$	$4.96568 - 6.65204I$	$9.90546 + 5.57516I$
$u = -0.837271 - 0.076877I$ $a = -2.37885 - 0.65426I$ $b = -1.85683 - 0.43644I$	$4.96568 + 6.65204I$	$9.90546 - 5.57516I$
$u = 0.833662 + 0.041563I$ $a = -2.37643 - 0.35224I$ $b = -1.86234 - 0.23468I$	$6.73725 + 1.44483I$	$12.74743 - 0.59636I$
$u = 0.833662 - 0.041563I$ $a = -2.37643 + 0.35224I$ $b = -1.86234 + 0.23468I$	$6.73725 - 1.44483I$	$12.74743 + 0.59636I$
$u = -0.732519$ $a = -1.59609$ $b = -1.36109$	1.48106	7.22880
$u = 0.028083 + 1.284050I$ $a = -1.81534 - 0.31795I$ $b = 0.585292 + 0.093469I$	$-5.68843 + 2.62043I$	$-0.80670 - 3.52599I$
$u = 0.028083 - 1.284050I$ $a = -1.81534 + 0.31795I$ $b = 0.585292 - 0.093469I$	$-5.68843 - 2.62043I$	$-0.80670 + 3.52599I$
$u = 0.323515 + 1.266490I$ $a = 0.83700 - 1.78087I$ $b = 1.42217 + 0.81837I$	$-2.35148 + 1.67474I$	$2.52522 - 1.56718I$
$u = 0.323515 - 1.266490I$ $a = 0.83700 + 1.78087I$ $b = 1.42217 - 0.81837I$	$-2.35148 - 1.67474I$	$2.52522 + 1.56718I$
$u = -0.348532 + 1.291470I$ $a = 1.07285 + 1.53998I$ $b = 1.51186 - 0.98379I$	$-1.05837 - 7.04671I$	$4.61471 + 6.27988I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.348532-1.291470I$ $a=1.07285-1.53998I$ $b=1.51186+0.98379I$	$-1.05837+7.04671I$	$4.61471-6.27988I$
$u=0.133920+1.390120I$ $a=-0.659184-0.455120I$ $b=0.302303+0.681001I$	$-9.06064+3.87312I$	$-0.24533-3.24694I$
$u=0.133920-1.390120I$ $a=-0.659184+0.455120I$ $b=0.302303-0.681001I$	$-9.06064-3.87312I$	$-0.24533+3.24694I$
$u=-0.380467+1.345060I$ $a=1.37808+1.03819I$ $b=1.60610-1.36006I$	$-2.01294-10.23390I$	$4.21079+5.73081I$
$u=-0.380467-1.345060I$ $a=1.37808-1.03819I$ $b=1.60610+1.36006I$	$-2.01294+10.23390I$	$4.21079-5.73081I$
$u=0.338958+1.357740I$ $a=0.987536-0.915157I$ $b=1.31640+1.34118I$	$-7.32448+7.83990I$	$-2.00524-4.89975I$
$u=0.338958-1.357740I$ $a=0.987536+0.915157I$ $b=1.31640-1.34118I$	$-7.32448-7.83990I$	$-2.00524+4.89975I$
$u=0.39002+1.36214I$ $a=1.47122-0.87684I$ $b=1.63429+1.49453I$	$-4.1212+15.5713I$	$1.45377-9.68760I$
$u=0.39002-1.36214I$ $a=1.47122+0.87684I$ $b=1.63429-1.49453I$	$-4.1212-15.5713I$	$1.45377+9.68760I$
$u=-0.08532+1.43102I$ $a=-0.804301+0.163541I$ $b=-0.023082-0.508186I$	$-13.00060-0.38893I$	$-5.31626-0.21588I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.08532 - 1.43102I$ $a = -0.804301 - 0.163541I$ $b = -0.023082 + 0.508186I$	$-13.00060 + 0.38893I$	$-5.31626 + 0.21588I$
$u = -0.16556 + 1.42736I$ $a = -0.411189 + 0.278237I$ $b = 0.203418 - 0.954656I$	$-11.9273 - 8.4157I$	$-3.46124 + 6.83368I$
$u = -0.16556 - 1.42736I$ $a = -0.411189 - 0.278237I$ $b = 0.203418 + 0.954656I$	$-11.9273 + 8.4157I$	$-3.46124 - 6.83368I$
$u = 0.417850 + 0.314001I$ $a = 0.589467 - 1.254980I$ $b = -0.088921 - 0.564710I$	$-0.65256 + 3.97304I$	$7.14340 - 9.12328I$
$u = 0.417850 - 0.314001I$ $a = 0.589467 + 1.254980I$ $b = -0.088921 + 0.564710I$	$-0.65256 - 3.97304I$	$7.14340 + 9.12328I$
$u = -0.414438 + 0.109369I$ $a = 0.217260 + 0.434902I$ $b = -0.336911 + 0.210279I$	$0.809813 - 0.139665I$	$12.95255 + 2.10646I$
$u = -0.414438 - 0.109369I$ $a = 0.217260 - 0.434902I$ $b = -0.336911 - 0.210279I$	$0.809813 + 0.139665I$	$12.95255 - 2.10646I$
$u = 0.131847 + 0.393506I$ $a = 1.68992 - 0.55774I$ $b = 0.266797 - 0.179002I$	$-1.29100 - 1.59593I$	$3.66703 + 0.23498I$
$u = 0.131847 - 0.393506I$ $a = 1.68992 + 0.55774I$ $b = 0.266797 + 0.179002I$	$-1.29100 + 1.59593I$	$3.66703 - 0.23498I$

II.
$\boldsymbol{I_2^u = \langle -2.18\times10^{11}u^{47}+1.41\times10^{12}u^{46}+\cdots+3.78\times10^{12}b-5.23\times10^{12},\ 1.80\times10^{13}u^{47}-1.44\times10^{13}u^{46}+\cdots+3.78\times10^{12}a-9.30\times10^{13},\ u^{48}-u^{47}+\cdots-12u+1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3+2u \\ u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2+1 \\ u^4+2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -4.74535u^{47}+3.79915u^{46}+\cdots-173.968u+24.5763 \\ 0.0575943u^{47}-0.371618u^{46}+\cdots-3.92085u+1.38067 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5-2u^3-u \\ -u^7-3u^5-2u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -5.55732u^{47}+3.55040u^{46}+\cdots-170.824u+25.8316 \\ -0.158538u^{47}-0.442451u^{46}+\cdots+4.87445u-0.167244 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -3.20292u^{47}+3.42884u^{46}+\cdots-149.755u+21.9747 \\ 0.847526u^{47}-0.612468u^{46}+\cdots+3.21471u+1.01524 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -3.50861u^{47}+3.63777u^{46}+\cdots-167.772u+24.6986 \\ 0.647166u^{47}-0.266498u^{46}+\cdots+1.13773u+1.25150 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.748497u^{47}-0.101330u^{46}+\cdots+20.5778u-7.84423 \\ -0.251503u^{47}+0.898670u^{46}+\cdots-27.4222u+4.15577 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{24601630690532}{3784892885959}u^{47}+\frac{18604517425224}{3784892885959}u^{46}+\cdots-\frac{609246536515560}{3784892885959}u+\frac{112526788081386}{3784892885959}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{24}+11u^{23}+\cdots-2u^2+1)^2$
c_2, c_7	$(u^{24}-u^{23}+\cdots-2u^3+1)^2$
c_3, c_5	$(u^{24}+u^{23}+\cdots+10u+1)^2$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$u^{48}+u^{47}+\cdots+12u+1$
c_8	$(u^{24}-3u^{23}+\cdots-4u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{24} + 5y^{23} + \cdots - 4y + 1)^2$
c_2, c_7	$(y^{24} - 11y^{23} + \cdots - 2y^2 + 1)^2$
c_3, c_5	$(y^{24} - 19y^{23} + \cdots - 48y + 1)^2$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$y^{48} + 35y^{47} + \cdots - 48y + 1$
c_8	$(y^{24} + y^{23} + \cdots + 20y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.083162 + 1.035970I$ $a = 0.841864 - 0.321789I$ $b = -0.0601129 + 0.0367502I$	$-1.54603 - 2.05721I$	$8.27298 + 4.01793I$
$u = -0.083162 - 1.035970I$ $a = 0.841864 + 0.321789I$ $b = -0.0601129 - 0.0367502I$	$-1.54603 + 2.05721I$	$8.27298 - 4.01793I$
$u = 0.392939 + 0.971182I$ $a = -0.309360 - 0.748390I$ $b = 0.982133 - 0.443510I$	$-5.03285 + 0.40841I$	$-1.87200 - 0.75563I$
$u = 0.392939 - 0.971182I$ $a = -0.309360 + 0.748390I$ $b = 0.982133 + 0.443510I$	$-5.03285 - 0.40841I$	$-1.87200 + 0.75563I$
$u = 0.884347 + 0.132718I$ $a = 2.11818 + 1.02084I$ $b = 1.59566 + 1.20269I$	$0.58237 + 11.00000I$	$5.31825 - 8.05284I$
$u = 0.884347 - 0.132718I$ $a = 2.11818 - 1.02084I$ $b = 1.59566 - 1.20269I$	$0.58237 - 11.00000I$	$5.31825 + 8.05284I$
$u = -0.859254 + 0.109305I$ $a = 2.20088 - 0.78527I$ $b = 1.63876 - 1.06164I$	$2.55519 - 5.78082I$	$8.37527 + 3.72629I$
$u = -0.859254 - 0.109305I$ $a = 2.20088 + 0.78527I$ $b = 1.63876 + 1.06164I$	$2.55519 + 5.78082I$	$8.37527 - 3.72629I$
$u = -0.546029 + 0.650274I$ $a = -0.571077 + 0.256979I$ $b = 0.470130 - 0.014776I$	$-6.25412 + 1.34320I$	$-2.02964 - 0.62000I$
$u = -0.546029 - 0.650274I$ $a = -0.571077 - 0.256979I$ $b = 0.470130 + 0.014776I$	$-6.25412 - 1.34320I$	$-2.02964 + 0.62000I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.649138+0.481545I$ $a=-0.151229-0.117560I$ $b=\ \ 0.508439-0.442655I$	$-5.72979-5.71321I$	$-0.10823+7.50361I$
$u=-0.649138-0.481545I$ $a=-0.151229+0.117560I$ $b=\ \ 0.508439+0.442655I$	$-5.72979+5.71321I$	$-0.10823-7.50361I$
$u=\ \ 0.784879+0.163524I$ $a=\ \ 1.66447+0.46022I$ $b=\ \ 1.33791+0.89026I$	$-2.54173+3.77265I$	$2.10807-3.49106I$
$u=\ \ 0.784879-0.163524I$ $a=\ \ 1.66447-0.46022I$ $b=\ \ 1.33791-0.89026I$	$-2.54173-3.77265I$	$2.10807+3.49106I$
$u=-0.795746+0.032611I$ $a=\ \ 2.46879-0.15993I$ $b=\ \ 1.74739-0.69246I$	$3.07007-2.92383I$	$9.29020+3.29300I$
$u=-0.795746-0.032611I$ $a=\ \ 2.46879+0.15993I$ $b=\ \ 1.74739+0.69246I$	$3.07007+2.92383I$	$9.29020-3.29300I$
$u=\ \ 0.469574+1.138130I$ $a=-0.062143-1.315650I$ $b=\ \ 1.41310-0.90321I$	$-2.49287-6.17959I$	0
$u=\ \ 0.469574-1.138130I$ $a=-0.062143+1.315650I$ $b=\ \ 1.41310+0.90321I$	$-2.49287+6.17959I$	0
$u=-0.423332+1.157340I$ $a=\ \ 0.118454+1.197480I$ $b=\ \ 1.54922+0.71748I$	$-0.655501+1.182900I$	0
$u=-0.423332-1.157340I$ $a=\ \ 0.118454-1.197480I$ $b=\ \ 1.54922-0.71748I$	$-0.655501-1.182900I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.763915 + 0.011868I$ $a = 2.60812 + 0.15719I$ $b = 1.78089 - 0.50529I$	$1.53995 + 2.24524I$	$7.02697 - 1.89383I$
$u = 0.763915 - 0.011868I$ $a = 2.60812 - 0.15719I$ $b = 1.78089 + 0.50529I$	$1.53995 - 2.24524I$	$7.02697 + 1.89383I$
$u = 0.187442 + 1.231110I$ $a = 0.545130 - 0.408643I$ $b = 1.53791 + 0.32240I$	$-5.03285 - 0.40841I$	0
$u = 0.187442 - 1.231110I$ $a = 0.545130 + 0.408643I$ $b = 1.53791 - 0.32240I$	$-5.03285 + 0.40841I$	0
$u = -0.387629 + 1.193070I$ $a = -0.37581 - 1.54631I$ $b = -1.50691 - 0.05742I$	$1.53995 + 2.24524I$	0
$u = -0.387629 - 1.193070I$ $a = -0.37581 + 1.54631I$ $b = -1.50691 + 0.05742I$	$1.53995 - 2.24524I$	0
$u = -0.087792 + 1.256180I$ $a = 0.194932 - 0.097149I$ $b = 0.095700 + 0.946512I$	$-3.23391 - 1.77225I$	0
$u = -0.087792 - 1.256180I$ $a = 0.194932 + 0.097149I$ $b = 0.095700 - 0.946512I$	$-3.23391 + 1.77225I$	0
$u = -0.343517 + 1.240530I$ $a = 0.574621 + 0.998480I$ $b = 1.93449 + 0.31400I$	$-0.655501 - 1.182900I$	0
$u = -0.343517 - 1.240530I$ $a = 0.574621 - 0.998480I$ $b = 1.93449 - 0.31400I$	$-0.655501 + 1.182900I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.381844 + 1.230540I$ $a = -0.60470 + 1.40460I$ $b = -1.66121 - 0.16942I$	$3.07007 + 2.92383I$	0
$u = 0.381844 - 1.230540I$ $a = -0.60470 - 1.40460I$ $b = -1.66121 + 0.16942I$	$3.07007 - 2.92383I$	0
$u = 0.003860 + 1.314540I$ $a = 0.389563 - 0.108946I$ $b = 0.73816 - 1.24315I$	$-6.25412 - 1.34320I$	0
$u = 0.003860 - 1.314540I$ $a = 0.389563 + 0.108946I$ $b = 0.73816 + 1.24315I$	$-6.25412 + 1.34320I$	0
$u = -0.312455 + 1.285240I$ $a = -0.685205 - 0.791335I$ $b = -1.45997 + 0.81592I$	$-2.54173 - 3.77265I$	0
$u = -0.312455 - 1.285240I$ $a = -0.685205 + 0.791335I$ $b = -1.45997 - 0.81592I$	$-2.54173 + 3.77265I$	0
$u = 0.326858 + 1.282730I$ $a = 0.777912 - 0.946368I$ $b = 2.13689 - 0.15998I$	$-2.49287 + 6.17959I$	0
$u = 0.326858 - 1.282730I$ $a = 0.777912 + 0.946368I$ $b = 2.13689 + 0.15998I$	$-2.49287 - 6.17959I$	0
$u = 0.502420 + 0.447701I$ $a = -0.134106 - 0.384855I$ $b = 0.723438 + 0.251564I$	$-3.23391 + 1.77225I$	$4.01088 - 4.04184I$
$u = 0.502420 - 0.447701I$ $a = -0.134106 + 0.384855I$ $b = 0.723438 - 0.251564I$	$-3.23391 - 1.77225I$	$4.01088 + 4.04184I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.109509 + 1.330900I$ $a = 0.0069009 - 0.1157290I$ $b = -0.02405 - 1.48729I$	$-5.72979 + 5.71321I$	0
$u = 0.109509 - 1.330900I$ $a = 0.0069009 + 0.1157290I$ $b = -0.02405 + 1.48729I$	$-5.72979 - 5.71321I$	0
$u = 0.373011 + 1.298830I$ $a = -1.01979 + 1.09705I$ $b = -1.94507 - 0.64857I$	$2.55519 + 5.78082I$	0
$u = 0.373011 - 1.298830I$ $a = -1.01979 - 1.09705I$ $b = -1.94507 + 0.64857I$	$2.55519 - 5.78082I$	0
$u = -0.372104 + 1.322640I$ $a = -1.17196 - 0.98411I$ $b = -2.05820 + 0.82837I$	$0.58237 - 11.00000I$	0
$u = -0.372104 - 1.322640I$ $a = -1.17196 + 0.98411I$ $b = -2.05820 - 0.82837I$	$0.58237 + 11.00000I$	0
$u = 0.179559 + 0.049688I$ $a = 0.07555 - 5.02709I$ $b = 1.025290 + 0.022853I$	$-1.54603 + 2.05721I$	$8.27298 - 4.01793I$
$u = 0.179559 - 0.049688I$ $a = 0.07555 + 5.02709I$ $b = 1.025290 - 0.022853I$	$-1.54603 - 2.05721I$	$8.27298 + 4.01793I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4au$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.866025 - 0.500000I$ $b = 1.00000$	$-3.28987 - 2.02988I$	$2.00000 + 3.46410I$
$u = 1.000000I$ $a = 0.866025 - 0.500000I$ $b = 1.00000$	$-3.28987 + 2.02988I$	$2.00000 - 3.46410I$
$u = -1.000000I$ $a = -0.866025 + 0.500000I$ $b = 1.00000$	$-3.28987 + 2.02988I$	$2.00000 - 3.46410I$
$u = -1.000000I$ $a = 0.866025 + 0.500000I$ $b = 1.00000$	$-3.28987 - 2.02988I$	$2.00000 + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^2)(u^{24}+11u^{23}+\cdots-2u^2+1)^2$ $\cdot(u^{29}+13u^{28}+\cdots+17u+4)$
c_2, c_7	$(u^4-u^2+1)(u^{24}-u^{23}+\cdots-2u^3+1)^2(u^{29}+3u^{28}+\cdots-u-2)$
c_3, c_5	$u^4(u^{24}+u^{23}+\cdots+10u+1)^2(u^{29}-3u^{28}+\cdots+80u-32)$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$((u^2+1)^2)(u^{29}+14u^{27}+\cdots+u-1)(u^{48}+u^{47}+\cdots+12u+1)$
c_8	$(u^4-u^2+1)(u^{24}-3u^{23}+\cdots-4u+1)^2(u^{29}+9u^{28}+\cdots+95u+6)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^2)(y^{24}+5y^{23}+\cdots-4y+1)^2$ $\cdot(y^{29}+7y^{28}+\cdots-271y-16)$
c_2, c_7	$((y^2-y+1)^2)(y^{24}-11y^{23}+\cdots-2y^2+1)^2$ $\cdot(y^{29}-13y^{28}+\cdots+17y-4)$
c_3, c_5	$y^4(y^{24}-19y^{23}+\cdots-48y+1)^2(y^{29}-19y^{28}+\cdots-7424y-1024)$
c_4, c_6, c_9 c_{10}, c_{11}, c_{12}	$((y+1)^4)(y^{29}+28y^{28}+\cdots+y-1)(y^{48}+35y^{47}+\cdots-48y+1)$
c_8	$((y^2-y+1)^2)(y^{24}+y^{23}+\cdots+20y+1)^2$ $\cdot(y^{29}-y^{28}+\cdots+5569y-36)$