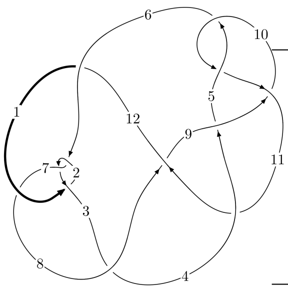
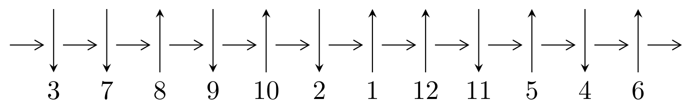
$12a_{0497}$ ($K12a_{0497}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{104} - u^{103} + \cdots + 2u^3 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 104 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. $I_1^u = \langle u^{104} - u^{103} + \cdots + 2u^3 + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{10} + 3u^8 - 4u^6 + 3u^4 - u^2 + 1 \\ -u^{10} + 2u^8 - 3u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^6 - u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{19} - 4u^{17} + 8u^{15} - 8u^{13} + 3u^{11} + 2u^9 - 2u^7 + 2u^5 - 3u^3 + 2u \\ -u^{21} + 5u^{19} - 13u^{17} + 20u^{15} - 20u^{13} + 13u^{11} - 7u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{50} - 11u^{48} + \cdots + u^2 + 1 \\ -u^{52} + 12u^{50} + \cdots - 8u^6 + u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{28} + 7u^{26} + \cdots + u^2 + 1 \\ -u^{28} + 6u^{26} + \cdots + 8u^6 - 3u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{77} - 18u^{75} + \cdots - 4u^3 + u \\ u^{77} - 17u^{75} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{102} - 92u^{100} + \cdots - 4u^2 - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{104} + 47u^{103} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{104} - u^{103} + \cdots + 2u^3 + 1$
c_3, c_{12}	$u^{104} + u^{103} + \cdots - 22u + 1$
c_4	$u^{104} - u^{103} + \cdots - 4786u + 1237$
c_5, c_{10}	$u^{104} + u^{103} + \cdots + 2u + 1$
c_7	$u^{104} - 3u^{103} + \cdots - 8u + 3$
c_8	$u^{104} + 13u^{103} + \cdots + 20u + 1$
c_9	$u^{104} + 49u^{103} + \cdots + 2u^2 + 1$
c_{11}	$u^{104} + 5u^{103} + \cdots + 17926u + 3477$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{104} + 21y^{103} + \cdots + 4y + 1$
c_2, c_6	$y^{104} - 47y^{103} + \cdots + 2y^2 + 1$
c_3, c_{12}	$y^{104} - 79y^{103} + \cdots + 112y + 1$
c_4	$y^{104} - 23y^{103} + \cdots - 66086992y + 1530169$
c_5, c_{10}	$y^{104} + 49y^{103} + \cdots + 2y^2 + 1$
c_7	$y^{104} + 5y^{103} + \cdots + 800y + 9$
c_8	$y^{104} + y^{103} + \cdots + 284y + 1$
c_9	$y^{104} + 13y^{103} + \cdots + 4y + 1$
c_{11}	$y^{104} + 29y^{103} + \cdots + 539591540y + 12089529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.859307 + 0.524203I$	$-0.01758 + 7.72337I$	0
$u = -0.859307 - 0.524203I$	$-0.01758 - 7.72337I$	0
$u = \quad 0.836775 + 0.503199I$	$1.90773 - 2.97029I$	0
$u = \quad 0.836775 - 0.503199I$	$1.90773 + 2.97029I$	0
$u = -1.011650 + 0.233039I$	$-2.04169 + 0.66017I$	0
$u = -1.011650 - 0.233039I$	$-2.04169 - 0.66017I$	0
$u = -0.980187 + 0.397197I$	$-1.88622 + 1.31284I$	0
$u = -0.980187 - 0.397197I$	$-1.88622 - 1.31284I$	0
$u = -1.056710 + 0.066632I$	$0.57803 + 2.08421I$	0
$u = -1.056710 - 0.066632I$	$0.57803 - 2.08421I$	0
$u = -0.958501 + 0.452296I$	$-1.91153 + 1.29780I$	0
$u = -0.958501 - 0.452296I$	$-1.91153 - 1.29780I$	0
$u = \quad 1.070350 + 0.091384I$	$1.69880 + 2.66563I$	0
$u = \quad 1.070350 - 0.091384I$	$1.69880 - 2.66563I$	0
$u = \quad 1.055850 + 0.204960I$	$-5.41329 + 2.54049I$	0
$u = \quad 1.055850 - 0.204960I$	$-5.41329 - 2.54049I$	0
$u = \quad 0.542072 + 0.741306I$	$3.99783 - 9.10436I$	0
$u = \quad 0.542072 - 0.741306I$	$3.99783 + 9.10436I$	0
$u = \quad 1.051860 + 0.253380I$	$-4.49361 - 4.87932I$	0
$u = \quad 1.051860 - 0.253380I$	$-4.49361 + 4.87932I$	0
$u = -0.534590 + 0.741284I$	$6.16977 + 4.04816I$	0
$u = -0.534590 - 0.741284I$	$6.16977 - 4.04816I$	0
$u = -0.515131 + 0.748064I$	$7.20284 + 1.69792I$	0
$u = -0.515131 - 0.748064I$	$7.20284 - 1.69792I$	0
$u = -1.083390 + 0.136794I$	$-4.04015 - 2.23636I$	0
$u = -1.083390 - 0.136794I$	$-4.04015 + 2.23636I$	0
$u = \quad 0.504216 + 0.753178I$	$5.99912 + 3.19718I$	0
$u = \quad 0.504216 - 0.753178I$	$5.99912 - 3.19718I$	0
$u = \quad 1.092950 + 0.116654I$	$0.50313 + 4.81762I$	0
$u = \quad 1.092950 - 0.116654I$	$0.50313 - 4.81762I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.756728 + 0.484409I$	$2.14268 - 1.17121I$	$6.64343 + 0.I$
$u = 0.756728 - 0.484409I$	$2.14268 + 1.17121I$	$6.64343 + 0.I$
$u = 0.531824 + 0.723039I$	$1.51039 - 1.63841I$	0
$u = 0.531824 - 0.723039I$	$1.51039 + 1.63841I$	0
$u = 0.453000 + 0.771117I$	$5.72060 - 0.33111I$	$5.65604 + 0.I$
$u = 0.453000 - 0.771117I$	$5.72060 + 0.33111I$	$5.65604 + 0.I$
$u = -0.442763 + 0.774845I$	$6.80677 - 4.55207I$	$7.37432 + 3.79202I$
$u = -0.442763 - 0.774845I$	$6.80677 + 4.55207I$	$7.37432 - 3.79202I$
$u = -1.101690 + 0.121004I$	$-1.74425 - 9.83174I$	0
$u = -1.101690 - 0.121004I$	$-1.74425 + 9.83174I$	0
$u = 0.422973 + 0.784494I$	$3.34574 + 11.96320I$	$0. - 7.58874I$
$u = 0.422973 - 0.784494I$	$3.34574 - 11.96320I$	$0. + 7.58874I$
$u = -0.427276 + 0.781006I$	$5.58256 - 6.89102I$	$5.88164 + 3.70083I$
$u = -0.427276 - 0.781006I$	$5.58256 + 6.89102I$	$5.88164 - 3.70083I$
$u = 0.420575 + 0.770410I$	$0.90649 + 4.32693I$	$0. - 2.33566I$
$u = 0.420575 - 0.770410I$	$0.90649 - 4.32693I$	$0. + 2.33566I$
$u = -0.705886 + 0.507842I$	$0.40911 - 3.44910I$	$3.11069 + 2.13802I$
$u = -0.705886 - 0.507842I$	$0.40911 + 3.44910I$	$3.11069 - 2.13802I$
$u = -1.077900 + 0.384069I$	$-3.24714 + 0.72316I$	0
$u = -1.077900 - 0.384069I$	$-3.24714 - 0.72316I$	0
$u = 1.091470 + 0.378875I$	$-5.64601 + 3.93267I$	0
$u = 1.091470 - 0.378875I$	$-5.64601 - 3.93267I$	0
$u = 1.057270 + 0.468756I$	$-1.30857 - 5.15318I$	0
$u = 1.057270 - 0.468756I$	$-1.30857 + 5.15318I$	0
$u = 1.091190 + 0.402366I$	$-7.16519 - 3.66403I$	0
$u = 1.091190 - 0.402366I$	$-7.16519 + 3.66403I$	0
$u = 0.442649 + 0.704496I$	$2.18390 + 1.10352I$	$3.36438 - 0.54429I$
$u = 0.442649 - 0.704496I$	$2.18390 - 1.10352I$	$3.36438 + 0.54429I$
$u = -0.406121 + 0.717438I$	$-0.98090 - 4.64543I$	$-1.49398 + 4.59581I$
$u = -0.406121 - 0.717438I$	$-0.98090 + 4.64543I$	$-1.49398 - 4.59581I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.096760 + 0.443551I$	$-6.88645 + 3.66322I$	0
$u = -1.096760 - 0.443551I$	$-6.88645 - 3.66322I$	0
$u = 1.092910 + 0.459875I$	$-2.73025 - 6.49785I$	0
$u = 1.092910 - 0.459875I$	$-2.73025 + 6.49785I$	0
$u = -1.102030 + 0.460728I$	$-5.09595 + 11.30370I$	0
$u = -1.102030 - 0.460728I$	$-5.09595 - 11.30370I$	0
$u = 1.033640 + 0.601494I$	$0.01999 - 3.42754I$	0
$u = 1.033640 - 0.601494I$	$0.01999 + 3.42754I$	0
$u = 1.031380 + 0.616617I$	$2.54297 + 3.93822I$	0
$u = 1.031380 - 0.616617I$	$2.54297 - 3.93822I$	0
$u = -1.036210 + 0.614543I$	$4.67843 + 1.11092I$	0
$u = -1.036210 - 0.614543I$	$4.67843 - 1.11092I$	0
$u = -1.076910 + 0.561271I$	$-2.47407 + 2.03216I$	0
$u = -1.076910 - 0.561271I$	$-2.47407 - 2.03216I$	0
$u = -1.049530 + 0.613467I$	$5.61409 + 3.47527I$	0
$u = -1.049530 - 0.613467I$	$5.61409 - 3.47527I$	0
$u = 1.056730 + 0.613529I$	$4.35675 - 8.38369I$	0
$u = 1.056730 - 0.613529I$	$4.35675 + 8.38369I$	0
$u = 1.076960 + 0.578529I$	$0.31558 - 6.04373I$	0
$u = 1.076960 - 0.578529I$	$0.31558 + 6.04373I$	0
$u = -1.090550 + 0.576963I$	$-2.98339 + 9.60531I$	0
$u = -1.090550 - 0.576963I$	$-2.98339 - 9.60531I$	0
$u = 1.086520 + 0.607111I$	$3.83813 - 4.87610I$	0
$u = 1.086520 - 0.607111I$	$3.83813 + 4.87610I$	0
$u = -0.425267 + 0.621881I$	$-0.56836 + 2.70224I$	$0.03525 - 3.31047I$
$u = -0.425267 - 0.621881I$	$-0.56836 - 2.70224I$	$0.03525 + 3.31047I$
$u = -1.092040 + 0.605858I$	$4.87795 + 9.76344I$	0
$u = -1.092040 - 0.605858I$	$4.87795 - 9.76344I$	0
$u = 1.099510 + 0.597884I$	$-1.10494 - 9.49521I$	0
$u = 1.099510 - 0.597884I$	$-1.10494 + 9.49521I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.100100 + 0.603734I$	$3.58412 + 12.10850I$	0
$u = -1.100100 - 0.603734I$	$3.58412 - 12.10850I$	0
$u = \quad 1.102800 + 0.603758I$	$1.3260 - 17.1890I$	0
$u = \quad 1.102800 - 0.603758I$	$1.3260 + 17.1890I$	0
$u = -0.440195 + 0.550648I$	$-0.56785 + 2.71251I$	$0.81371 - 3.53130I$
$u = -0.440195 - 0.550648I$	$-0.56785 - 2.71251I$	$0.81371 + 3.53130I$
$u = -0.115185 + 0.609334I$	$-2.40566 - 7.26290I$	$-1.85956 + 7.00955I$
$u = -0.115185 - 0.609334I$	$-2.40566 + 7.26290I$	$-1.85956 - 7.00955I$
$u = \quad 0.122607 + 0.579644I$	$-0.12195 + 2.52084I$	$1.47418 - 3.47002I$
$u = \quad 0.122607 - 0.579644I$	$-0.12195 - 2.52084I$	$1.47418 + 3.47002I$
$u = -0.062282 + 0.583449I$	$-4.12580 + 0.18635I$	$-5.37095 + 0.17680I$
$u = -0.062282 - 0.583449I$	$-4.12580 - 0.18635I$	$-5.37095 - 0.17680I$
$u = \quad 0.223352 + 0.497108I$	$0.88054 + 1.24792I$	$3.91671 - 4.24844I$
$u = \quad 0.223352 - 0.497108I$	$0.88054 - 1.24792I$	$3.91671 + 4.24844I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{104} + 47u^{103} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{104} - u^{103} + \cdots + 2u^3 + 1$
c_3, c_{12}	$u^{104} + u^{103} + \cdots - 22u + 1$
c_4	$u^{104} - u^{103} + \cdots - 4786u + 1237$
c_5, c_{10}	$u^{104} + u^{103} + \cdots + 2u + 1$
c_7	$u^{104} - 3u^{103} + \cdots - 8u + 3$
c_8	$u^{104} + 13u^{103} + \cdots + 20u + 1$
c_9	$u^{104} + 49u^{103} + \cdots + 2u^2 + 1$
c_{11}	$u^{104} + 5u^{103} + \cdots + 17926u + 3477$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{104} + 21y^{103} + \cdots + 4y + 1$
c_2, c_6	$y^{104} - 47y^{103} + \cdots + 2y^2 + 1$
c_3, c_{12}	$y^{104} - 79y^{103} + \cdots + 112y + 1$
c_4	$y^{104} - 23y^{103} + \cdots - 66086992y + 1530169$
c_5, c_{10}	$y^{104} + 49y^{103} + \cdots + 2y^2 + 1$
c_7	$y^{104} + 5y^{103} + \cdots + 800y + 9$
c_8	$y^{104} + y^{103} + \cdots + 284y + 1$
c_9	$y^{104} + 13y^{103} + \cdots + 4y + 1$
c_{11}	$y^{104} + 29y^{103} + \cdots + 539591540y + 12089529$