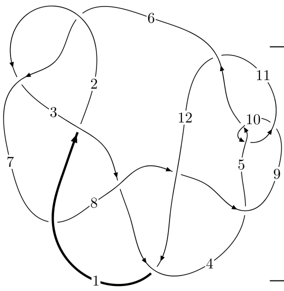
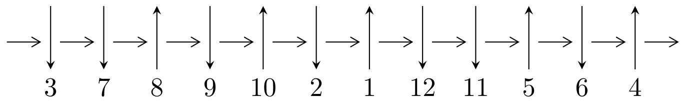
$12a_{0498}$ ($K12a_{0498}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{103} - u^{102} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 103 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. $I_1^u = \langle u^{103} - u^{102} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^6 - u^4 + 1 \\ -u^8 - 2u^6 - 2u^4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^{17} + 4u^{15} + 7u^{13} + 4u^{11} - 3u^9 - 6u^7 - 2u^5 + u \\ u^{19} + 5u^{17} + 12u^{15} + 15u^{13} + 9u^{11} - u^9 - 4u^7 - 2u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{11} + 2u^9 + 2u^7 + u^3 \\ -u^{11} - 3u^9 - 4u^7 - u^5 + u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{30} + 7u^{28} + \cdots - 2u^{12} + 1 \\ -u^{30} - 8u^{28} + \cdots - 4u^6 + u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{79} - 20u^{77} + \cdots - 20u^9 - 8u^7 \\ u^{79} + 21u^{77} + \cdots - 2u^5 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{47} + 12u^{45} + \cdots + 20u^9 + 8u^7 \\ u^{49} + 13u^{47} + \cdots - 2u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{101} - 4u^{100} + \cdots + 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{103} + 49u^{102} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{103} - u^{102} + \cdots - 2u^3 + 1$
c_3	$u^{103} + u^{102} + \cdots + 1790u + 193$
c_4, c_{11}	$u^{103} - u^{102} + \cdots - 25u + 2$
c_5, c_{10}	$u^{103} + u^{102} + \cdots + 2u + 1$
c_7	$u^{103} - 3u^{102} + \cdots - 1595u + 264$
c_8	$u^{103} - 13u^{102} + \cdots - 20u + 1$
c_9	$u^{103} + 55u^{102} + \cdots + 2u^2 - 1$
c_{12}	$u^{103} + 11u^{102} + \cdots + 34220u + 1889$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{103} + 11y^{102} + \cdots - 4y - 1$
c_2, c_6	$y^{103} - 49y^{102} + \cdots - 2y^2 - 1$
c_3	$y^{103} - 17y^{102} + \cdots + 4028596y - 37249$
c_4, c_{11}	$y^{103} - 81y^{102} + \cdots + 933y - 4$
c_5, c_{10}	$y^{103} + 55y^{102} + \cdots + 2y^2 - 1$
c_7	$y^{103} + 27y^{102} + \cdots + 634249y - 69696$
c_8	$y^{103} - y^{102} + \cdots - 180y - 1$
c_9	$y^{103} - 13y^{102} + \cdots + 4y - 1$
c_{12}	$y^{103} + 31y^{102} + \cdots - 195909780y - 3568321$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.320002 + 0.958821I$	$-2.49900 - 2.30744I$	0
$u = 0.320002 - 0.958821I$	$-2.49900 + 2.30744I$	0
$u = 0.534967 + 0.830815I$	$3.38408 + 4.66858I$	0
$u = 0.534967 - 0.830815I$	$3.38408 - 4.66858I$	0
$u = 0.441175 + 0.910998I$	$-3.42985 + 4.70264I$	0
$u = 0.441175 - 0.910998I$	$-3.42985 - 4.70264I$	0
$u = 0.541474 + 0.859884I$	$2.20908 + 6.71950I$	0
$u = 0.541474 - 0.859884I$	$2.20908 - 6.71950I$	0
$u = -0.087684 + 1.013270I$	$-1.99452 - 2.80437I$	0
$u = -0.087684 - 1.013270I$	$-1.99452 + 2.80437I$	0
$u = -0.523217 + 0.872636I$	$-2.24888 - 4.14811I$	0
$u = -0.523217 - 0.872636I$	$-2.24888 + 4.14811I$	0
$u = 0.045722 + 1.023600I$	$-6.06661 - 0.02451I$	0
$u = 0.045722 - 1.023600I$	$-6.06661 + 0.02451I$	0
$u = -0.547125 + 0.867720I$	$-0.03965 - 11.69240I$	0
$u = -0.547125 - 0.867720I$	$-0.03965 + 11.69240I$	0
$u = -0.533856 + 0.809048I$	$2.26374 + 0.02287I$	0
$u = -0.533856 - 0.809048I$	$2.26374 - 0.02287I$	0
$u = 0.087532 + 1.037130I$	$-4.34488 + 7.57420I$	0
$u = 0.087532 - 1.037130I$	$-4.34488 - 7.57420I$	0
$u = -0.381785 + 0.832663I$	$-0.30974 - 1.63761I$	$-2.00000 + 4.14879I$
$u = -0.381785 - 0.832663I$	$-0.30974 + 1.63761I$	$-2.00000 - 4.14879I$
$u = -0.141462 + 0.904392I$	$-0.78760 - 1.61551I$	$-4.77158 + 5.03318I$
$u = -0.141462 - 0.904392I$	$-0.78760 + 1.61551I$	$-4.77158 - 5.03318I$
$u = -0.536452 + 0.718227I$	$2.52300 - 4.35721I$	$2.56802 + 6.19679I$
$u = -0.536452 - 0.718227I$	$2.52300 + 4.35721I$	$2.56802 - 6.19679I$
$u = 0.535239 + 0.691052I$	$3.78238 - 0.33262I$	$5.03269 + 0.16609I$
$u = 0.535239 - 0.691052I$	$3.78238 + 0.33262I$	$5.03269 - 0.16609I$
$u = 0.547689 + 0.647135I$	$2.80904 - 2.32969I$	$3.45285 + 0.74524I$
$u = 0.547689 - 0.647135I$	$2.80904 + 2.32969I$	$3.45285 - 0.74524I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.559868+0.635760I$	$0.61339+7.25494I$	$-0.02996-4.75396I$
$u=-0.559868-0.635760I$	$0.61339-7.25494I$	$-0.02996+4.75396I$
$u=\ \ 0.809540+0.143509I$	$-3.50008-12.18120I$	$-3.85836+8.38881I$
$u=\ \ 0.809540-0.143509I$	$-3.50008+12.18120I$	$-3.85836-8.38881I$
$u=\ \ 0.445875+1.093170I$	$-2.45934-2.02600I$	0
$u=\ \ 0.445875-1.093170I$	$-2.45934+2.02600I$	0
$u=-0.803251+0.142576I$	$-1.14708+7.17209I$	$-0.67329-4.76301I$
$u=-0.803251-0.142576I$	$-1.14708-7.17209I$	$-0.67329+4.76301I$
$u=\ \ 0.804809+0.129898I$	$-5.67192-4.37319I$	$-7.09504+2.73875I$
$u=\ \ 0.804809-0.129898I$	$-5.67192+4.37319I$	$-7.09504-2.73875I$
$u=-0.797909+0.089556I$	$-6.79166+4.06327I$	$-8.41458-3.83338I$
$u=-0.797909-0.089556I$	$-6.79166-4.06327I$	$-8.41458+3.83338I$
$u=-0.517494+0.613373I$	$-1.53027-0.11065I$	$-3.24306+0.89379I$
$u=-0.517494-0.613373I$	$-1.53027+0.11065I$	$-3.24306-0.89379I$
$u=-0.794335+0.064613I$	$-5.68131-3.71782I$	$-6.83433+3.40780I$
$u=-0.794335-0.064613I$	$-5.68131+3.71782I$	$-6.83433-3.40780I$
$u=-0.459511+1.112040I$	$-0.58125-2.76277I$	0
$u=-0.459511-1.112040I$	$-0.58125+2.76277I$	0
$u=-0.781132+0.146005I$	$0.37432+5.13241I$	$0.93560-5.60814I$
$u=-0.781132-0.146005I$	$0.37432-5.13241I$	$0.93560+5.60814I$
$u=\ \ 0.780054+0.075837I$	$-3.06587-0.76136I$	$-3.45076+0.45885I$
$u=\ \ 0.780054-0.075837I$	$-3.06587+0.76136I$	$-3.45076-0.45885I$
$u=\ \ 0.760196+0.147480I$	$-0.480238-0.466709I$	$-0.489197-0.458195I$
$u=\ \ 0.760196-0.147480I$	$-0.480238+0.466709I$	$-0.489197+0.458195I$
$u=-0.482703+1.131700I$	$-0.31489-4.81582I$	0
$u=-0.482703-1.131700I$	$-0.31489+4.81582I$	0
$u=\ \ 0.492426+1.138620I$	$-1.91052+9.61857I$	0
$u=\ \ 0.492426-1.138620I$	$-1.91052-9.61857I$	0
$u=\ \ 0.385750+1.179600I$	$-4.33059+3.34041I$	0
$u=\ \ 0.385750-1.179600I$	$-4.33059-3.34041I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.451490 + 1.158040I$	$-4.91669 + 4.10196I$	0
$u = 0.451490 - 1.158040I$	$-4.91669 - 4.10196I$	0
$u = -0.378666 + 1.194090I$	$-3.58733 + 1.25660I$	0
$u = -0.378666 - 1.194090I$	$-3.58733 - 1.25660I$	0
$u = -0.376464 + 1.209810I$	$-5.20506 + 3.20479I$	0
$u = -0.376464 - 1.209810I$	$-5.20506 - 3.20479I$	0
$u = 0.374856 + 1.213940I$	$-7.59081 - 8.19597I$	0
$u = 0.374856 - 1.213940I$	$-7.59081 + 8.19597I$	0
$u = 0.384326 + 1.212720I$	$-9.69391 - 0.34298I$	0
$u = 0.384326 - 1.212720I$	$-9.69391 + 0.34298I$	0
$u = 0.416060 + 1.204580I$	$-6.81980 + 3.40849I$	0
$u = 0.416060 - 1.204580I$	$-6.81980 - 3.40849I$	0
$u = -0.408104 + 1.212180I$	$-10.65190 - 0.10842I$	0
$u = -0.408104 - 1.212180I$	$-10.65190 + 0.10842I$	0
$u = 0.505040 + 1.178370I$	$-3.48508 + 5.17017I$	0
$u = 0.505040 - 1.178370I$	$-3.48508 - 5.17017I$	0
$u = -0.420660 + 1.211380I$	$-9.45073 - 7.96797I$	0
$u = -0.420660 - 1.211380I$	$-9.45073 + 7.96797I$	0
$u = -0.509259 + 1.184590I$	$-2.66866 - 9.90267I$	0
$u = -0.509259 - 1.184590I$	$-2.66866 + 9.90267I$	0
$u = 0.484969 + 1.194950I$	$-6.32937 + 5.38147I$	0
$u = 0.484969 - 1.194950I$	$-6.32937 - 5.38147I$	0
$u = -0.481638 + 1.201620I$	$-9.01650 - 0.91732I$	0
$u = -0.481638 - 1.201620I$	$-9.01650 + 0.91732I$	0
$u = -0.492114 + 1.200160I$	$-10.05500 - 8.77175I$	0
$u = -0.492114 - 1.200160I$	$-10.05500 + 8.77175I$	0
$u = -0.513000 + 1.192750I$	$-4.24234 - 12.01220I$	0
$u = -0.513000 - 1.192750I$	$-4.24234 + 12.01220I$	0
$u = 0.508768 + 1.195870I$	$-8.81383 + 9.19354I$	0
$u = 0.508768 - 1.195870I$	$-8.81383 - 9.19354I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.514711 + 1.194780I$	$-6.6041 + 17.0451I$	0
$u = \ \ 0.514711 - 1.194780I$	$-6.6041 - 17.0451I$	0
$u = \ \ 0.661537 + 0.209917I$	$0.75840 - 5.17774I$	$0.84738 + 5.82465I$
$u = \ \ 0.661537 - 0.209917I$	$0.75840 + 5.17774I$	$0.84738 - 5.82465I$
$u = \ \ 0.573521 + 0.343141I$	$-0.33434 + 6.07580I$	$-0.41612 - 5.54107I$
$u = \ \ 0.573521 - 0.343141I$	$-0.33434 - 6.07580I$	$-0.41612 + 5.54107I$
$u = \ \ 0.663359$	-1.74433	-5.00130
$u = -0.620334 + 0.222321I$	$2.29486 + 0.50156I$	$4.19126 - 0.10094I$
$u = -0.620334 - 0.222321I$	$2.29486 - 0.50156I$	$4.19126 + 0.10094I$
$u = -0.562085 + 0.303335I$	$1.76281 - 1.30056I$	$3.34163 + 1.25432I$
$u = -0.562085 - 0.303335I$	$1.76281 + 1.30056I$	$3.34163 - 1.25432I$
$u = \ \ 0.470704 + 0.402661I$	$-2.11819 - 0.97237I$	$-3.63398 + 0.68742I$
$u = \ \ 0.470704 - 0.402661I$	$-2.11819 + 0.97237I$	$-3.63398 - 0.68742I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{103} + 49u^{102} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{103} - u^{102} + \cdots - 2u^3 + 1$
c_3	$u^{103} + u^{102} + \cdots + 1790u + 193$
c_4, c_{11}	$u^{103} - u^{102} + \cdots - 25u + 2$
c_5, c_{10}	$u^{103} + u^{102} + \cdots + 2u + 1$
c_7	$u^{103} - 3u^{102} + \cdots - 1595u + 264$
c_8	$u^{103} - 13u^{102} + \cdots - 20u + 1$
c_9	$u^{103} + 55u^{102} + \cdots + 2u^2 - 1$
c_{12}	$u^{103} + 11u^{102} + \cdots + 34220u + 1889$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{103} + 11y^{102} + \cdots - 4y - 1$
c_2, c_6	$y^{103} - 49y^{102} + \cdots - 2y^2 - 1$
c_3	$y^{103} - 17y^{102} + \cdots + 4028596y - 37249$
c_4, c_{11}	$y^{103} - 81y^{102} + \cdots + 933y - 4$
c_5, c_{10}	$y^{103} + 55y^{102} + \cdots + 2y^2 - 1$
c_7	$y^{103} + 27y^{102} + \cdots + 634249y - 69696$
c_8	$y^{103} - y^{102} + \cdots - 180y - 1$
c_9	$y^{103} - 13y^{102} + \cdots + 4y - 1$
c_{12}	$y^{103} + 31y^{102} + \cdots - 195909780y - 3568321$