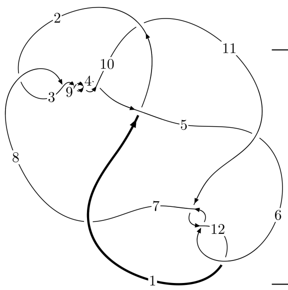
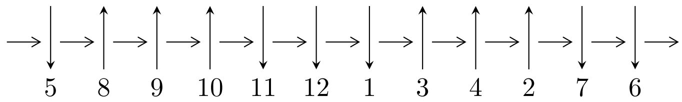
$12a_{1274}$ ($K12a_{1274}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{47} - u^{46} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 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. $I_1^u = \langle u^{47} - u^{46} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

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

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

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

$$a_6 = \begin{pmatrix} -u^{18} + 11u^{16} - 48u^{14} + 107u^{12} - 133u^{10} + 95u^8 - 34u^6 + 2u^4 + u^2 + 1 \\ u^{18} - 10u^{16} + 37u^{14} - 60u^{12} + 35u^{10} + 8u^8 - 16u^6 + 4u^4 - u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^8 + 5u^6 - 7u^4 + 2u^2 + 1 \\ u^{10} - 6u^8 + 11u^6 - 6u^4 + u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{19} + 12u^{17} - 58u^{15} + 144u^{13} - 193u^{11} + 130u^9 - 26u^7 - 14u^5 + 5u^3 \\ u^{21} - 13u^{19} + \cdots + u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{46} - 29u^{44} + \cdots + 4u^2 + 1 \\ -u^{46} + 28u^{44} + \cdots - 8u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{44} + 116u^{42} + \cdots - 20u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{47}+7u^{46}+\cdots+64u+23$
c_2, c_3, c_4 c_8, c_9	$u^{47}-u^{46}+\cdots+2u-1$
c_5, c_7	$u^{47}+u^{46}+\cdots-22u-13$
c_6, c_{11}, c_{12}	$u^{47}-u^{46}+\cdots-2u^2-1$
c_{10}	$u^{47}-5u^{46}+\cdots+56u-16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{47} + 11y^{46} + \cdots - 9704y - 529$
c_2, c_3, c_4 c_8, c_9	$y^{47} - 61y^{46} + \cdots - 4y - 1$
c_5, c_7	$y^{47} - 29y^{46} + \cdots - 1076y - 169$
c_6, c_{11}, c_{12}	$y^{47} + 39y^{46} + \cdots - 4y - 1$
c_{10}	$y^{47} - 5y^{46} + \cdots + 6176y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.935316 + 0.305335I$	$2.62027 - 2.29094I$	$4.17636 + 2.98224I$
$u = -0.935316 - 0.305335I$	$2.62027 + 2.29094I$	$4.17636 - 2.98224I$
$u = \ \ 0.966803 + 0.319748I$	$-0.38211 + 6.33274I$	$1.15955 - 6.71320I$
$u = \ \ 0.966803 - 0.319748I$	$-0.38211 - 6.33274I$	$1.15955 + 6.71320I$
$u = -0.952629 + 0.220168I$	$3.38277 - 2.89354I$	$6.69037 + 6.29889I$
$u = -0.952629 - 0.220168I$	$3.38277 + 2.89354I$	$6.69037 - 6.29889I$
$u = -0.985625 + 0.326270I$	$4.24927 - 10.39780I$	$5.89159 + 8.40345I$
$u = -0.985625 - 0.326270I$	$4.24927 + 10.39780I$	$5.89159 - 8.40345I$
$u = \ \ 0.948541 + 0.084215I$	$2.09196 + 0.10474I$	$3.38715 + 0.99978I$
$u = \ \ 0.948541 - 0.084215I$	$2.09196 - 0.10474I$	$3.38715 - 0.99978I$
$u = \ \ 1.021670 + 0.243299I$	$9.32278 + 3.73916I$	$10.74415 - 4.44796I$
$u = \ \ 1.021670 - 0.243299I$	$9.32278 - 3.73916I$	$10.74415 + 4.44796I$
$u = -1.053170 + 0.103400I$	$6.61499 + 3.02641I$	$9.00744 - 2.18164I$
$u = -1.053170 - 0.103400I$	$6.61499 - 3.02641I$	$9.00744 + 2.18164I$
$u = \ \ 0.641912 + 0.301512I$	$0.98188 + 3.42521I$	$2.41709 - 5.44099I$
$u = \ \ 0.641912 - 0.301512I$	$0.98188 - 3.42521I$	$2.41709 + 5.44099I$
$u = -0.560169 + 0.321250I$	$-2.59632 + 0.42907I$	$-1.68504 + 1.57161I$
$u = -0.560169 - 0.321250I$	$-2.59632 - 0.42907I$	$-1.68504 - 1.57161I$
$u = \ \ 0.511129 + 0.368669I$	$1.68279 - 4.29871I$	$3.25946 + 0.95874I$
$u = \ \ 0.511129 - 0.368669I$	$1.68279 + 4.29871I$	$3.25946 - 0.95874I$
$u = \ \ 0.187143 + 0.547043I$	$0.63696 + 7.42810I$	$0.40676 - 7.42331I$
$u = \ \ 0.187143 - 0.547043I$	$0.63696 - 7.42810I$	$0.40676 + 7.42331I$
$u = -0.160732 + 0.536483I$	$-3.84748 - 3.42005I$	$-4.82162 + 5.25079I$
$u = -0.160732 - 0.536483I$	$-3.84748 + 3.42005I$	$-4.82162 - 5.25079I$
$u = \ \ 0.118474 + 0.525329I$	$-0.601586 - 0.534700I$	$-2.02307 - 0.92399I$
$u = \ \ 0.118474 - 0.525329I$	$-0.601586 + 0.534700I$	$-2.02307 + 0.92399I$
$u = -0.286692 + 0.438369I$	$5.28511 - 1.41982I$	$5.84943 + 4.60268I$
$u = -0.286692 - 0.438369I$	$5.28511 + 1.41982I$	$5.84943 - 4.60268I$
$u = \ \ 0.150071 + 0.356575I$	$0.004655 + 0.864522I$	$0.14963 - 7.77782I$
$u = \ \ 0.150071 - 0.356575I$	$0.004655 - 0.864522I$	$0.14963 + 7.77782I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.63569$	4.98619	0
$u = -1.63713 + 0.01674I$	$8.87485 - 4.16382I$	0
$u = -1.63713 - 0.01674I$	$8.87485 + 4.16382I$	0
$u = \quad 1.70178 + 0.07607I$	$11.94230 + 3.77271I$	0
$u = \quad 1.70178 - 0.07607I$	$11.94230 - 3.77271I$	0
$u = \quad 1.70759 + 0.05556I$	$12.84280 + 3.98049I$	0
$u = \quad 1.70759 - 0.05556I$	$12.84280 - 3.98049I$	0
$u = -1.70861 + 0.03317I$	$11.58770 - 0.66274I$	0
$u = -1.70861 - 0.03317I$	$11.58770 + 0.66274I$	0
$u = -1.70911 + 0.08266I$	$9.07855 - 7.92982I$	0
$u = -1.70911 - 0.08266I$	$9.07855 + 7.92982I$	0
$u = \quad 1.71430 + 0.08536I$	$13.8014 + 12.0477I$	0
$u = \quad 1.71430 - 0.08536I$	$13.8014 - 12.0477I$	0
$u = -1.72414 + 0.06236I$	$19.1056 - 4.9783I$	0
$u = -1.72414 - 0.06236I$	$19.1056 + 4.9783I$	0
$u = \quad 1.72607 + 0.02949I$	$16.5348 - 2.4638I$	0
$u = \quad 1.72607 - 0.02949I$	$16.5348 + 2.4638I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{47} + 7u^{46} + \cdots + 64u + 23$
c_2, c_3, c_4 c_8, c_9	$u^{47} - u^{46} + \cdots + 2u - 1$
c_5, c_7	$u^{47} + u^{46} + \cdots - 22u - 13$
c_6, c_{11}, c_{12}	$u^{47} - u^{46} + \cdots - 2u^2 - 1$
c_{10}	$u^{47} - 5u^{46} + \cdots + 56u - 16$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{47} + 11y^{46} + \cdots - 9704y - 529$
c_2, c_3, c_4 c_8, c_9	$y^{47} - 61y^{46} + \cdots - 4y - 1$
c_5, c_7	$y^{47} - 29y^{46} + \cdots - 1076y - 169$
c_6, c_{11}, c_{12}	$y^{47} + 39y^{46} + \cdots - 4y - 1$
c_{10}	$y^{47} - 5y^{46} + \cdots + 6176y - 256$