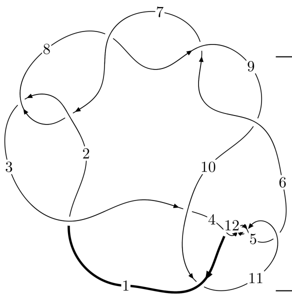
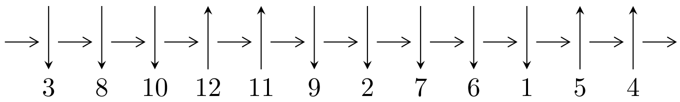
$12a_{0773}$ $(K12a_{0773})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{45} + u^{44} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 45 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. $I_1^u = \langle u^{45} + u^{44} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{15} - 2u^{13} + 6u^{11} - 8u^9 + 10u^7 - 8u^5 + 4u^3 - 2u \\ -u^{15} + u^{13} - 4u^{11} + 3u^9 - 4u^7 + 2u^5 - 2u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{14} + u^{12} - 4u^{10} + 3u^8 - 4u^6 + 2u^4 - 2u^2 + 1 \\ -u^{16} + 2u^{14} - 6u^{12} + 8u^{10} - 10u^8 + 8u^6 - 4u^4 + 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{34} - 3u^{32} + \cdots + u^2 + 1 \\ u^{36} - 4u^{34} + \cdots - 18u^6 + 3u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{35} + 4u^{33} + \cdots + 18u^5 - 3u^3 \\ u^{35} - 3u^{33} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8 c_9	$u^{45} + 9u^{44} + \cdots - u + 1$
c_2, c_7	$u^{45} + u^{44} + \cdots + u + 1$
c_3	$u^{45} + u^{44} + \cdots + 21u + 1$
c_4, c_5, c_{11} c_{12}	$u^{45} + u^{44} + \cdots + 3u + 1$
c_{10}	$u^{45} - 11u^{44} + \cdots - 3u - 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8 c_9	$y^{45} + 55y^{44} + \cdots + 7y - 1$
c_2, c_7	$y^{45} - 9y^{44} + \cdots - y - 1$
c_3	$y^{45} - y^{44} + \cdots + 191y - 1$
c_4, c_5, c_{11} c_{12}	$y^{45} + 51y^{44} + \cdots - y - 1$
c_{10}	$y^{45} + 3y^{44} + \cdots + 507y - 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.842523 + 0.539612I$	$1.63617 - 3.33410I$	$-0.33334 + 4.44336I$
$u = 0.842523 - 0.539612I$	$1.63617 + 3.33410I$	$-0.33334 - 4.44336I$
$u = -0.745790 + 0.649514I$	$-3.25288 + 2.39871I$	$-2.89131 - 3.55564I$
$u = -0.745790 - 0.649514I$	$-3.25288 - 2.39871I$	$-2.89131 + 3.55564I$
$u = -0.893450 + 0.533806I$	$0.35918 + 6.76103I$	$-4.58151 - 10.24409I$
$u = -0.893450 - 0.533806I$	$0.35918 - 6.76103I$	$-4.58151 + 10.24409I$
$u = 0.882706 + 0.368441I$	$-9.18323 - 0.52895I$	$-10.64212 + 3.60551I$
$u = 0.882706 - 0.368441I$	$-9.18323 + 0.52895I$	$-10.64212 - 3.60551I$
$u = 0.924753 + 0.528045I$	$-7.25615 - 8.99421I$	$-7.47706 + 8.23216I$
$u = 0.924753 - 0.528045I$	$-7.25615 + 8.99421I$	$-7.47706 - 8.23216I$
$u = -0.915632 + 0.085731I$	$-10.66890 + 4.29803I$	$-13.41929 - 4.05209I$
$u = -0.915632 - 0.085731I$	$-10.66890 - 4.29803I$	$-13.41929 + 4.05209I$
$u = -0.798279 + 0.412042I$	$-1.42195 + 1.48989I$	$-9.20204 - 3.10031I$
$u = -0.798279 - 0.412042I$	$-1.42195 - 1.48989I$	$-9.20204 + 3.10031I$
$u = 0.622618 + 0.607896I$	$2.34985 - 1.00131I$	$2.25214 + 3.75135I$
$u = 0.622618 - 0.607896I$	$2.34985 + 1.00131I$	$2.25214 - 3.75135I$
$u = 0.860336 + 0.082675I$	$-2.96104 - 2.56413I$	$-12.15035 + 6.37098I$
$u = 0.860336 - 0.082675I$	$-2.96104 + 2.56413I$	$-12.15035 - 6.37098I$
$u = 0.500299 + 0.676887I$	$-5.89698 + 4.51199I$	$-3.83830 - 2.27659I$
$u = 0.500299 - 0.676887I$	$-5.89698 - 4.51199I$	$-3.83830 + 2.27659I$
$u = -0.545239 + 0.640437I$	$1.47015 - 2.35216I$	$-0.76426 + 3.93836I$
$u = -0.545239 - 0.640437I$	$1.47015 + 2.35216I$	$-0.76426 - 3.93836I$
$u = -0.753905$	-1.22216	-7.16390
$u = -0.913783 + 0.849175I$	$-2.09514 + 3.15874I$	$-6.19428 - 2.57138I$
$u = -0.913783 - 0.849175I$	$-2.09514 - 3.15874I$	$-6.19428 + 2.57138I$
$u = 0.923803 + 0.877811I$	$6.39657 - 3.24843I$	$-4.00000 + 2.33788I$
$u = 0.923803 - 0.877811I$	$6.39657 + 3.24843I$	$-4.00000 - 2.33788I$
$u = -0.888807 + 0.915163I$	$2.17300 - 5.40200I$	$-4.00000 + 2.07857I$
$u = -0.888807 - 0.915163I$	$2.17300 + 5.40200I$	$-4.00000 - 2.07857I$
$u = 0.897839 + 0.910766I$	$9.68761 + 2.81350I$	$0. - 3.36569I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.897839 - 0.910766I$	$9.68761 - 2.81350I$	$0. + 3.36569I$
$u = -0.908434 + 0.905373I$	$10.78900 + 1.09718I$	$0. - 2.47582I$
$u = -0.908434 - 0.905373I$	$10.78900 - 1.09718I$	$0. + 2.47582I$
$u = 0.932398 + 0.899940I$	$5.98919 - 3.31737I$	$-4.00000 + 2.40847I$
$u = 0.932398 - 0.899940I$	$5.98919 + 3.31737I$	$-4.00000 - 2.40847I$
$u = -0.951494 + 0.884176I$	$10.64970 + 5.50488I$	0
$u = -0.951494 - 0.884176I$	$10.64970 - 5.50488I$	0
$u = 0.961169 + 0.879776I$	$9.48304 - 9.41748I$	$0. + 8.04677I$
$u = 0.961169 - 0.879776I$	$9.48304 + 9.41748I$	$0. - 8.04677I$
$u = -0.968830 + 0.875878I$	$1.91452 + 12.00600I$	$0. - 6.72542I$
$u = -0.968830 - 0.875878I$	$1.91452 - 12.00600I$	$0. + 6.72542I$
$u = 0.192606 + 0.558254I$	$-7.18221 - 2.67775I$	$-4.03487 + 2.63740I$
$u = 0.192606 - 0.558254I$	$-7.18221 + 2.67775I$	$-4.03487 - 2.63740I$
$u = -0.134361 + 0.422733I$	$-0.031442 + 1.214490I$	$-0.60670 - 5.55927I$
$u = -0.134361 - 0.422733I$	$-0.031442 - 1.214490I$	$-0.60670 + 5.55927I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8 c_9	$u^{45} + 9u^{44} + \cdots - u + 1$
c_2, c_7	$u^{45} + u^{44} + \cdots + u + 1$
c_3	$u^{45} + u^{44} + \cdots + 21u + 1$
c_4, c_5, c_{11} c_{12}	$u^{45} + u^{44} + \cdots + 3u + 1$
c_{10}	$u^{45} - 11u^{44} + \cdots - 3u - 3$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8 c_9	$y^{45} + 55y^{44} + \cdots + 7y - 1$
c_2, c_7	$y^{45} - 9y^{44} + \cdots - y - 1$
c_3	$y^{45} - y^{44} + \cdots + 191y - 1$
c_4, c_5, c_{11} c_{12}	$y^{45} + 51y^{44} + \cdots - y - 1$
c_{10}	$y^{45} + 3y^{44} + \cdots + 507y - 9$