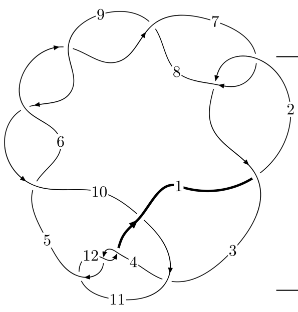
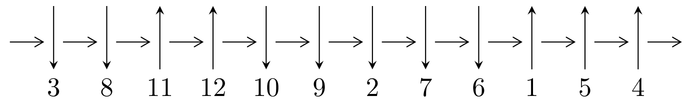
$12a_{0792}$ $(K12a_{0792})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{42} - u^{41} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 42 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. $I_1^u = \langle u^{42} - u^{41} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{14} - u^{12} + 4u^{10} - 3u^8 + 2u^6 - 2u^2 + 1 \\ u^{16} - 2u^{14} + 6u^{12} - 8u^{10} + 10u^8 - 6u^6 + 4u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{27} - 2u^{25} + \cdots + 12u^5 - 5u^3 \\ u^{29} - 3u^{27} + \cdots - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{32} - 3u^{30} + \cdots - 2u^2 + 1 \\ -u^{32} + 2u^{30} + \cdots - 6u^6 + 4u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{41} - 16u^{39} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$u^{42} + 7u^{41} + \cdots + 3u + 1$
c_2, c_7	$u^{42} + u^{41} + \cdots + u + 1$
c_3	$u^{42} - u^{41} + \cdots + 7u + 1$
c_4, c_{11}, c_{12}	$u^{42} + u^{41} + \cdots + 3u + 1$
c_{10}	$u^{42} + 11u^{41} + \cdots - 5u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$y^{42} + 57y^{41} + \cdots + 21y + 1$
c_2, c_7	$y^{42} - 7y^{41} + \cdots - 3y + 1$
c_3	$y^{42} - 7y^{41} + \cdots - 3y + 1$
c_4, c_{11}, c_{12}	$y^{42} + 37y^{41} + \cdots - 3y + 1$
c_{10}	$y^{42} - 3y^{41} + \cdots - 535y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.681333+0.754455I$	$0.36250-4.45884I$	$0.58642+2.49782I$
$u=-0.681333-0.754455I$	$0.36250+4.45884I$	$0.58642-2.49782I$
$u=\ \ 0.815313+0.544997I$	$-3.06628-1.97224I$	$-3.93875+4.40296I$
$u=\ \ 0.815313-0.544997I$	$-3.06628+1.97224I$	$-3.93875-4.40296I$
$u=\ \ 0.718210+0.740792I$	$5.29261+0.88504I$	$5.49396-1.23926I$
$u=\ \ 0.718210-0.740792I$	$5.29261-0.88504I$	$5.49396+1.23926I$
$u=-0.809919+0.678495I$	$2.91299+2.57210I$	$0.86185-2.86212I$
$u=-0.809919-0.678495I$	$2.91299-2.57210I$	$0.86185+2.86212I$
$u=-0.785663+0.713246I$	$3.00195+2.59627I$	$1.81535-3.78463I$
$u=-0.785663-0.713246I$	$3.00195-2.59627I$	$1.81535+3.78463I$
$u=\ \ 0.862775+0.279474I$	$-5.58236-6.06191I$	$-7.57750+8.26085I$
$u=\ \ 0.862775-0.279474I$	$-5.58236+6.06191I$	$-7.57750-8.26085I$
$u=\ \ 0.874849+0.672104I$	$4.77268-6.11758I$	$3.66668+7.81265I$
$u=\ \ 0.874849-0.672104I$	$4.77268+6.11758I$	$3.66668-7.81265I$
$u=-0.900846+0.657474I$	$-0.36475+9.68044I$	$-1.43034-8.54464I$
$u=-0.900846-0.657474I$	$-0.36475-9.68044I$	$-1.43034+8.54464I$
$u=-0.844548+0.120880I$	$-6.39911-1.65910I$	$-10.56317-0.31309I$
$u=-0.844548-0.120880I$	$-6.39911+1.65910I$	$-10.56317+0.31309I$
$u=-0.797938+0.292374I$	$-0.41890+3.10279I$	$-2.43445-9.36586I$
$u=-0.797938-0.292374I$	$-0.41890-3.10279I$	$-2.43445+9.36586I$
$u=\ \ 0.718845+0.151909I$	$-1.185460-0.386187I$	$-7.35672+0.55843I$
$u=\ \ 0.718845-0.151909I$	$-1.185460+0.386187I$	$-7.35672-0.55843I$
$u=\ \ 0.486298+0.530301I$	$-2.30134-1.96887I$	$0.29013+3.56121I$
$u=\ \ 0.486298-0.530301I$	$-2.30134+1.96887I$	$0.29013-3.56121I$
$u=-0.937864+0.907045I$	$6.05226+3.34288I$	$-2.00000-2.33342I$
$u=-0.937864-0.907045I$	$6.05226-3.34288I$	$-2.00000+2.33342I$
$u=\ \ 0.925718+0.938959I$	$10.35550+4.97697I$	$0.-2.32708I$
$u=\ \ 0.925718-0.938959I$	$10.35550-4.97697I$	$0.+2.32708I$
$u=-0.932788+0.936544I$	$15.4788-1.0421I$	$5.04588+0.I$
$u=-0.932788-0.936544I$	$15.4788+1.0421I$	$5.04588+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.941607 + 0.930102I$	$13.34440 - 3.10724I$	$2.23436 + 3.37048I$
$u = \quad 0.941607 - 0.930102I$	$13.34440 + 3.10724I$	$2.23436 - 3.37048I$
$u = \quad 0.953922 + 0.922825I$	$13.30320 - 3.70457I$	$2.13928 + 0.I$
$u = \quad 0.953922 - 0.922825I$	$13.30320 + 3.70457I$	$2.13928 + 0.I$
$u = -0.963591 + 0.918930I$	$15.3766 + 7.8617I$	$4.81414 - 5.73365I$
$u = -0.963591 - 0.918930I$	$15.3766 - 7.8617I$	$4.81414 + 5.73365I$
$u = \quad 0.968815 + 0.914465I$	$10.2127 - 11.7890I$	$0. + 6.81392I$
$u = \quad 0.968815 - 0.914465I$	$10.2127 + 11.7890I$	$0. - 6.81392I$
$u = \quad 0.155278 + 0.536125I$	$-3.38219 + 3.26579I$	$0.36679 - 2.81006I$
$u = \quad 0.155278 - 0.536125I$	$-3.38219 - 3.26579I$	$0.36679 + 2.81006I$
$u = -0.267141 + 0.437516I$	$1.191110 - 0.437816I$	$6.95012 + 1.07134I$
$u = -0.267141 - 0.437516I$	$1.191110 + 0.437816I$	$6.95012 - 1.07134I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$u^{42} + 7u^{41} + \cdots + 3u + 1$
c_2, c_7	$u^{42} + u^{41} + \cdots + u + 1$
c_3	$u^{42} - u^{41} + \cdots + 7u + 1$
c_4, c_{11}, c_{12}	$u^{42} + u^{41} + \cdots + 3u + 1$
c_{10}	$u^{42} + 11u^{41} + \cdots - 5u + 3$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$y^{42} + 57y^{41} + \cdots + 21y + 1$
c_2, c_7	$y^{42} - 7y^{41} + \cdots - 3y + 1$
c_3	$y^{42} - 7y^{41} + \cdots - 3y + 1$
c_4, c_{11}, c_{12}	$y^{42} + 37y^{41} + \cdots - 3y + 1$
c_{10}	$y^{42} - 3y^{41} + \cdots - 535y + 9$