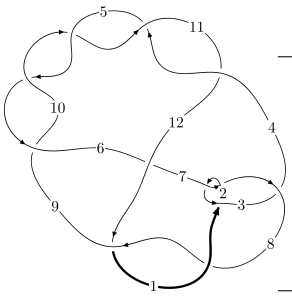
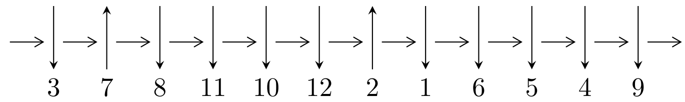
$12a_{0551}$ ($K12a_{0551}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{51} - u^{50} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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. $I_1^u = \langle u^{51} - u^{50} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ u^9 + u^7 + u^5 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{12} + 3u^{10} + 5u^8 + 4u^6 + 2u^4 + u^2 + 1 \\ -u^{14} - 2u^{12} - 3u^{10} - 2u^8 - 2u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{25} + 6u^{23} + \cdots + 2u^3 + u \\ -u^{27} - 5u^{25} + \cdots - u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{43} - 10u^{41} + \cdots - 8u^5 - 3u^3 \\ u^{45} + 9u^{43} + \cdots - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{40} + 9u^{38} + \cdots - 3u^4 + 1 \\ u^{40} + 8u^{38} + \cdots + 6u^6 + 2u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{22} - 5u^{20} + \cdots - 3u^4 + 1 \\ -u^{22} - 4u^{20} + \cdots - 2u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{49} - 4u^{48} + \cdots + 4u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{51} + 23u^{50} + \cdots + 2u - 1$
c_2, c_7	$u^{51} + u^{50} + \cdots + 2u + 1$
c_3	$u^{51} - u^{50} + \cdots - 4u + 1$
c_4, c_5, c_9 c_{10}, c_{11}	$u^{51} + u^{50} + \cdots + 4u + 1$
c_6	$u^{51} + u^{50} + \cdots + 4596u + 2061$
c_8, c_{12}	$u^{51} + 5u^{50} + \cdots + 26u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} + 11y^{50} + \cdots + 26y - 1$
c_2, c_7	$y^{51} + 23y^{50} + \cdots + 2y - 1$
c_3	$y^{51} - y^{50} + \cdots + 50y - 1$
c_4, c_5, c_9 c_{10}, c_{11}	$y^{51} + 67y^{50} + \cdots + 2y - 1$
c_6	$y^{51} + 27y^{50} + \cdots - 54758682y - 4247721$
c_8, c_{12}	$y^{51} + 43y^{50} + \cdots - 1634y - 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.124050 + 1.007820I$	$-1.22807 - 1.23128I$	$-11.11038 + 4.31437I$
$u = 0.124050 - 1.007820I$	$-1.22807 + 1.23128I$	$-11.11038 - 4.31437I$
$u = -0.567657 + 0.794330I$	$13.08480 - 2.27933I$	$0.58371 + 3.39997I$
$u = -0.567657 - 0.794330I$	$13.08480 + 2.27933I$	$0.58371 - 3.39997I$
$u = 0.491070 + 0.796347I$	$3.39837 + 2.06094I$	$0.34753 - 4.06473I$
$u = 0.491070 - 0.796347I$	$3.39837 - 2.06094I$	$0.34753 + 4.06473I$
$u = -0.764672 + 0.536054I$	$18.2452 - 4.1032I$	$1.95310 + 2.72318I$
$u = -0.764672 - 0.536054I$	$18.2452 + 4.1032I$	$1.95310 - 2.72318I$
$u = -0.275626 + 0.885976I$	$-0.65991 - 1.25740I$	$-7.37275 + 5.16821I$
$u = -0.275626 - 0.885976I$	$-0.65991 + 1.25740I$	$-7.37275 - 5.16821I$
$u = -0.095918 + 1.079980I$	$2.64743 + 3.72333I$	$-5.51914 - 4.10632I$
$u = -0.095918 - 1.079980I$	$2.64743 - 3.72333I$	$-5.51914 + 4.10632I$
$u = 0.748117 + 0.519457I$	$8.20876 + 2.78699I$	$1.43171 - 3.73896I$
$u = 0.748117 - 0.519457I$	$8.20876 - 2.78699I$	$1.43171 + 3.73896I$
$u = 0.796612 + 0.437292I$	$17.6940 - 7.1625I$	$1.28660 + 3.00306I$
$u = 0.796612 - 0.437292I$	$17.6940 + 7.1625I$	$1.28660 - 3.00306I$
$u = -0.778283 + 0.440419I$	$7.77323 + 5.65959I$	$0.63336 - 4.31014I$
$u = -0.778283 - 0.440419I$	$7.77323 - 5.65959I$	$0.63336 + 4.31014I$
$u = -0.371193 + 1.043920I$	$-1.29263 - 0.95577I$	$-8.94786 - 0.46472I$
$u = -0.371193 - 1.043920I$	$-1.29263 + 0.95577I$	$-8.94786 + 0.46472I$
$u = 0.091632 + 1.113570I$	$12.41680 - 5.09230I$	$-4.77006 + 2.62305I$
$u = 0.091632 - 1.113570I$	$12.41680 + 5.09230I$	$-4.77006 - 2.62305I$
$u = -0.730042 + 0.483625I$	$3.79742 - 0.31118I$	$-2.99375 + 3.59553I$
$u = -0.730042 - 0.483625I$	$3.79742 + 0.31118I$	$-2.99375 - 3.59553I$
$u = 0.748991 + 0.449203I$	$3.60271 - 2.92364I$	$-3.83628 + 4.17852I$
$u = 0.748991 - 0.449203I$	$3.60271 + 2.92364I$	$-3.83628 - 4.17852I$
$u = 0.330853 + 1.087020I$	$7.29518 + 0.30876I$	$-8.00000 - 0.78025I$
$u = 0.330853 - 1.087020I$	$7.29518 - 0.30876I$	$-8.00000 + 0.78025I$
$u = 0.431459 + 1.058770I$	$-3.31703 + 3.41847I$	$-14.6084 - 5.2638I$
$u = 0.431459 - 1.058770I$	$-3.31703 - 3.41847I$	$-14.6084 + 5.2638I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.471802 + 1.075960I$	$-0.59913 - 5.95166I$	$-8.00000 + 8.50499I$
$u = -0.471802 - 1.075960I$	$-0.59913 + 5.95166I$	$-8.00000 - 8.50499I$
$u = 0.490778 + 1.100730I$	$8.34808 + 7.02798I$	$-8.00000 - 6.50051I$
$u = 0.490778 - 1.100730I$	$8.34808 - 7.02798I$	$-8.00000 + 6.50051I$
$u = 0.614197 + 1.047040I$	$6.63961 + 2.38883I$	0
$u = 0.614197 - 1.047040I$	$6.63961 - 2.38883I$	0
$u = -0.629234 + 1.042400I$	$16.7365 - 1.1689I$	0
$u = -0.629234 - 1.042400I$	$16.7365 + 1.1689I$	0
$u = -0.595770 + 1.063400I$	$2.07756 - 4.75365I$	$-8.00000 + 0.I$
$u = -0.595770 - 1.063400I$	$2.07756 + 4.75365I$	$-8.00000 + 0.I$
$u = 0.597475 + 1.082780I$	$1.72685 + 8.04071I$	0
$u = 0.597475 - 1.082780I$	$1.72685 - 8.04071I$	0
$u = -0.606769 + 1.094070I$	$5.83091 - 10.88290I$	0
$u = -0.606769 - 1.094070I$	$5.83091 + 10.88290I$	0
$u = 0.613048 + 1.101110I$	$15.7156 + 12.4555I$	0
$u = 0.613048 - 1.101110I$	$15.7156 - 12.4555I$	0
$u = 0.638692 + 0.195238I$	$10.86370 - 2.72758I$	$-2.02598 + 2.69670I$
$u = 0.638692 - 0.195238I$	$10.86370 + 2.72758I$	$-2.02598 - 2.69670I$
$u = -0.546991 + 0.180701I$	$1.78156 + 1.95178I$	$-2.96735 - 4.57785I$
$u = -0.546991 - 0.180701I$	$1.78156 - 1.95178I$	$-2.96735 + 4.57785I$
$u = 0.433964$	-0.812863	-12.4030

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{51} + 23u^{50} + \cdots + 2u - 1$
c_2, c_7	$u^{51} + u^{50} + \cdots + 2u + 1$
c_3	$u^{51} - u^{50} + \cdots - 4u + 1$
c_4, c_5, c_9 c_{10}, c_{11}	$u^{51} + u^{50} + \cdots + 4u + 1$
c_6	$u^{51} + u^{50} + \cdots + 4596u + 2061$
c_8, c_{12}	$u^{51} + 5u^{50} + \cdots + 26u + 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{51} + 11y^{50} + \cdots + 26y - 1$
c_2, c_7	$y^{51} + 23y^{50} + \cdots + 2y - 1$
c_3	$y^{51} - y^{50} + \cdots + 50y - 1$
c_4, c_5, c_9 c_{10}, c_{11}	$y^{51} + 67y^{50} + \cdots + 2y - 1$
c_6	$y^{51} + 27y^{50} + \cdots - 54758682y - 4247721$
c_8, c_{12}	$y^{51} + 43y^{50} + \cdots - 1634y - 49$