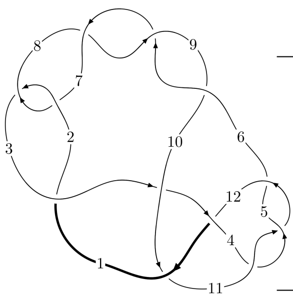
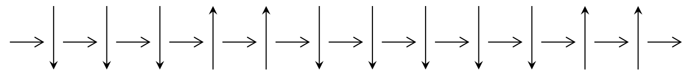
$12a_{0758}$ $(K12a_{0758})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I^u_1 = \langle u^{56} + u^{55} + \cdots - 2u + 1\rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 56 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. $I_1^u = \langle u^{56} + u^{55} + \cdots - 2u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^7 - 4u^5 + 4u^3 \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{14} + 7u^{12} - 18u^{10} + 19u^8 - 4u^6 - 4u^4 + 1 \\ -u^{14} + 6u^{12} - 13u^{10} + 10u^8 + 2u^6 - 4u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{25} + 12u^{23} + \cdots - 2u^3 + u \\ -u^{25} + 11u^{23} + \cdots + 5u^5 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{13} - 6u^{11} + 13u^9 - 10u^7 - 2u^5 + 4u^3 + u \\ -u^{15} + 7u^{13} - 18u^{11} + 19u^9 - 4u^7 - 4u^5 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{24} + 11u^{22} + \cdots + 5u^4 + 1 \\ u^{26} - 12u^{24} + \cdots + 2u^4 - u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{35} - 16u^{33} + \cdots + 5u^3 + 2u \\ -u^{37} + 17u^{35} + \cdots - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{53} + 96u^{51} + \cdots + 8u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8 c_9	$u^{56} + 11u^{55} + \cdots - 6u^2 + 1$
c_2, c_7	$u^{56} + u^{55} + \cdots - 3u^4 + 1$
c_3	$u^{56} + u^{55} + \cdots - 326u + 137$
c_4, c_5, c_{11}	$u^{56} - u^{55} + \cdots + 2u + 1$
c_{10}	$u^{56} - 11u^{55} + \cdots - 3504u + 329$
c_{12}	$u^{56} + 3u^{55} + \cdots + 6u - 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8 c_9	$y^{56} + 69y^{55} + \cdots - 12y + 1$
c_2, c_7	$y^{56} - 11y^{55} + \cdots - 6y^2 + 1$
c_3	$y^{56} + 13y^{55} + \cdots - 74492y + 18769$
c_4, c_5, c_{11}	$y^{56} - 51y^{55} + \cdots - 6y^2 + 1$
c_{10}	$y^{56} + 25y^{55} + \cdots + 533244y + 108241$
c_{12}	$y^{56} - 7y^{55} + \cdots - 1376y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.07019$	-0.949026	-9.02490
$u = 1.135160 + 0.143998I$	$1.42096 + 4.22637I$	0
$u = 1.135160 - 0.143998I$	$1.42096 - 4.22637I$	0
$u = -1.204250 + 0.074324I$	$2.66622 - 0.54803I$	0
$u = -1.204250 - 0.074324I$	$2.66622 + 0.54803I$	0
$u = 1.189110 + 0.237629I$	$9.59382 + 6.63588I$	0
$u = 1.189110 - 0.237629I$	$9.59382 - 6.63588I$	0
$u = 0.335146 + 0.705571I$	$9.77121 + 9.75524I$	$-0.38732 - 7.71796I$
$u = 0.335146 - 0.705571I$	$9.77121 - 9.75524I$	$-0.38732 + 7.71796I$
$u = -0.340208 + 0.700860I$	$9.98095 - 3.13482I$	$0.07263 + 3.06644I$
$u = -0.340208 - 0.700860I$	$9.98095 + 3.13482I$	$0.07263 - 3.06644I$
$u = -1.204570 + 0.236202I$	$9.69897 - 0.17039I$	0
$u = -1.204570 - 0.236202I$	$9.69897 + 0.17039I$	0
$u = 0.595357 + 0.465102I$	$10.78470 - 5.72514I$	$1.84898 + 2.00050I$
$u = 0.595357 - 0.465102I$	$10.78470 + 5.72514I$	$1.84898 - 2.00050I$
$u = -0.584196 + 0.472968I$	$10.93920 - 0.88871I$	$2.16093 + 2.77118I$
$u = -0.584196 - 0.472968I$	$10.93920 + 0.88871I$	$2.16093 - 2.77118I$
$u = 0.296683 + 0.676087I$	$0.53657 + 7.07371I$	$-3.59732 - 9.78551I$
$u = 0.296683 - 0.676087I$	$0.53657 - 7.07371I$	$-3.59732 + 9.78551I$
$u = -0.314940 + 0.644540I$	$1.65803 - 2.59053I$	$0.04705 + 3.57587I$
$u = -0.314940 - 0.644540I$	$1.65803 + 2.59053I$	$0.04705 - 3.57587I$
$u = 0.007813 + 0.688667I$	$6.00998 - 3.22450I$	$-4.23288 + 2.40010I$
$u = 0.007813 - 0.688667I$	$6.00998 + 3.22450I$	$-4.23288 - 2.40010I$
$u = 0.231045 + 0.640530I$	$-2.92576 + 2.83157I$	$-10.98646 - 6.18327I$
$u = 0.231045 - 0.640530I$	$-2.92576 - 2.83157I$	$-10.98646 + 6.18327I$
$u = 0.542389 + 0.356383I$	$1.68131 - 3.45848I$	$-0.31087 + 4.10988I$
$u = 0.542389 - 0.356383I$	$1.68131 + 3.45848I$	$-0.31087 - 4.10988I$
$u = -0.464378 + 0.421480I$	$2.45863 - 0.93026I$	$2.46911 + 3.70104I$
$u = -0.464378 - 0.421480I$	$2.45863 + 0.93026I$	$2.46911 - 3.70104I$
$u = -1.361350 + 0.204853I$	$3.11166 - 1.47983I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.361350 - 0.204853I$	$3.11166 + 1.47983I$	0
$u = \quad 0.111152 + 0.600360I$	$-1.54903 - 1.34777I$	$-8.65601 + 3.11033I$
$u = \quad 0.111152 - 0.600360I$	$-1.54903 + 1.34777I$	$-8.65601 - 3.11033I$
$u = -0.258459 + 0.536760I$	$0.030499 - 1.333300I$	$0.08723 + 4.95525I$
$u = -0.258459 - 0.536760I$	$0.030499 + 1.333300I$	$0.08723 - 4.95525I$
$u = -1.391190 + 0.247824I$	$2.24859 - 6.06814I$	0
$u = -1.391190 - 0.247824I$	$2.24859 + 6.06814I$	0
$u = \quad 1.40238 + 0.21809I$	$5.35752 + 4.15948I$	0
$u = \quad 1.40238 - 0.21809I$	$5.35752 - 4.15948I$	0
$u = -1.42095 + 0.14118I$	$7.72443 + 1.65930I$	0
$u = -1.42095 - 0.14118I$	$7.72443 - 1.65930I$	0
$u = \quad 1.42694 + 0.16716I$	$8.39154 + 3.12220I$	0
$u = \quad 1.42694 - 0.16716I$	$8.39154 - 3.12220I$	0
$u = -1.41827 + 0.26296I$	$6.01979 - 10.49950I$	0
$u = -1.41827 - 0.26296I$	$6.01979 + 10.49950I$	0
$u = \quad 1.42281 + 0.24974I$	$7.21916 + 5.86572I$	0
$u = \quad 1.42281 - 0.24974I$	$7.21916 - 5.86572I$	0
$u = -1.43739 + 0.27190I$	$15.4523 - 13.3172I$	0
$u = -1.43739 - 0.27190I$	$15.4523 + 13.3172I$	0
$u = \quad 1.43885 + 0.26922I$	$15.6849 + 6.6708I$	0
$u = \quad 1.43885 - 0.26922I$	$15.6849 - 6.6708I$	0
$u = -1.46233 + 0.14146I$	$17.3303 + 3.6489I$	0
$u = -1.46233 - 0.14146I$	$17.3303 - 3.6489I$	0
$u = \quad 1.46254 + 0.14618I$	$17.4575 + 3.0259I$	0
$u = \quad 1.46254 - 0.14618I$	$17.4575 - 3.0259I$	0
$u = \quad 0.460041$	-1.25301	-7.18430

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6, c_8 c_9	$u^{56} + 11u^{55} + \cdots - 6u^2 + 1$
c_2, c_7	$u^{56} + u^{55} + \cdots - 3u^4 + 1$
c_3	$u^{56} + u^{55} + \cdots - 326u + 137$
c_4, c_5, c_{11}	$u^{56} - u^{55} + \cdots + 2u + 1$
c_{10}	$u^{56} - 11u^{55} + \cdots - 3504u + 329$
c_{12}	$u^{56} + 3u^{55} + \cdots + 6u - 5$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8 c_9	$y^{56} + 69y^{55} + \cdots - 12y + 1$
c_2, c_7	$y^{56} - 11y^{55} + \cdots - 6y^2 + 1$
c_3	$y^{56} + 13y^{55} + \cdots - 74492y + 18769$
c_4, c_5, c_{11}	$y^{56} - 51y^{55} + \cdots - 6y^2 + 1$
c_{10}	$y^{56} + 25y^{55} + \cdots + 533244y + 108241$
c_{12}	$y^{56} - 7y^{55} + \cdots - 1376y + 25$