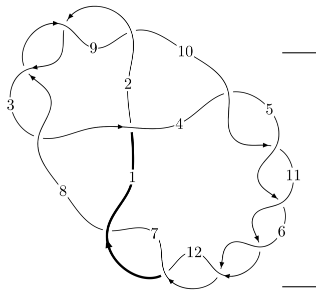
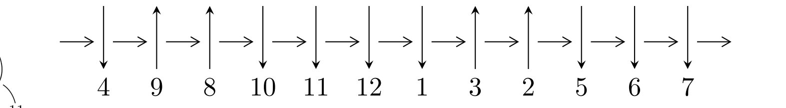
$12a_{1157}$ ($K12a_{1157}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{19} + u^{18} + \cdots - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 19 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. $I_1^u = \langle u^{19} + u^{18} + \cdots - 2u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^3 - 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{10} - 7u^8 + 16u^6 - 13u^4 + u^2 + 1 \\ u^{10} - 6u^8 + 11u^6 - 8u^4 + 3u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{11} + 8u^9 - 22u^7 + 24u^5 - 9u^3 + 2u \\ -u^{13} + 9u^{11} - 29u^9 + 40u^7 - 22u^5 + 3u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{18} + 13u^{16} + \cdots + 3u^2 + 1 \\ -u^{18} + 12u^{16} - 57u^{14} + 138u^{12} - 185u^{10} + 142u^8 - 62u^6 + 12u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{14} - 44u^{12} + 184u^{10} - 364u^8 + 4u^7 + 344u^6 - 24u^5 - 136u^4 + 40u^3 + 16u^2 - 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{19} - 7u^{18} + \cdots + 72u - 41$
c_2, c_3, c_8 c_9	$u^{19} + u^{18} + \cdots - 2u - 1$
c_4, c_5, c_6 c_7, c_{10}, c_{11} c_{12}	$u^{19} + u^{18} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{19} - 17y^{18} + \cdots + 26586y - 1681$
c_2, c_3, c_8 c_9	$y^{19} + 23y^{18} + \cdots - 2y - 1$
c_4, c_5, c_6 c_7, c_{10}, c_{11} c_{12}	$y^{19} - 29y^{18} + \cdots - 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.845643 + 0.288890I$	$-10.86190 + 3.90709I$	$-14.5654 - 4.4789I$
$u = -0.845643 - 0.288890I$	$-10.86190 - 3.90709I$	$-14.5654 + 4.4789I$
$u = \quad 0.747058 + 0.191235I$	$-2.97563 - 2.48429I$	$-13.4435 + 6.6309I$
$u = \quad 0.747058 - 0.191235I$	$-2.97563 + 2.48429I$	$-13.4435 - 6.6309I$
$u = \quad 1.35365$	-7.74124	-9.76410
$u = -1.387880 + 0.077610I$	$-10.14090 + 3.44117I$	$-14.0567 - 4.3682I$
$u = -1.387880 - 0.077610I$	$-10.14090 - 3.44117I$	$-14.0567 + 4.3682I$
$u = -0.604746$	-1.09372	-8.26920
$u = \quad 1.43278 + 0.12906I$	$-18.5196 - 5.4586I$	$-15.6445 + 3.0996I$
$u = \quad 1.43278 - 0.12906I$	$-18.5196 + 5.4586I$	$-15.6445 - 3.0996I$
$u = \quad 0.263289 + 0.450878I$	$-7.42738 - 1.46197I$	$-9.51323 + 3.95730I$
$u = \quad 0.263289 - 0.450878I$	$-7.42738 + 1.46197I$	$-9.51323 - 3.95730I$
$u = -0.156591 + 0.294132I$	$-0.229049 + 0.841361I$	$-5.82037 - 7.86296I$
$u = -0.156591 - 0.294132I$	$-0.229049 - 0.841361I$	$-5.82037 + 7.86296I$
$u = -1.83296$	-19.7038	-10.2700
$u = \quad 1.83960 + 0.01849I$	$17.2008 - 3.9150I$	$-14.0216 + 3.6447I$
$u = \quad 1.83960 - 0.01849I$	$17.2008 + 3.9150I$	$-14.0216 - 3.6447I$
$u = -1.85060 + 0.03225I$	$8.56699 + 6.28958I$	$-15.7829 - 2.5323I$
$u = -1.85060 - 0.03225I$	$8.56699 - 6.28958I$	$-15.7829 + 2.5323I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{19} - 7u^{18} + \cdots + 72u - 41$
c_2, c_3, c_8 c_9	$u^{19} + u^{18} + \cdots - 2u - 1$
c_4, c_5, c_6 c_7, c_{10}, c_{11} c_{12}	$u^{19} + u^{18} + \cdots - 2u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{19} - 17y^{18} + \cdots + 26586y - 1681$
c_2, c_3, c_8 c_9	$y^{19} + 23y^{18} + \cdots - 2y - 1$
c_4, c_5, c_6 c_7, c_{10}, c_{11} c_{12}	$y^{19} - 29y^{18} + \cdots - 2y - 1$