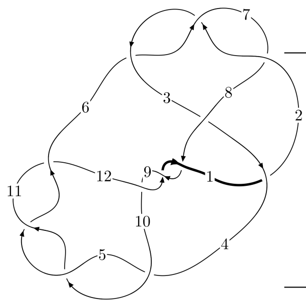
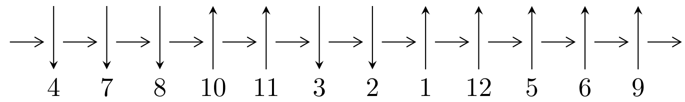
$12a_{1033}$ $(K12a_{1033})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$6,12 \xrightarrow[c_{11}]{} 11 \xrightarrow[c_{5}]{} 5 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_{4}]{} 4 \xrightarrow[c_{9}]{} 9 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_{1}]{} 2 \xrightarrow[c_{8}]{} 8 \xrightarrow[c_{3}]{} 3 \xrightarrow[c_{7}]{} 7 \gg c_2, c_6$$

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

$$I_1^u = \langle u^{53} - u^{52} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I_1^u = \langle u^{53} - u^{52} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 - 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 - 5u^6 + 7u^4 - 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{16} - 9u^{14} + 31u^{12} - 50u^{10} + 39u^8 - 22u^6 + 18u^4 - 4u^2 + 1 \\ u^{18} - 10u^{16} + 39u^{14} - 74u^{12} + 71u^{10} - 40u^8 + 26u^6 - 12u^4 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{12} - 7u^{10} + 17u^8 - 16u^6 + 6u^4 - 5u^2 + 1 \\ -u^{12} + 6u^{10} - 12u^8 + 8u^6 - u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{29} - 16u^{27} + \cdots - 8u^3 - u \\ -u^{29} + 15u^{27} + \cdots - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{46} + 25u^{44} + \cdots - 4u^2 + 1 \\ -u^{48} + 26u^{46} + \cdots + 4u^6 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{50} + 108u^{48} + \cdots + 4u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{53} - 13u^{52} + \cdots - 51u + 3$
c_2, c_6, c_7	$u^{53} + u^{52} + \cdots - u - 1$
c_3	$u^{53} - u^{52} + \cdots - 3u - 5$
c_4, c_5, c_{10} c_{11}	$u^{53} - u^{52} + \cdots + u - 1$
c_8, c_9, c_{12}	$u^{53} + 7u^{52} + \cdots + 81u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} + 3y^{52} + \cdots - 393y - 9$
c_2, c_6, c_7	$y^{53} + 47y^{52} + \cdots + 3y - 1$
c_3	$y^{53} - 5y^{52} + \cdots - 221y - 25$
c_4, c_5, c_{10} c_{11}	$y^{53} - 57y^{52} + \cdots + 3y - 1$
c_8, c_9, c_{12}	$y^{53} + 51y^{52} + \cdots + 247y - 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.548575+0.633673I$	$-1.51521-10.00010I$	$2.58535+7.98539I$
$u=-0.548575-0.633673I$	$-1.51521+10.00010I$	$2.58535-7.98539I$
$u=\quad 0.535266+0.635034I$	$-6.68651+6.22464I$	$-2.12914-7.04200I$
$u=\quad 0.535266-0.635034I$	$-6.68651-6.22464I$	$-2.12914+7.04200I$
$u=-0.512310+0.631969I$	$-4.69465-2.29803I$	$0.49220+2.27561I$
$u=-0.512310-0.631969I$	$-4.69465+2.29803I$	$0.49220-2.27561I$
$u=-0.487905+0.637564I$	$-4.76749-1.99907I$	$0.17746+4.07491I$
$u=-0.487905-0.637564I$	$-4.76749+1.99907I$	$0.17746-4.07491I$
$u=\quad 0.464669+0.647606I$	$-6.89567-1.88935I$	$-2.89485+0.79576I$
$u=\quad 0.464669-0.647606I$	$-6.89567+1.88935I$	$-2.89485-0.79576I$
$u=-0.449493+0.651810I$	$-1.80864+5.65716I$	$1.70059-1.94125I$
$u=-0.449493-0.651810I$	$-1.80864-5.65716I$	$1.70059+1.94125I$
$u=\quad 0.504505+0.567177I$	$1.97412+1.94133I$	$4.71944-3.76784I$
$u=\quad 0.504505-0.567177I$	$1.97412-1.94133I$	$4.71944+3.76784I$
$u=\quad 0.652033+0.329464I$	$5.34002+6.28128I$	$8.12896-8.54610I$
$u=\quad 0.652033-0.329464I$	$5.34002-6.28128I$	$8.12896+8.54610I$
$u=-0.687986+0.156912I$	$6.28732+1.58298I$	$11.28727+0.73154I$
$u=-0.687986-0.156912I$	$6.28732-1.58298I$	$11.28727-0.73154I$
$u=-0.591945+0.318276I$	$0.12349-3.23267I$	$3.04126+9.49675I$
$u=-0.591945-0.318276I$	$0.12349+3.23267I$	$3.04126-9.49675I$
$u=\quad 0.372482+0.439549I$	$1.98957+1.52097I$	$1.80190-4.43655I$
$u=\quad 0.372482-0.439549I$	$1.98957-1.52097I$	$1.80190+4.43655I$
$u=\quad 0.541460+0.168929I$	$1.006470+0.410735I$	$8.40701-1.41779I$
$u=\quad 0.541460-0.168929I$	$1.006470-0.410735I$	$8.40701+1.41779I$
$u=\quad 1.45482$	3.97144	0
$u=-1.45391+0.05193I$	$7.75885-3.05240I$	0
$u=-1.45391-0.05193I$	$7.75885+3.05240I$	0
$u=\quad 1.47881+0.19165I$	$4.44453-2.64829I$	0
$u=\quad 1.47881-0.19165I$	$4.44453+2.64829I$	0
$u=-1.49019+0.19296I$	$-0.532397-1.115270I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.49019 - 0.19296I$	$-0.532397 + 1.115270I$	0
$u = 1.50599 + 0.19300I$	$1.75894 + 4.97978I$	0
$u = 1.50599 - 0.19300I$	$1.75894 - 4.97978I$	0
$u = 0.107192 + 0.466806I$	$3.69238 - 3.52663I$	$1.88659 + 2.63338I$
$u = 0.107192 - 0.466806I$	$3.69238 + 3.52663I$	$1.88659 - 2.63338I$
$u = 1.52075 + 0.19227I$	$1.99021 + 5.26775I$	0
$u = 1.52075 - 0.19227I$	$1.99021 - 5.26775I$	0
$u = -1.52792 + 0.16778I$	$8.71759 - 4.57599I$	0
$u = -1.52792 - 0.16778I$	$8.71759 + 4.57599I$	0
$u = -1.54203 + 0.04830I$	$8.05739 - 1.20567I$	0
$u = -1.54203 - 0.04830I$	$8.05739 + 1.20567I$	0
$u = -1.53145 + 0.19702I$	$0.12630 - 9.24228I$	0
$u = -1.53145 - 0.19702I$	$0.12630 + 9.24228I$	0
$u = 1.53796 + 0.19740I$	$5.37483 + 13.02300I$	0
$u = 1.53796 - 0.19740I$	$5.37483 - 13.02300I$	0
$u = 1.54965 + 0.07623I$	$7.32443 + 4.59016I$	0
$u = 1.54965 - 0.07623I$	$7.32443 - 4.59016I$	0
$u = -1.56535 + 0.08054I$	$12.8092 - 7.7128I$	0
$u = -1.56535 - 0.08054I$	$12.8092 + 7.7128I$	0
$u = 1.56726 + 0.03872I$	$13.86820 - 0.89997I$	0
$u = 1.56726 - 0.03872I$	$13.86820 + 0.89997I$	0
$u = -0.176376 + 0.389345I$	$-1.109150 + 0.706645I$	$-4.66602 - 1.44909I$
$u = -0.176376 - 0.389345I$	$-1.109150 - 0.706645I$	$-4.66602 + 1.44909I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{53} - 13u^{52} + \cdots - 51u + 3$
c_2, c_6, c_7	$u^{53} + u^{52} + \cdots - u - 1$
c_3	$u^{53} - u^{52} + \cdots - 3u - 5$
c_4, c_5, c_{10} c_{11}	$u^{53} - u^{52} + \cdots + u - 1$
c_8, c_9, c_{12}	$u^{53} + 7u^{52} + \cdots + 81u + 7$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} + 3y^{52} + \cdots - 393y - 9$
c_2, c_6, c_7	$y^{53} + 47y^{52} + \cdots + 3y - 1$
c_3	$y^{53} - 5y^{52} + \cdots - 221y - 25$
c_4, c_5, c_{10} c_{11}	$y^{53} - 57y^{52} + \cdots + 3y - 1$
c_8, c_9, c_{12}	$y^{53} + 51y^{52} + \cdots + 247y - 49$