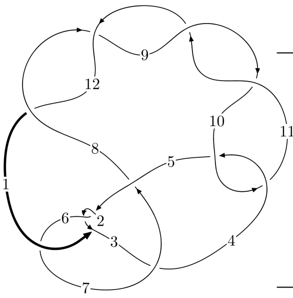
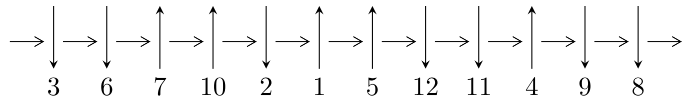
$12a_{0243}$ $(K12a_{0243})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{66} + u^{65} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 66 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. $I_1^u = \langle u^{66} + u^{65} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 + u^6 + 3u^4 + 2u^2 + 1 \\ u^8 + 2u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{10} + u^8 + 4u^6 + 3u^4 + 3u^2 + 1 \\ u^{12} + 2u^{10} + 4u^8 + 6u^6 + 3u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{21} - 2u^{19} + \cdots - 6u^3 - u \\ -u^{23} - 3u^{21} + \cdots - 2u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{52} + 5u^{50} + \cdots + u^2 + 1 \\ u^{54} + 6u^{52} + \cdots - 17u^6 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{28} - 3u^{26} + \cdots + u^2 + 1 \\ -u^{28} - 2u^{26} + \cdots + 3u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{64} - 4u^{63} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{66} + 31u^{65} + \cdots - u + 1$
c_2, c_5	$u^{66} + u^{65} + \cdots + 3u + 1$
c_3	$u^{66} - u^{65} + \cdots + 1669u + 673$
c_4, c_{10}	$u^{66} + u^{65} + \cdots + u + 1$
c_6	$u^{66} + 3u^{65} + \cdots + 539u + 105$
c_7	$u^{66} + 9u^{65} + \cdots + 113u + 29$
c_8, c_9, c_{11} c_{12}	$u^{66} + 13u^{65} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{66} + 9y^{65} + \cdots + 9y + 1$
c_2, c_5	$y^{66} - 31y^{65} + \cdots + y + 1$
c_3	$y^{66} - 23y^{65} + \cdots - 12012391y + 452929$
c_4, c_{10}	$y^{66} + 13y^{65} + \cdots + y + 1$
c_6	$y^{66} + 13y^{65} + \cdots + 356909y + 11025$
c_7	$y^{66} - 11y^{65} + \cdots + 23481y + 841$
c_8, c_9, c_{11} c_{12}	$y^{66} + 81y^{65} + \cdots - 7y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.599044 + 0.826443I$	$2.20023 + 0.03981I$	$1.90801 + 0.I$
$u = 0.599044 - 0.826443I$	$2.20023 - 0.03981I$	$1.90801 + 0.I$
$u = 0.516168 + 0.894544I$	$-2.24111 + 4.14051I$	$-5.37917 - 5.76586I$
$u = 0.516168 - 0.894544I$	$-2.24111 - 4.14051I$	$-5.37917 + 5.76586I$
$u = -0.575209 + 0.860059I$	$3.33392 - 4.67344I$	$3.60111 + 7.51773I$
$u = -0.575209 - 0.860059I$	$3.33392 + 4.67344I$	$3.60111 - 7.51773I$
$u = -0.417668 + 0.858179I$	$-3.47104 - 4.65742I$	$-7.34835 + 7.77657I$
$u = -0.417668 - 0.858179I$	$-3.47104 + 4.65742I$	$-7.34835 - 7.77657I$
$u = -0.548997 + 0.901918I$	$2.20323 - 6.68220I$	$0. + 7.34850I$
$u = -0.548997 - 0.901918I$	$2.20323 + 6.68220I$	$0. - 7.34850I$
$u = 0.662569 + 0.668001I$	$2.71906 + 4.65572I$	$3.37494 - 5.91636I$
$u = 0.662569 - 0.668001I$	$2.71906 - 4.65572I$	$3.37494 + 5.91636I$
$u = 0.545262 + 0.916750I$	$-0.02627 + 11.64450I$	$0. - 11.11786I$
$u = 0.545262 - 0.916750I$	$-0.02627 - 11.64450I$	$0. + 11.11786I$
$u = -0.658358 + 0.624266I$	$4.09825 + 0.06503I$	$6.21402 - 0.17680I$
$u = -0.658358 - 0.624266I$	$4.09825 - 0.06503I$	$6.21402 + 0.17680I$
$u = -0.331173 + 0.844557I$	$-2.52809 + 2.55717I$	$-6.16177 + 0.11362I$
$u = -0.331173 - 0.844557I$	$-2.52809 - 2.55717I$	$-6.16177 - 0.11362I$
$u = -0.111108 + 0.897806I$	$-3.65266 - 7.15580I$	$-8.25035 + 7.79317I$
$u = -0.111108 - 0.897806I$	$-3.65266 + 7.15580I$	$-8.25035 - 7.79317I$
$u = -0.056026 + 0.881651I$	$-5.32447 + 0.22926I$	$-11.87724 + 0.46623I$
$u = -0.056026 - 0.881651I$	$-5.32447 - 0.22926I$	$-11.87724 - 0.46623I$
$u = 0.112571 + 0.866237I$	$-1.39262 + 2.45864I$	$-5.10441 - 4.27623I$
$u = 0.112571 - 0.866237I$	$-1.39262 - 2.45864I$	$-5.10441 + 4.27623I$
$u = -0.669205 + 0.554761I$	$3.32166 + 2.13457I$	$5.05558 - 0.87891I$
$u = -0.669205 - 0.554761I$	$3.32166 - 2.13457I$	$5.05558 + 0.87891I$
$u = 0.683206 + 0.533126I$	$1.20996 - 7.07293I$	$1.66097 + 5.05839I$
$u = 0.683206 - 0.533126I$	$1.20996 + 7.07293I$	$1.66097 - 5.05839I$
$u = 0.397569 + 0.766288I$	$-0.23774 + 1.55359I$	$-1.92023 - 4.37944I$
$u = 0.397569 - 0.766288I$	$-0.23774 - 1.55359I$	$-1.92023 + 4.37944I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.610588 + 0.515135I$	$-1.056340 + 0.121936I$	$-1.71551 - 0.70249I$
$u = 0.610588 - 0.515135I$	$-1.056340 - 0.121936I$	$-1.71551 + 0.70249I$
$u = 0.188820 + 0.739972I$	$-0.49246 + 1.40224I$	$-3.25312 - 5.95695I$
$u = 0.188820 - 0.739972I$	$-0.49246 - 1.40224I$	$-3.25312 + 5.95695I$
$u = 0.868041 + 0.906909I$	$4.33013 - 0.66559I$	0
$u = 0.868041 - 0.906909I$	$4.33013 + 0.66559I$	0
$u = 0.860634 + 0.928908I$	$4.26183 + 7.07643I$	0
$u = 0.860634 - 0.928908I$	$4.26183 - 7.07643I$	0
$u = -0.873798 + 0.921550I$	$7.45184 - 3.23504I$	0
$u = -0.873798 - 0.921550I$	$7.45184 + 3.23504I$	0
$u = -0.906361 + 0.896191I$	$6.91112 + 0.26195I$	0
$u = -0.906361 - 0.896191I$	$6.91112 - 0.26195I$	0
$u = -0.918035 + 0.894590I$	$9.54527 + 7.87292I$	0
$u = -0.918035 - 0.894590I$	$9.54527 - 7.87292I$	0
$u = 0.916098 + 0.898640I$	$11.73460 - 2.74151I$	0
$u = 0.916098 - 0.898640I$	$11.73460 + 2.74151I$	0
$u = 0.913249 + 0.910862I$	$12.86730 - 0.20173I$	0
$u = 0.913249 - 0.910862I$	$12.86730 + 0.20173I$	0
$u = -0.911288 + 0.917800I$	$11.72190 - 4.80348I$	0
$u = -0.911288 - 0.917800I$	$11.72190 + 4.80348I$	0
$u = -0.876349 + 0.959209I$	$6.70835 - 6.84097I$	0
$u = -0.876349 - 0.959209I$	$6.70835 + 6.84097I$	0
$u = -0.894477 + 0.950445I$	$11.61560 - 1.85123I$	0
$u = -0.894477 - 0.950445I$	$11.61560 + 1.85123I$	0
$u = 0.890410 + 0.955883I$	$12.7211 + 6.8493I$	0
$u = 0.890410 - 0.955883I$	$12.7211 - 6.8493I$	0
$u = 0.883095 + 0.964486I$	$11.5212 + 9.3733I$	0
$u = 0.883095 - 0.964486I$	$11.5212 - 9.3733I$	0
$u = -0.881274 + 0.967913I$	$9.3076 - 14.5044I$	0
$u = -0.881274 - 0.967913I$	$9.3076 + 14.5044I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.536662 + 0.126308I$	$-0.45344 - 5.38731I$	$1.77316 + 5.79640I$
$u = -0.536662 - 0.126308I$	$-0.45344 + 5.38731I$	$1.77316 - 5.79640I$
$u = -0.469047 + 0.278278I$	$-1.96507 + 1.34680I$	$-1.73694 - 0.71589I$
$u = -0.469047 - 0.278278I$	$-1.96507 - 1.34680I$	$-1.73694 + 0.71589I$
$u = \quad 0.487711 + 0.078072I$	$1.49223 + 0.76367I$	$5.93436 - 1.14172I$
$u = \quad 0.487711 - 0.078072I$	$1.49223 - 0.76367I$	$5.93436 + 1.14172I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{66} + 31u^{65} + \cdots - u + 1$
c_2, c_5	$u^{66} + u^{65} + \cdots + 3u + 1$
c_3	$u^{66} - u^{65} + \cdots + 1669u + 673$
c_4, c_{10}	$u^{66} + u^{65} + \cdots + u + 1$
c_6	$u^{66} + 3u^{65} + \cdots + 539u + 105$
c_7	$u^{66} + 9u^{65} + \cdots + 113u + 29$
c_8, c_9, c_{11} c_{12}	$u^{66} + 13u^{65} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{66} + 9y^{65} + \cdots + 9y + 1$
c_2, c_5	$y^{66} - 31y^{65} + \cdots + y + 1$
c_3	$y^{66} - 23y^{65} + \cdots - 12012391y + 452929$
c_4, c_{10}	$y^{66} + 13y^{65} + \cdots + y + 1$
c_6	$y^{66} + 13y^{65} + \cdots + 356909y + 11025$
c_7	$y^{66} - 11y^{65} + \cdots + 23481y + 841$
c_8, c_9, c_{11} c_{12}	$y^{66} + 81y^{65} + \cdots - 7y + 1$