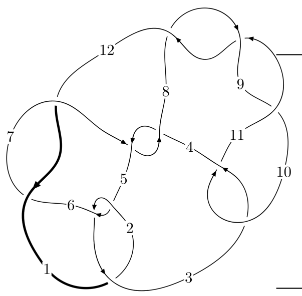
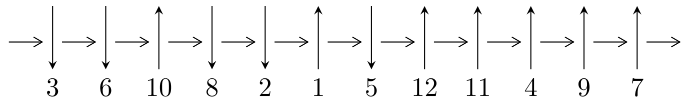
$12a_{0437}$ ($K12a_{0437}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{74} - u^{73} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 74 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. $I_1^u = \langle u^{74} - u^{73} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^9 + 2u^7 - u^5 - 2u^3 + u \\ u^{11} - 3u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{17} - 4u^{15} + 7u^{13} - 4u^{11} - 3u^9 + 6u^7 - 2u^5 + u \\ -u^{19} + 5u^{17} - 12u^{15} + 15u^{13} - 9u^{11} - u^9 + 4u^7 - 2u^5 - u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{27} - 8u^{25} + \cdots - 3u^3 + 2u \\ u^{27} - 7u^{25} + \cdots - u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{46} + 13u^{44} + \cdots + 2u^2 + 1 \\ -u^{46} + 12u^{44} + \cdots - 4u^4 + u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{65} + 18u^{63} + \cdots + 2u^3 - 3u \\ -u^{65} + 17u^{63} + \cdots + 8u^5 - u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{73} - 80u^{71} + \cdots - 12u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{74} + 39u^{73} + \cdots + 3u + 1$
c_2, c_5	$u^{74} + u^{73} + \cdots - u + 1$
c_3, c_{10}	$u^{74} + u^{73} + \cdots + u + 1$
c_4, c_7	$u^{74} - 7u^{73} + \cdots - 39u + 5$
c_6, c_{12}	$u^{74} + 3u^{73} + \cdots + 91u + 39$
c_8, c_9, c_{11}	$u^{74} - 19u^{73} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{74} - 7y^{73} + \cdots - 3y + 1$
c_2, c_5	$y^{74} - 39y^{73} + \cdots - 3y + 1$
c_3, c_{10}	$y^{74} - 19y^{73} + \cdots - 3y + 1$
c_4, c_7	$y^{74} + 37y^{73} + \cdots + 2209y + 25$
c_6, c_{12}	$y^{74} + 53y^{73} + \cdots + 25961y + 1521$
c_8, c_9, c_{11}	$y^{74} + 73y^{73} + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.835681 + 0.560605I$	$-2.03574 + 3.50542I$	$2.00000 - 4.07643I$
$u = -0.835681 - 0.560605I$	$-2.03574 - 3.50542I$	$2.00000 + 4.07643I$
$u = \quad 0.832665 + 0.571463I$	$-1.51570 - 9.58110I$	$2.00000 + 8.95690I$
$u = \quad 0.832665 - 0.571463I$	$-1.51570 + 9.58110I$	$2.00000 - 8.95690I$
$u = \quad 0.791742 + 0.569661I$	$5.17088 - 5.15812I$	$8.32835 + 7.79457I$
$u = \quad 0.791742 - 0.569661I$	$5.17088 + 5.15812I$	$8.32835 - 7.79457I$
$u = \quad 1.028500 + 0.160985I$	$-6.85388 + 0.05460I$	$-5.85707 + 0.I$
$u = \quad 1.028500 - 0.160985I$	$-6.85388 - 0.05460I$	$-5.85707 + 0.I$
$u = -1.038800 + 0.183643I$	$-6.59018 + 6.05194I$	0
$u = -1.038800 - 0.183643I$	$-6.59018 - 6.05194I$	0
$u = -0.771164 + 0.538007I$	$2.30346 + 2.17439I$	$2.29501 - 3.84413I$
$u = -0.771164 - 0.538007I$	$2.30346 - 2.17439I$	$2.29501 + 3.84413I$
$u = \quad 0.745955 + 0.571289I$	$5.30206 + 0.62127I$	$9.02433 - 0.60864I$
$u = \quad 0.745955 - 0.571289I$	$5.30206 - 0.62127I$	$9.02433 + 0.60864I$
$u = -0.878223 + 0.286781I$	$-0.13660 + 3.04210I$	$1.28348 - 9.03887I$
$u = -0.878223 - 0.286781I$	$-0.13660 - 3.04210I$	$1.28348 + 9.03887I$
$u = \quad 0.694463 + 0.581556I$	$-1.12248 + 5.01071I$	$3.66328 - 2.35709I$
$u = \quad 0.694463 - 0.581556I$	$-1.12248 - 5.01071I$	$3.66328 + 2.35709I$
$u = -0.685413 + 0.567131I$	$-1.61031 + 0.99347I$	$2.79378 - 2.74942I$
$u = -0.685413 - 0.567131I$	$-1.61031 - 0.99347I$	$2.79378 + 2.74942I$
$u = \quad 0.847866 + 0.088742I$	$-1.39303 - 0.27331I$	$-6.60583 + 0.30491I$
$u = \quad 0.847866 - 0.088742I$	$-1.39303 + 0.27331I$	$-6.60583 - 0.30491I$
$u = \quad 0.173274 + 0.798587I$	$-4.67079 + 10.47000I$	$0.63032 - 6.91545I$
$u = \quad 0.173274 - 0.798587I$	$-4.67079 - 10.47000I$	$0.63032 + 6.91545I$
$u = -1.125660 + 0.366050I$	$-0.67532 + 2.89635I$	0
$u = -1.125660 - 0.366050I$	$-0.67532 - 2.89635I$	0
$u = -0.166312 + 0.795857I$	$-5.18741 - 4.27377I$	$-0.40124 + 2.07461I$
$u = -0.166312 - 0.795857I$	$-5.18741 + 4.27377I$	$-0.40124 - 2.07461I$
$u = \quad 0.188589 + 0.769066I$	$2.46946 + 6.12626I$	$6.02496 - 6.71747I$
$u = \quad 0.188589 - 0.769066I$	$2.46946 - 6.12626I$	$6.02496 + 6.71747I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.110190+0.478729I$	$-5.42714+6.46328I$	0
$u=-1.110190-0.478729I$	$-5.42714-6.46328I$	0
$u=-0.005571+0.786467I$	$-9.15015-3.13723I$	$-3.27787+2.62981I$
$u=-0.005571-0.786467I$	$-9.15015+3.13723I$	$-3.27787-2.62981I$
$u=-1.174870+0.351936I$	$-1.57203-2.51139I$	0
$u=-1.174870-0.351936I$	$-1.57203+2.51139I$	0
$u=1.120020+0.499746I$	$-5.15715-0.75516I$	0
$u=1.120020-0.499746I$	$-5.15715+0.75516I$	0
$u=1.169010+0.376170I$	$-3.98603-0.84644I$	0
$u=1.169010-0.376170I$	$-3.98603+0.84644I$	0
$u=-0.166580+0.745150I$	$-0.14116-2.82982I$	$-0.06496+2.64345I$
$u=-0.166580-0.745150I$	$-0.14116+2.82982I$	$-0.06496-2.64345I$
$u=1.169510+0.425972I$	$-5.43464-2.14338I$	0
$u=1.169510-0.425972I$	$-5.43464+2.14338I$	0
$u=0.210100+0.723982I$	$3.11981+0.43939I$	$8.03831+0.99678I$
$u=0.210100-0.723982I$	$3.11981-0.43939I$	$8.03831-0.99678I$
$u=-1.201560+0.355229I$	$-8.81870-6.66835I$	0
$u=-1.201560-0.355229I$	$-8.81870+6.66835I$	0
$u=1.201080+0.360636I$	$-9.29736+0.44713I$	0
$u=1.201080-0.360636I$	$-9.29736-0.44713I$	0
$u=-1.165630+0.467482I$	$-5.13613+6.19077I$	0
$u=-1.165630-0.467482I$	$-5.13613-6.19077I$	0
$u=1.153100+0.513557I$	$0.38073-5.11443I$	0
$u=1.153100-0.513557I$	$0.38073+5.11443I$	0
$u=-1.168850+0.508704I$	$-3.05084+7.51931I$	0
$u=-1.168850-0.508704I$	$-3.05084-7.51931I$	0
$u=1.170470+0.520288I$	$-0.40431-10.92870I$	0
$u=1.170470-0.520288I$	$-0.40431+10.92870I$	0
$u=0.275029+0.663064I$	$-2.70930-3.72938I$	$2.81438+3.00373I$
$u=0.275029-0.663064I$	$-2.70930+3.72938I$	$2.81438-3.00373I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.204050 + 0.448056I$	$-12.69820 - 1.26903I$	0
$u = 1.204050 - 0.448056I$	$-12.69820 + 1.26903I$	0
$u = -1.203510 + 0.453057I$	$-12.6628 + 7.5767I$	0
$u = -1.203510 - 0.453057I$	$-12.6628 - 7.5767I$	0
$u = -1.184440 + 0.519711I$	$-8.18403 + 9.13195I$	0
$u = -1.184440 - 0.519711I$	$-8.18403 - 9.13195I$	0
$u = -0.054792 + 0.704044I$	$-2.00051 - 1.86805I$	$-1.34178 + 4.37957I$
$u = -0.054792 - 0.704044I$	$-2.00051 + 1.86805I$	$-1.34178 - 4.37957I$
$u = 1.183790 + 0.522761I$	$-7.6480 - 15.3506I$	0
$u = 1.183790 - 0.522761I$	$-7.6480 + 15.3506I$	0
$u = -0.281349 + 0.627967I$	$-3.03701 - 2.14947I$	$2.22194 + 2.48741I$
$u = -0.281349 - 0.627967I$	$-3.03701 + 2.14947I$	$2.22194 - 2.48741I$
$u = -0.440598 + 0.299753I$	$1.125240 - 0.112962I$	$9.20316 + 0.37924I$
$u = -0.440598 - 0.299753I$	$1.125240 + 0.112962I$	$9.20316 - 0.37924I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{74}+39u^{73}+\cdots+3u+1$
c_2, c_5	$u^{74}+u^{73}+\cdots-u+1$
c_3, c_{10}	$u^{74}+u^{73}+\cdots+u+1$
c_4, c_7	$u^{74}-7u^{73}+\cdots-39u+5$
c_6, c_{12}	$u^{74}+3u^{73}+\cdots+91u+39$
c_8, c_9, c_{11}	$u^{74}-19u^{73}+\cdots-3u+1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{74} - 7y^{73} + \cdots - 3y + 1$
c_2, c_5	$y^{74} - 39y^{73} + \cdots - 3y + 1$
c_3, c_{10}	$y^{74} - 19y^{73} + \cdots - 3y + 1$
c_4, c_7	$y^{74} + 37y^{73} + \cdots + 2209y + 25$
c_6, c_{12}	$y^{74} + 53y^{73} + \cdots + 25961y + 1521$
c_8, c_9, c_{11}	$y^{74} + 73y^{73} + \cdots + 5y + 1$