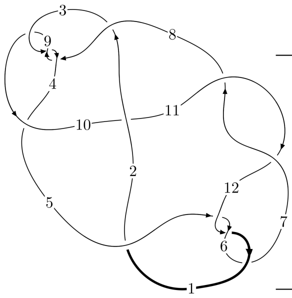
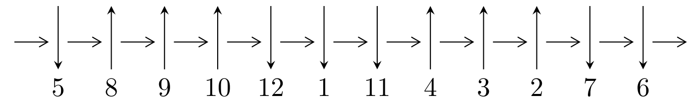
$12a_{1277}$ ($K12a_{1277}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{60} + u^{59} + \cdots - 2u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 60 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. $I^u_1 = \langle u^{60} + u^{59} + \cdots - 2u + 1\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{19} - 8u^{17} + 26u^{15} - 40u^{13} + 19u^{11} + 24u^9 - 30u^7 + 9u^3 \\ u^{19} - 7u^{17} + 20u^{15} - 27u^{13} + 11u^{11} + 13u^9 - 14u^7 + 3u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{15} - 6u^{13} + 14u^{11} - 14u^9 + 2u^7 + 6u^5 - 4u^3 + 2u \\ -u^{17} + 7u^{15} - 19u^{13} + 22u^{11} - 3u^9 - 14u^7 + 6u^5 + 2u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{28} - 11u^{26} + \cdots + u^2 + 1 \\ -u^{30} + 12u^{28} + \cdots + 8u^4 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{55} - 22u^{53} + \cdots - 4u^3 + 2u \\ u^{55} - 21u^{53} + \cdots + 4u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{58} - 92u^{56} + \cdots + 28u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{11}	$u^{60} + 3u^{59} + \cdots + 2u + 1$
c_2, c_4	$u^{60} - u^{59} + \cdots - 30u + 53$
c_3, c_8, c_9	$u^{60} + u^{59} + \cdots + 3u^2 + 1$
c_5, c_6, c_{12}	$u^{60} - u^{59} + \cdots + 2u + 1$
c_{10}	$u^{60} - 7u^{59} + \cdots + 418u + 121$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{11}	$y^{60} + 61y^{59} + \cdots - 34y + 1$
c_2, c_4	$y^{60} - 43y^{59} + \cdots + 30370y + 2809$
c_3, c_8, c_9	$y^{60} + 49y^{59} + \cdots + 6y + 1$
c_5, c_6, c_{12}	$y^{60} - 47y^{59} + \cdots + 6y + 1$
c_{10}	$y^{60} - 19y^{59} + \cdots + 581526y + 14641$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.952891 + 0.114591I$	$-1.63134 - 3.97089I$	$0. + 3.95693I$
$u = \quad 0.952891 - 0.114591I$	$-1.63134 + 3.97089I$	$0. - 3.95693I$
$u = -0.913578$	2.26750	4.34250
$u = -0.046410 + 0.879087I$	$11.14760 + 5.09122I$	$7.88188 - 3.54555I$
$u = -0.046410 - 0.879087I$	$11.14760 - 5.09122I$	$7.88188 + 3.54555I$
$u = \quad 0.036027 + 0.879552I$	$7.90629 - 0.72735I$	$4.83751 - 0.28515I$
$u = \quad 0.036027 - 0.879552I$	$7.90629 + 0.72735I$	$4.83751 + 0.28515I$
$u = \quad 0.054075 + 0.877605I$	$6.64512 - 9.38838I$	$3.45721 + 5.82134I$
$u = \quad 0.054075 - 0.877605I$	$6.64512 + 9.38838I$	$3.45721 - 5.82134I$
$u = \quad 0.014493 + 0.848975I$	$5.96433 - 1.64461I$	$4.63229 + 3.99521I$
$u = \quad 0.014493 - 0.848975I$	$5.96433 + 1.64461I$	$4.63229 - 3.99521I$
$u = -0.039777 + 0.829212I$	$0.36934 + 3.43260I$	$-0.37711 - 3.47540I$
$u = -0.039777 - 0.829212I$	$0.36934 - 3.43260I$	$-0.37711 + 3.47540I$
$u = \quad 1.261800 + 0.016743I$	$-2.82969 - 0.00473I$	0
$u = \quad 1.261800 - 0.016743I$	$-2.82969 + 0.00473I$	0
$u = -1.277440 + 0.123654I$	$-4.34670 + 2.46287I$	0
$u = -1.277440 - 0.123654I$	$-4.34670 - 2.46287I$	0
$u = -1.237020 + 0.366524I$	$-3.32294 + 0.86956I$	0
$u = -1.237020 - 0.366524I$	$-3.32294 - 0.86956I$	0
$u = -1.277970 + 0.198182I$	$-4.03371 + 1.65180I$	0
$u = -1.277970 - 0.198182I$	$-4.03371 - 1.65180I$	0
$u = \quad 1.226230 + 0.424129I$	$3.02962 + 4.73104I$	0
$u = \quad 1.226230 - 0.424129I$	$3.02962 - 4.73104I$	0
$u = -1.234400 + 0.423787I$	$7.47969 - 0.43024I$	0
$u = -1.234400 - 0.423787I$	$7.47969 + 0.43024I$	0
$u = \quad 1.244470 + 0.422086I$	$4.17054 - 3.92945I$	0
$u = \quad 1.244470 - 0.422086I$	$4.17054 + 3.92945I$	0
$u = \quad 1.260890 + 0.389342I$	$2.10105 - 2.79905I$	0
$u = \quad 1.260890 - 0.389342I$	$2.10105 + 2.79905I$	0
$u = -1.323890 + 0.043080I$	$-7.13062 - 3.25794I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.323890 - 0.043080I$	$-7.13062 + 3.25794I$	0
$u = \ \ 1.313090 + 0.188578I$	$-0.90503 - 5.42632I$	0
$u = \ \ 1.313090 - 0.188578I$	$-0.90503 + 5.42632I$	0
$u = \ \ 1.325800 + 0.121610I$	$-10.07350 - 3.06520I$	0
$u = \ \ 1.325800 - 0.121610I$	$-10.07350 + 3.06520I$	0
$u = -1.284320 + 0.388965I$	$1.92305 + 6.08834I$	0
$u = -1.284320 - 0.388965I$	$1.92305 - 6.08834I$	0
$u = -1.329320 + 0.183577I$	$-5.43159 + 9.36207I$	0
$u = -1.329320 - 0.183577I$	$-5.43159 - 9.36207I$	0
$u = \ \ 1.300190 + 0.374913I$	$-3.81244 - 7.76500I$	0
$u = \ \ 1.300190 - 0.374913I$	$-3.81244 + 7.76500I$	0
$u = -1.303200 + 0.407332I$	$3.73023 + 5.33731I$	0
$u = -1.303200 - 0.407332I$	$3.73023 - 5.33731I$	0
$u = \ \ 1.310460 + 0.405153I$	$6.91172 - 9.69308I$	0
$u = \ \ 1.310460 - 0.405153I$	$6.91172 + 9.69308I$	0
$u = -1.315300 + 0.402754I$	$2.3668 + 13.9776I$	0
$u = -1.315300 - 0.402754I$	$2.3668 - 13.9776I$	0
$u = \ \ 0.273216 + 0.546706I$	$-0.44946 - 6.81706I$	$1.30973 + 8.19836I$
$u = \ \ 0.273216 - 0.546706I$	$-0.44946 + 6.81706I$	$1.30973 - 8.19836I$
$u = \ \ 0.576906 + 0.164637I$	$-1.68593 + 3.81309I$	$-2.04506 - 2.17343I$
$u = \ \ 0.576906 - 0.164637I$	$-1.68593 - 3.81309I$	$-2.04506 + 2.17343I$
$u = -0.236153 + 0.549892I$	$3.88620 + 2.83793I$	$6.61988 - 5.74267I$
$u = -0.236153 - 0.549892I$	$3.88620 - 2.83793I$	$6.61988 + 5.74267I$
$u = \ \ 0.181913 + 0.565297I$	$0.428112 + 1.050190I$	$3.41996 + 1.38655I$
$u = \ \ 0.181913 - 0.565297I$	$0.428112 - 1.050190I$	$3.41996 - 1.38655I$
$u = -0.591588$	2.32006	2.71690
$u = -0.345085 + 0.381413I$	$-4.98300 + 1.34382I$	$-4.86472 - 5.06327I$
$u = -0.345085 - 0.381413I$	$-4.98300 - 1.34382I$	$-4.86472 + 5.06327I$
$u = \ \ 0.170422 + 0.337157I$	$0.021675 - 0.773783I$	$0.67824 + 8.94296I$
$u = \ \ 0.170422 - 0.337157I$	$0.021675 + 0.773783I$	$0.67824 - 8.94296I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{11}	$u^{60} + 3u^{59} + \cdots + 2u + 1$
c_2, c_4	$u^{60} - u^{59} + \cdots - 30u + 53$
c_3, c_8, c_9	$u^{60} + u^{59} + \cdots + 3u^2 + 1$
c_5, c_6, c_{12}	$u^{60} - u^{59} + \cdots + 2u + 1$
c_{10}	$u^{60} - 7u^{59} + \cdots + 418u + 121$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_{11}	$y^{60} + 61y^{59} + \cdots - 34y + 1$
c_2, c_4	$y^{60} - 43y^{59} + \cdots + 30370y + 2809$
c_3, c_8, c_9	$y^{60} + 49y^{59} + \cdots + 6y + 1$
c_5, c_6, c_{12}	$y^{60} - 47y^{59} + \cdots + 6y + 1$
c_{10}	$y^{60} - 19y^{59} + \cdots + 581526y + 14641$