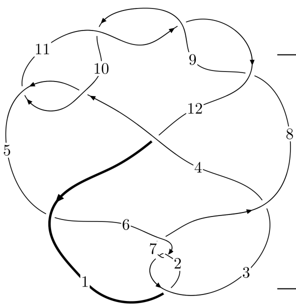
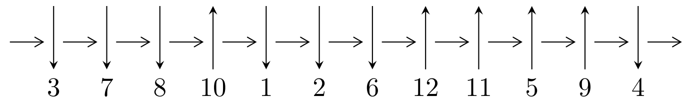
$12a_{0545}$ ($K12a_{0545}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{71} - u^{70} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 71 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. $I_1^u = \langle u^{71} - u^{70} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ u^{10} - 2u^8 + 3u^6 - 4u^4 + u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{17} + 2u^{15} - 7u^{13} + 10u^{11} - 15u^9 + 14u^7 - 10u^5 + 4u^3 - u \\ -u^{19} + 3u^{17} - 8u^{15} + 15u^{13} - 19u^{11} + 21u^9 - 14u^7 + 6u^5 - u^3 + u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -u^{15} + 2u^{13} - 6u^{11} + 8u^9 - 10u^7 + 8u^5 - 4u^3 \\ u^{15} - u^{13} + 4u^{11} - 3u^9 + 4u^7 - 2u^5 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{42} - 5u^{40} + \cdots - u^2 + 1 \\ u^{44} - 6u^{42} + \cdots - 12u^6 + 3u^4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{40} + 5u^{38} + \cdots - 2u^2 + 1 \\ u^{40} - 4u^{38} + \cdots - 6u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{69} - 4u^{68} + \cdots - 8u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{71} + 25u^{70} + \cdots + 4u + 1$
c_2, c_6	$u^{71} - u^{70} + \cdots - 2u + 1$
c_3, c_5	$u^{71} + u^{70} + \cdots - 406u + 97$
c_4, c_{10}	$u^{71} + u^{70} + \cdots + 2u + 1$
c_8, c_9, c_{11}	$u^{71} - 17u^{70} + \cdots + 4u - 1$
c_{12}	$u^{71} - 7u^{70} + \cdots + 13008u - 6545$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{71} + 43y^{70} + \cdots - 20y - 1$
c_2, c_6	$y^{71} - 25y^{70} + \cdots + 4y - 1$
c_3, c_5	$y^{71} - 53y^{70} + \cdots + 348748y - 9409$
c_4, c_{10}	$y^{71} - 17y^{70} + \cdots + 4y - 1$
c_8, c_9, c_{11}	$y^{71} + 75y^{70} + \cdots - 20y - 1$
c_{12}	$y^{71} - 25y^{70} + \cdots + 292384964y - 42837025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.888190 + 0.459117I$	$-1.18643 + 1.35824I$	0
$u = -0.888190 - 0.459117I$	$-1.18643 - 1.35824I$	0
$u = -0.932507 + 0.429015I$	$-4.68486 - 4.91394I$	$0. + 6.57071I$
$u = -0.932507 - 0.429015I$	$-4.68486 + 4.91394I$	$0. - 6.57071I$
$u = 0.948249 + 0.398634I$	$1.14717 + 5.67185I$	$0. - 6.12958I$
$u = 0.948249 - 0.398634I$	$1.14717 - 5.67185I$	$0. + 6.12958I$
$u = 0.929272 + 0.279545I$	$5.07424 + 5.34453I$	$4.69472 - 7.85817I$
$u = 0.929272 - 0.279545I$	$5.07424 - 5.34453I$	$4.69472 + 7.85817I$
$u = 0.880577 + 0.406341I$	$0.12671 + 3.47465I$	$-0.94229 - 7.22764I$
$u = 0.880577 - 0.406341I$	$0.12671 - 3.47465I$	$-0.94229 + 7.22764I$
$u = -0.924346 + 0.256884I$	$5.20330 + 0.14255I$	$5.40218 + 1.47024I$
$u = -0.924346 - 0.256884I$	$5.20330 - 0.14255I$	$5.40218 - 1.47024I$
$u = -0.957821 + 0.407226I$	$-0.08969 - 11.18150I$	$0. + 10.67896I$
$u = -0.957821 - 0.407226I$	$-0.08969 + 11.18150I$	$0. - 10.67896I$
$u = 0.930800 + 0.073679I$	$1.75758 - 5.86547I$	$1.99827 + 4.58778I$
$u = 0.930800 - 0.073679I$	$1.75758 + 5.86547I$	$1.99827 - 4.58778I$
$u = -0.909390 + 0.093581I$	$2.83229 + 0.49914I$	$4.26447 + 0.53477I$
$u = -0.909390 - 0.093581I$	$2.83229 - 0.49914I$	$4.26447 - 0.53477I$
$u = 0.904521$	-2.42702	-3.10240
$u = 0.795537 + 0.390577I$	$0.09323 + 3.30566I$	$-3.55215 - 8.38260I$
$u = 0.795537 - 0.390577I$	$0.09323 - 3.30566I$	$-3.55215 + 8.38260I$
$u = 0.848471 + 0.801057I$	$-1.23479 + 2.37348I$	0
$u = 0.848471 - 0.801057I$	$-1.23479 - 2.37348I$	0
$u = -0.838168 + 0.814555I$	$-1.68823 + 3.12709I$	0
$u = -0.838168 - 0.814555I$	$-1.68823 - 3.12709I$	0
$u = -0.791932 + 0.194909I$	$1.33858 - 0.61168I$	$4.64664 + 0.66052I$
$u = -0.791932 - 0.194909I$	$1.33858 + 0.61168I$	$4.64664 - 0.66052I$
$u = 0.898302 + 0.814123I$	$-4.44129 + 3.04587I$	0
$u = 0.898302 - 0.814123I$	$-4.44129 - 3.04587I$	0
$u = 0.931885 + 0.786659I$	$-0.98086 + 3.59426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.931885 - 0.786659I$	$-0.98086 - 3.59426I$	0
$u = -0.842926 + 0.883227I$	$-7.08254 + 3.13913I$	0
$u = -0.842926 - 0.883227I$	$-7.08254 - 3.13913I$	0
$u = -0.883855 + 0.842412I$	$-7.07816 - 0.45998I$	0
$u = -0.883855 - 0.842412I$	$-7.07816 + 0.45998I$	0
$u = \quad 0.841752 + 0.887983I$	$-8.44517 - 8.69967I$	0
$u = \quad 0.841752 - 0.887983I$	$-8.44517 + 8.69967I$	0
$u = -0.859891 + 0.876442I$	$-7.92925 + 0.36652I$	0
$u = -0.859891 - 0.876442I$	$-7.92925 - 0.36652I$	0
$u = -0.941693 + 0.791316I$	$-1.37335 - 9.14747I$	0
$u = -0.941693 - 0.791316I$	$-1.37335 + 9.14747I$	0
$u = \quad 0.853282 + 0.887433I$	$-13.09820 - 2.09748I$	0
$u = \quad 0.853282 - 0.887433I$	$-13.09820 + 2.09748I$	0
$u = \quad 0.866419 + 0.882936I$	$-9.56950 + 4.65253I$	0
$u = \quad 0.866419 - 0.882936I$	$-9.56950 - 4.65253I$	0
$u = -0.923308 + 0.829910I$	$-6.95620 - 5.76655I$	0
$u = -0.923308 - 0.829910I$	$-6.95620 + 5.76655I$	0
$u = -0.414794 + 0.619267I$	$-2.66917 - 5.34133I$	$-7.85683 + 5.45983I$
$u = -0.414794 - 0.619267I$	$-2.66917 + 5.34133I$	$-7.85683 - 5.45983I$
$u = -0.958060 + 0.835699I$	$-7.61845 - 6.71466I$	0
$u = -0.958060 - 0.835699I$	$-7.61845 + 6.71466I$	0
$u = \quad 0.957851 + 0.843793I$	$-9.27928 + 1.74172I$	0
$u = \quad 0.957851 - 0.843793I$	$-9.27928 - 1.74172I$	0
$u = -0.971706 + 0.830064I$	$-6.67568 - 9.48827I$	0
$u = -0.971706 - 0.830064I$	$-6.67568 + 9.48827I$	0
$u = -0.349192 + 0.628699I$	$-6.51842 + 1.01634I$	$-11.98104 - 0.35855I$
$u = -0.349192 - 0.628699I$	$-6.51842 - 1.01634I$	$-11.98104 + 0.35855I$
$u = \quad 0.968360 + 0.838404I$	$-12.7333 + 8.4874I$	0
$u = \quad 0.968360 - 0.838404I$	$-12.7333 - 8.4874I$	0
$u = \quad 0.975008 + 0.831934I$	$-8.0235 + 15.0692I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.975008 - 0.831934I$	$-8.0235 - 15.0692I$	0
$u = 0.404670 + 0.575073I$	$-1.350410 + 0.201542I$	$-5.94284 - 0.35775I$
$u = 0.404670 - 0.575073I$	$-1.350410 - 0.201542I$	$-5.94284 + 0.35775I$
$u = -0.294052 + 0.637960I$	$-2.17798 + 7.35569I$	$-7.13193 - 5.37841I$
$u = -0.294052 - 0.637960I$	$-2.17798 - 7.35569I$	$-7.13193 + 5.37841I$
$u = 0.291469 + 0.612077I$	$-0.90037 - 1.95033I$	$-5.15826 + 0.68407I$
$u = 0.291469 - 0.612077I$	$-0.90037 + 1.95033I$	$-5.15826 - 0.68407I$
$u = 0.377205 + 0.366640I$	$-1.057850 - 0.229849I$	$-9.46177 + 0.74997I$
$u = 0.377205 - 0.366640I$	$-1.057850 + 0.229849I$	$-9.46177 - 0.74997I$
$u = 0.030464 + 0.507917I$	$2.51540 - 2.64232I$	$-2.22204 + 3.38040I$
$u = 0.030464 - 0.507917I$	$2.51540 + 2.64232I$	$-2.22204 - 3.38040I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{71} + 25u^{70} + \cdots + 4u + 1$
c_2, c_6	$u^{71} - u^{70} + \cdots - 2u + 1$
c_3, c_5	$u^{71} + u^{70} + \cdots - 406u + 97$
c_4, c_{10}	$u^{71} + u^{70} + \cdots + 2u + 1$
c_8, c_9, c_{11}	$u^{71} - 17u^{70} + \cdots + 4u - 1$
c_{12}	$u^{71} - 7u^{70} + \cdots + 13008u - 6545$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{71} + 43y^{70} + \cdots - 20y - 1$
c_2, c_6	$y^{71} - 25y^{70} + \cdots + 4y - 1$
c_3, c_5	$y^{71} - 53y^{70} + \cdots + 348748y - 9409$
c_4, c_{10}	$y^{71} - 17y^{70} + \cdots + 4y - 1$
c_8, c_9, c_{11}	$y^{71} + 75y^{70} + \cdots - 20y - 1$
c_{12}	$y^{71} - 25y^{70} + \cdots + 292384964y - 42837025$