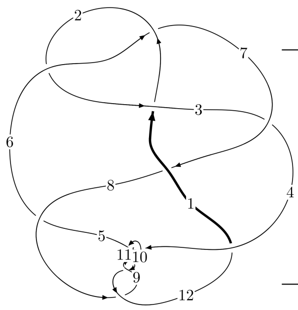
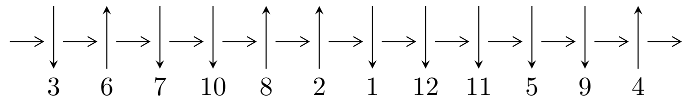
$12a_{0247}$ ($K12a_{0247}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{81} + u^{80} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 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. $I_1^u = \langle u^{81} + u^{80} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^8 + u^6 + u^4 + 1 \\ u^{10} + 2u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{16} + 3u^{14} + 5u^{12} + 4u^{10} + 3u^8 + 2u^6 + 2u^4 + 1 \\ u^{18} + 4u^{16} + 9u^{14} + 12u^{12} + 11u^{10} + 6u^8 + 2u^6 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{11} - 2u^9 - 2u^7 + u^3 \\ u^{11} + 3u^9 + 4u^7 + 3u^5 + u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{32} - 7u^{30} + \cdots + 2u^4 + 1 \\ u^{32} + 8u^{30} + \cdots + 4u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{53} - 12u^{51} + \cdots + 2u^3 + u \\ u^{53} + 13u^{51} + \cdots + 3u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{74} - 17u^{72} + \cdots + u^2 + 1 \\ u^{74} + 18u^{72} + \cdots + 8u^4 + 3u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{80} - 4u^{79} + \cdots - 8u^2 - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{81} + 39u^{80} + \cdots + u - 1$
c_2, c_6	$u^{81} - u^{80} + \cdots + u + 1$
c_3	$u^{81} + u^{80} + \cdots - 277u + 65$
c_4, c_{10}	$u^{81} - u^{80} + \cdots + u + 1$
c_5, c_{12}	$u^{81} + 7u^{80} + \cdots + 2761u + 101$
c_7	$u^{81} - 5u^{80} + \cdots - 11u + 3$
c_8, c_9, c_{11}	$u^{81} + 21u^{80} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{81} + 7y^{80} + \cdots + 17y - 1$
c_2, c_6	$y^{81} + 39y^{80} + \cdots + y - 1$
c_3	$y^{81} - 25y^{80} + \cdots - 421431y - 4225$
c_4, c_{10}	$y^{81} - 21y^{80} + \cdots + y - 1$
c_5, c_{12}	$y^{81} + 51y^{80} + \cdots + 2274161y - 10201$
c_7	$y^{81} + 3y^{80} + \cdots - 563y - 9$
c_8, c_9, c_{11}	$y^{81} + 79y^{80} + \cdots + 9y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.330756 + 0.928246I$	$-1.98935 - 0.55410I$	0
$u = 0.330756 - 0.928246I$	$-1.98935 + 0.55410I$	0
$u = 0.555231 + 0.887447I$	$4.58988 - 4.17415I$	0
$u = 0.555231 - 0.887447I$	$4.58988 + 4.17415I$	0
$u = -0.550578 + 0.902148I$	$4.97491 - 1.96297I$	0
$u = -0.550578 - 0.902148I$	$4.97491 + 1.96297I$	0
$u = 0.021905 + 0.940885I$	$4.01374 - 3.02957I$	$-4.00000 + 2.75966I$
$u = 0.021905 - 0.940885I$	$4.01374 + 3.02957I$	$-4.00000 - 2.75966I$
$u = 0.631971 + 0.668959I$	$5.23666 + 8.85428I$	$0.25550 - 7.99532I$
$u = 0.631971 - 0.668959I$	$5.23666 - 8.85428I$	$0.25550 + 7.99532I$
$u = 0.483592 + 0.777442I$	$-2.06562 - 0.44729I$	$-7.29217 + 1.06967I$
$u = 0.483592 - 0.777442I$	$-2.06562 + 0.44729I$	$-7.29217 - 1.06967I$
$u = -0.474582 + 0.979170I$	$-0.31365 - 2.38173I$	0
$u = -0.474582 - 0.979170I$	$-0.31365 + 2.38173I$	0
$u = -0.630050 + 0.657774I$	$5.69407 - 2.69657I$	$1.28923 + 3.02747I$
$u = -0.630050 - 0.657774I$	$5.69407 + 2.69657I$	$1.28923 - 3.02747I$
$u = 0.580245 + 0.690845I$	$-1.70309 + 4.76740I$	$-5.47059 - 8.11597I$
$u = 0.580245 - 0.690845I$	$-1.70309 - 4.76740I$	$-5.47059 + 8.11597I$
$u = 0.446078 + 1.061030I$	$-3.47656 + 3.43189I$	0
$u = 0.446078 - 1.061030I$	$-3.47656 - 3.43189I$	0
$u = -0.519943 + 1.034750I$	$0.30103 - 3.37806I$	0
$u = -0.519943 - 1.034750I$	$0.30103 + 3.37806I$	0
$u = 0.285545 + 1.130800I$	$-5.01539 - 0.16721I$	0
$u = 0.285545 - 1.130800I$	$-5.01539 + 0.16721I$	0
$u = -0.540133 + 0.631709I$	$0.70198 - 1.71974I$	$1.35755 + 3.78809I$
$u = -0.540133 - 0.631709I$	$0.70198 + 1.71974I$	$1.35755 - 3.78809I$
$u = -0.771211 + 0.309758I$	$3.47094 + 10.85050I$	$-1.26204 - 7.02651I$
$u = -0.771211 - 0.309758I$	$3.47094 - 10.85050I$	$-1.26204 + 7.02651I$
$u = 0.249724 + 1.142850I$	$-0.48830 - 1.78736I$	0
$u = 0.249724 - 1.142850I$	$-0.48830 + 1.78736I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.683944 + 0.470341I$	$8.62833 - 2.03896I$	$3.69559 + 2.22375I$
$u = -0.683944 - 0.470341I$	$8.62833 + 2.03896I$	$3.69559 - 2.22375I$
$u = \quad 0.689016 + 0.459096I$	$8.57475 - 4.19689I$	$3.50201 + 3.13868I$
$u = \quad 0.689016 - 0.459096I$	$8.57475 + 4.19689I$	$3.50201 - 3.13868I$
$u = \quad 0.765943 + 0.314154I$	$4.01700 - 4.68092I$	$-0.19311 + 2.19687I$
$u = \quad 0.765943 - 0.314154I$	$4.01700 + 4.68092I$	$-0.19311 - 2.19687I$
$u = -0.250936 + 1.149570I$	$-1.05501 + 7.90870I$	0
$u = -0.250936 - 1.149570I$	$-1.05501 - 7.90870I$	0
$u = -0.275321 + 1.148290I$	$-7.91963 + 3.33484I$	0
$u = -0.275321 - 1.148290I$	$-7.91963 - 3.33484I$	0
$u = \quad 0.333976 + 1.136910I$	$-1.43197 + 1.29517I$	0
$u = \quad 0.333976 - 1.136910I$	$-1.43197 - 1.29517I$	0
$u = -0.301260 + 1.146810I$	$-8.21875 - 2.62295I$	0
$u = -0.301260 - 1.146810I$	$-8.21875 + 2.62295I$	0
$u = -0.755307 + 0.286115I$	$-3.56728 + 6.37685I$	$-6.68349 - 6.54893I$
$u = -0.755307 - 0.286115I$	$-3.56728 - 6.37685I$	$-6.68349 + 6.54893I$
$u = -0.330768 + 1.146950I$	$-1.97419 - 7.22380I$	0
$u = -0.330768 - 1.146950I$	$-1.97419 + 7.22380I$	0
$u = -0.569017 + 1.049970I$	$6.92763 - 2.80448I$	0
$u = -0.569017 - 1.049970I$	$6.92763 + 2.80448I$	0
$u = \quad 0.569598 + 1.056390I$	$6.82301 + 9.05454I$	0
$u = \quad 0.569598 - 1.056390I$	$6.82301 - 9.05454I$	0
$u = \quad 0.529876 + 1.077230I$	$-0.50944 + 7.02202I$	0
$u = \quad 0.529876 - 1.077230I$	$-0.50944 - 7.02202I$	0
$u = \quad 0.728882 + 0.290469I$	$-0.81550 - 3.12081I$	$-0.65919 + 2.66104I$
$u = \quad 0.728882 - 0.290469I$	$-0.81550 + 3.12081I$	$-0.65919 - 2.66104I$
$u = -0.732942 + 0.254989I$	$-4.07021 + 0.53547I$	$-8.23201 + 1.09852I$
$u = -0.732942 - 0.254989I$	$-4.07021 - 0.53547I$	$-8.23201 - 1.09852I$
$u = \quad 0.512335 + 1.126340I$	$-0.22713 + 6.52430I$	0
$u = \quad 0.512335 - 1.126340I$	$-0.22713 - 6.52430I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.578778 + 0.484061I$	$1.91397 - 1.02951I$	$2.98287 + 4.00023I$
$u = -0.578778 - 0.484061I$	$1.91397 + 1.02951I$	$2.98287 - 4.00023I$
$u = -0.515985 + 1.136090I$	$-0.720055 - 0.730088I$	0
$u = -0.515985 - 1.136090I$	$-0.720055 + 0.730088I$	0
$u = 0.546823 + 1.128660I$	$-3.24659 + 7.96298I$	0
$u = 0.546823 - 1.128660I$	$-3.24659 - 7.96298I$	0
$u = -0.537260 + 1.136870I$	$-6.61921 - 5.33206I$	0
$u = -0.537260 - 1.136870I$	$-6.61921 + 5.33206I$	0
$u = -0.708940 + 0.201872I$	$1.93893 - 3.88483I$	$-3.08441 + 2.98468I$
$u = -0.708940 - 0.201872I$	$1.93893 + 3.88483I$	$-3.08441 - 2.98468I$
$u = -0.551751 + 1.137250I$	$-6.05282 - 11.29930I$	0
$u = -0.551751 - 1.137250I$	$-6.05282 + 11.29930I$	0
$u = 0.563166 + 1.133120I$	$1.61264 + 9.68341I$	0
$u = 0.563166 - 1.133120I$	$1.61264 - 9.68341I$	0
$u = 0.629075 + 0.379382I$	$1.50547 - 2.46200I$	$0.64686 + 5.57955I$
$u = 0.629075 - 0.379382I$	$1.50547 + 2.46200I$	$0.64686 - 5.57955I$
$u = -0.563360 + 1.136020I$	$1.0430 - 15.8655I$	0
$u = -0.563360 - 1.136020I$	$1.0430 + 15.8655I$	0
$u = 0.684512 + 0.197850I$	$2.38107 - 1.99261I$	$-2.22631 + 2.45378I$
$u = 0.684512 - 0.197850I$	$2.38107 + 1.99261I$	$-2.22631 - 2.45378I$
$u = 0.407633$	-1.06455	-9.20770

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{81} + 39u^{80} + \cdots + u - 1$
c_2, c_6	$u^{81} - u^{80} + \cdots + u + 1$
c_3	$u^{81} + u^{80} + \cdots - 277u + 65$
c_4, c_{10}	$u^{81} - u^{80} + \cdots + u + 1$
c_5, c_{12}	$u^{81} + 7u^{80} + \cdots + 2761u + 101$
c_7	$u^{81} - 5u^{80} + \cdots - 11u + 3$
c_8, c_9, c_{11}	$u^{81} + 21u^{80} + \cdots + u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{81} + 7y^{80} + \cdots + 17y - 1$
c_2, c_6	$y^{81} + 39y^{80} + \cdots + y - 1$
c_3	$y^{81} - 25y^{80} + \cdots - 421431y - 4225$
c_4, c_{10}	$y^{81} - 21y^{80} + \cdots + y - 1$
c_5, c_{12}	$y^{81} + 51y^{80} + \cdots + 2274161y - 10201$
c_7	$y^{81} + 3y^{80} + \cdots - 563y - 9$
c_8, c_9, c_{11}	$y^{81} + 79y^{80} + \cdots + 9y - 1$