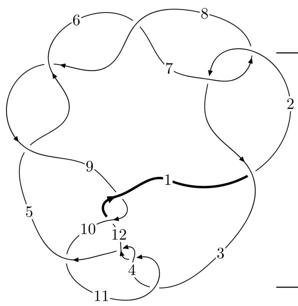
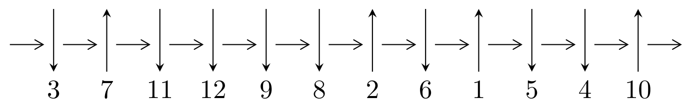
$12a_{0682}$ ($K12a_{0682}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{53} + u^{52} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I_1^u = \langle u^{53} + u^{52} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{12} - u^{10} - 3u^8 - 2u^6 + u^2 + 1 \\ -u^{14} - 2u^{12} - 5u^{10} - 6u^8 - 6u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^6 + u^4 + 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{26} + 3u^{24} + \cdots + 3u^2 + 1 \\ u^{26} + 2u^{24} + \cdots - u^6 - u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{21} + 2u^{19} + 7u^{17} + 10u^{15} + 14u^{13} + 12u^{11} + 5u^9 - 2u^7 - 5u^5 - 2u^3 - u \\ u^{23} + 3u^{21} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{50} - 5u^{48} + \cdots + 3u^2 + 1 \\ -u^{52} - 6u^{50} + \cdots - 26u^6 - 7u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{51} - 4u^{50} + \cdots - 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8	$u^{53} + 11u^{52} + \cdots - 5u - 1$
c_2, c_7	$u^{53} + u^{52} + \cdots + u + 1$
c_3, c_4, c_{11}	$u^{53} + u^{52} + \cdots + 3u + 1$
c_9, c_{12}	$u^{53} + 9u^{52} + \cdots + 857u + 89$
c_{10}	$u^{53} - 3u^{52} + \cdots - 179u - 105$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8	$y^{53} + 63y^{52} + \cdots - 13y - 1$
c_2, c_7	$y^{53} + 11y^{52} + \cdots - 5y - 1$
c_3, c_4, c_{11}	$y^{53} - 49y^{52} + \cdots - 5y - 1$
c_9, c_{12}	$y^{53} + 35y^{52} + \cdots - 196313y - 7921$
c_{10}	$y^{53} - 13y^{52} + \cdots + 120871y - 11025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.457945 + 0.892866I$	$-1.71286 + 2.75389I$	$-6.34294 - 3.07234I$
$u = 0.457945 - 0.892866I$	$-1.71286 - 2.75389I$	$-6.34294 + 3.07234I$
$u = 0.572730 + 0.813144I$	$-1.00719 + 4.98869I$	$-3.18777 - 7.70135I$
$u = 0.572730 - 0.813144I$	$-1.00719 - 4.98869I$	$-3.18777 + 7.70135I$
$u = -0.429825 + 0.920962I$	$-7.86744 - 0.15769I$	$-10.16108 + 3.00425I$
$u = -0.429825 - 0.920962I$	$-7.86744 + 0.15769I$	$-10.16108 - 3.00425I$
$u = -0.490682 + 0.914221I$	$-1.20646 - 6.61760I$	$-4.55514 + 9.49134I$
$u = -0.490682 - 0.914221I$	$-1.20646 + 6.61760I$	$-4.55514 - 9.49134I$
$u = 0.493153 + 0.936516I$	$-7.05643 + 9.90285I$	$-8.45292 - 8.93815I$
$u = 0.493153 - 0.936516I$	$-7.05643 - 9.90285I$	$-8.45292 + 8.93815I$
$u = -0.036116 + 0.938626I$	$-10.01760 - 4.89958I$	$-13.7857 + 3.6935I$
$u = -0.036116 - 0.938626I$	$-10.01760 + 4.89958I$	$-13.7857 - 3.6935I$
$u = -0.575852 + 0.733397I$	$2.95450 - 2.17059I$	$3.89779 + 4.69702I$
$u = -0.575852 - 0.733397I$	$2.95450 + 2.17059I$	$3.89779 - 4.69702I$
$u = 0.023560 + 0.907629I$	$-4.02491 + 1.91090I$	$-10.66650 - 3.96746I$
$u = 0.023560 - 0.907629I$	$-4.02491 - 1.91090I$	$-10.66650 + 3.96746I$
$u = 0.610238 + 0.641474I$	$-0.472073 - 0.554107I$	$-1.056775 + 0.178286I$
$u = 0.610238 - 0.641474I$	$-0.472073 + 0.554107I$	$-1.056775 - 0.178286I$
$u = -0.217456 + 0.806943I$	$-4.96706 - 2.01723I$	$-11.79175 + 5.17722I$
$u = -0.217456 - 0.806943I$	$-4.96706 + 2.01723I$	$-11.79175 - 5.17722I$
$u = 0.661436 + 0.434620I$	$-5.46999 - 5.61580I$	$-4.48224 + 3.23992I$
$u = 0.661436 - 0.434620I$	$-5.46999 + 5.61580I$	$-4.48224 - 3.23992I$
$u = -0.618304 + 0.456294I$	$0.22206 + 2.44713I$	$-0.32336 - 3.63578I$
$u = -0.618304 - 0.456294I$	$0.22206 - 2.44713I$	$-0.32336 + 3.63578I$
$u = 0.876686 + 0.875322I$	$0.37975 + 3.02773I$	0
$u = 0.876686 - 0.875322I$	$0.37975 - 3.02773I$	0
$u = -0.890877 + 0.888837I$	$6.84069 - 0.89167I$	0
$u = -0.890877 - 0.888837I$	$6.84069 + 0.89167I$	0
$u = -0.907804 + 0.877338I$	$2.05866 + 6.62991I$	0
$u = -0.907804 - 0.877338I$	$2.05866 - 6.62991I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.903027 + 0.883843I$	$7.77793 - 3.11403I$	0
$u = \quad 0.903027 - 0.883843I$	$7.77793 + 3.11403I$	0
$u = \quad 0.847469 + 0.952356I$	$0.13857 + 3.36391I$	0
$u = \quad 0.847469 - 0.952356I$	$0.13857 - 3.36391I$	0
$u = -0.898144 + 0.916667I$	$8.05683 + 0.13889I$	0
$u = -0.898144 - 0.916667I$	$8.05683 - 0.13889I$	0
$u = -0.862668 + 0.953089I$	$6.63594 - 5.59402I$	0
$u = -0.862668 - 0.953089I$	$6.63594 + 5.59402I$	0
$u = \quad 0.891690 + 0.928721I$	$11.67710 + 3.29120I$	0
$u = \quad 0.891690 - 0.928721I$	$11.67710 - 3.29120I$	0
$u = -0.886770 + 0.940938I$	$7.97899 - 6.72566I$	0
$u = -0.886770 - 0.940938I$	$7.97899 + 6.72566I$	0
$u = \quad 0.866244 + 0.963279I$	$7.52338 + 9.64804I$	0
$u = \quad 0.866244 - 0.963279I$	$7.52338 - 9.64804I$	0
$u = -0.864545 + 0.969690I$	$1.76241 - 13.17230I$	0
$u = -0.864545 - 0.969690I$	$1.76241 + 13.17230I$	0
$u = -0.598640 + 0.307693I$	$-6.03882 - 3.60466I$	$-5.04712 + 3.30603I$
$u = -0.598640 - 0.307693I$	$-6.03882 + 3.60466I$	$-5.04712 - 3.30603I$
$u = \quad 0.498225 + 0.373224I$	$-0.283096 + 0.992412I$	$-1.65563 - 4.45703I$
$u = \quad 0.498225 - 0.373224I$	$-0.283096 - 0.992412I$	$-1.65563 + 4.45703I$
$u = \quad 0.297051 + 0.536713I$	$-0.193421 + 0.916328I$	$-4.23122 - 6.90314I$
$u = \quad 0.297051 - 0.536713I$	$-0.193421 - 0.916328I$	$-4.23122 + 6.90314I$
$u = -0.443543$	-2.70485	-1.55100

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8	$u^{53} + 11u^{52} + \cdots - 5u - 1$
c_2, c_7	$u^{53} + u^{52} + \cdots + u + 1$
c_3, c_4, c_{11}	$u^{53} + u^{52} + \cdots + 3u + 1$
c_9, c_{12}	$u^{53} + 9u^{52} + \cdots + 857u + 89$
c_{10}	$u^{53} - 3u^{52} + \cdots - 179u - 105$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8	$y^{53} + 63y^{52} + \cdots - 13y - 1$
c_2, c_7	$y^{53} + 11y^{52} + \cdots - 5y - 1$
c_3, c_4, c_{11}	$y^{53} - 49y^{52} + \cdots - 5y - 1$
c_9, c_{12}	$y^{53} + 35y^{52} + \cdots - 196313y - 7921$
c_{10}	$y^{53} - 13y^{52} + \cdots + 120871y - 11025$