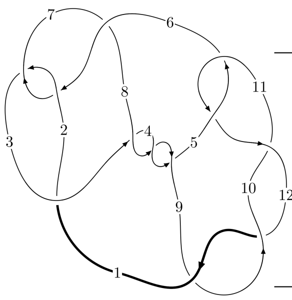
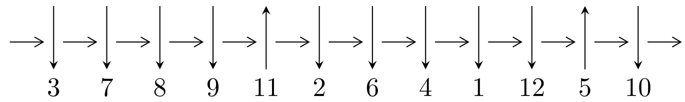
$12a_{0508}$ $(K12a_{0508})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{64} - u^{63} + \cdots - 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 64 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. $I_1^u = \langle u^{64} - u^{63} + \cdots - 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^8 + u^6 - u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{13} - 2u^{11} + 3u^9 - 2u^7 - u \\ u^{13} - 3u^{11} + 5u^9 - 6u^7 + 4u^5 - 3u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{18} - 3u^{16} + 6u^{14} - 7u^{12} + 5u^{10} - 3u^8 - u^2 + 1 \\ u^{18} - 4u^{16} + 9u^{14} - 14u^{12} + 15u^{10} - 14u^8 + 10u^6 - 6u^4 + 3u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{19} - 4u^{17} + 10u^{15} - 16u^{13} + 19u^{11} - 18u^9 + 14u^7 - 10u^5 + 5u^3 - 2u \\ u^{21} - 3u^{19} + \cdots - 3u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{36} + 7u^{34} + \cdots + u^2 + 1 \\ -u^{38} + 6u^{36} + \cdots + 6u^4 - u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{53} - 10u^{51} + \cdots + 8u^3 - 3u \\ u^{55} - 9u^{53} + \cdots - 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{62} + 44u^{60} + \cdots - 24u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{64} + 23u^{63} + \cdots + 20u^2 + 1$
c_2, c_6	$u^{64} - u^{63} + \cdots - 2u - 1$
c_3, c_4, c_8	$u^{64} + u^{63} + \cdots + 10u^2 - 25$
c_5, c_{11}	$u^{64} + u^{63} + \cdots - 2u - 1$
c_9, c_{10}, c_{12}	$u^{64} + 17u^{63} + \cdots - 20u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{64} + 37y^{63} + \cdots + 40y + 1$
c_2, c_6	$y^{64} - 23y^{63} + \cdots + 20y^2 + 1$
c_3, c_4, c_8	$y^{64} - 59y^{63} + \cdots - 500y + 625$
c_5, c_{11}	$y^{64} + 17y^{63} + \cdots - 20y^2 + 1$
c_9, c_{10}, c_{12}	$y^{64} + 61y^{63} + \cdots - 40y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.734158 + 0.668101I$	$1.43109 - 1.27456I$	$-5.99922 + 4.38526I$
$u = -0.734158 - 0.668101I$	$1.43109 + 1.27456I$	$-5.99922 - 4.38526I$
$u = 0.577379 + 0.799136I$	$2.16758 + 9.15664I$	$-5.96705 - 5.25155I$
$u = 0.577379 - 0.799136I$	$2.16758 - 9.15664I$	$-5.96705 + 5.25155I$
$u = -0.583021 + 0.792165I$	$2.76820 - 3.03900I$	$-4.88415 + 0.40129I$
$u = -0.583021 - 0.792165I$	$2.76820 + 3.03900I$	$-4.88415 - 0.40129I$
$u = 0.548606 + 0.780128I$	$-4.67791 + 4.46553I$	$-11.24364 - 4.14724I$
$u = 0.548606 - 0.780128I$	$-4.67791 - 4.46553I$	$-11.24364 + 4.14724I$
$u = -0.880732 + 0.573012I$	$-1.06214 + 2.24840I$	$-14.4188 - 2.9053I$
$u = -0.880732 - 0.573012I$	$-1.06214 - 2.24840I$	$-14.4188 + 2.9053I$
$u = 0.908597 + 0.273784I$	$2.57323 - 5.53278I$	$-10.06397 + 6.98986I$
$u = 0.908597 - 0.273784I$	$2.57323 + 5.53278I$	$-10.06397 - 6.98986I$
$u = 0.814938 + 0.667976I$	$2.49514 - 2.06773I$	$0. + 3.71877I$
$u = 0.814938 - 0.667976I$	$2.49514 + 2.06773I$	$0. - 3.71877I$
$u = -0.887915 + 0.310649I$	$2.77545 - 0.35472I$	$-9.35777 - 1.48918I$
$u = -0.887915 - 0.310649I$	$2.77545 + 0.35472I$	$-9.35777 + 1.48918I$
$u = -0.551226 + 0.748282I$	$-1.69458 - 1.28164I$	$-5.29966 + 0.30789I$
$u = -0.551226 - 0.748282I$	$-1.69458 + 1.28164I$	$-5.29966 - 0.30789I$
$u = -0.770088 + 0.744037I$	$8.45315 - 3.75871I$	$0. + 2.83567I$
$u = -0.770088 - 0.744037I$	$8.45315 + 3.75871I$	$0. - 2.83567I$
$u = 0.781202 + 0.741537I$	$8.62407 - 2.42872I$	0
$u = 0.781202 - 0.741537I$	$8.62407 + 2.42872I$	0
$u = 0.512976 + 0.755043I$	$-4.91649 - 1.59221I$	$-11.90786 + 3.54404I$
$u = 0.512976 - 0.755043I$	$-4.91649 + 1.59221I$	$-11.90786 - 3.54404I$
$u = 0.886320 + 0.663470I$	$2.27623 - 3.08946I$	0
$u = 0.886320 - 0.663470I$	$2.27623 + 3.08946I$	0
$u = 1.11340$	-7.26377	-11.6170
$u = 1.117230 + 0.039150I$	$-3.19336 - 1.95587I$	$-8.00000 + 0.I$
$u = 1.117230 - 0.039150I$	$-3.19336 + 1.95587I$	$-8.00000 + 0.I$
$u = 0.869584 + 0.106333I$	$-3.24427 - 2.18605I$	$-17.0727 + 6.0888I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.869584 - 0.106333I$	$-3.24427 + 2.18605I$	$-17.0727 - 6.0888I$
$u = -1.125770 + 0.039610I$	$-3.84567 + 8.00446I$	0
$u = -1.125770 - 0.039610I$	$-3.84567 - 8.00446I$	0
$u = -1.128630 + 0.012921I$	$-10.47200 + 3.12169I$	0
$u = -1.128630 - 0.012921I$	$-10.47200 - 3.12169I$	0
$u = \ \ 0.461327 + 0.727213I$	$1.44734 - 6.27170I$	$-6.61668 + 5.37317I$
$u = \ \ 0.461327 - 0.727213I$	$1.44734 + 6.27170I$	$-6.61668 - 5.37317I$
$u = -0.936943 + 0.658530I$	$0.82334 + 6.42603I$	0
$u = -0.936943 - 0.658530I$	$0.82334 - 6.42603I$	0
$u = -0.465307 + 0.705263I$	$2.01780 + 0.29717I$	$-5.58354 - 0.33676I$
$u = -0.465307 - 0.705263I$	$2.01780 - 0.29717I$	$-5.58354 + 0.33676I$
$u = \ \ 0.925319 + 0.713366I$	$8.18783 - 3.10258I$	0
$u = \ \ 0.925319 - 0.713366I$	$8.18783 + 3.10258I$	0
$u = -0.933860 + 0.711939I$	$7.95805 + 9.29310I$	0
$u = -0.933860 - 0.711939I$	$7.95805 - 9.29310I$	0
$u = -1.038150 + 0.620576I$	$0.43349 + 4.75751I$	0
$u = -1.038150 - 0.620576I$	$0.43349 - 4.75751I$	0
$u = \ \ 1.047470 + 0.619918I$	$-0.204610 + 1.166380I$	0
$u = \ \ 1.047470 - 0.619918I$	$-0.204610 - 1.166380I$	0
$u = -1.041800 + 0.654112I$	$-3.12169 + 6.62412I$	0
$u = -1.041800 - 0.654112I$	$-3.12169 - 6.62412I$	0
$u = \ \ 1.051460 + 0.642911I$	$-6.47434 - 3.70666I$	0
$u = \ \ 1.051460 - 0.642911I$	$-6.47434 + 3.70666I$	0
$u = \ \ 1.052550 + 0.660953I$	$-6.16225 - 9.90913I$	0
$u = \ \ 1.052550 - 0.660953I$	$-6.16225 + 9.90913I$	0
$u = -1.046730 + 0.676138I$	$1.38825 + 8.57764I$	0
$u = -1.046730 - 0.676138I$	$1.38825 - 8.57764I$	0
$u = \ \ 1.050950 + 0.676533I$	$0.7567 - 14.7133I$	0
$u = \ \ 1.050950 - 0.676533I$	$0.7567 + 14.7133I$	0
$u = -0.684394$	-1.02359	-9.41090

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.017794 + 0.518720I$	$5.24287 + 3.00974I$	$-2.07163 - 2.91236I$
$u = -0.017794 - 0.518720I$	$5.24287 - 3.00974I$	$-2.07163 + 2.91236I$
$u = -0.178281 + 0.318594I$	$-0.382136 + 0.981633I$	$-6.53805 - 6.72584I$
$u = -0.178281 - 0.318594I$	$-0.382136 - 0.981633I$	$-6.53805 + 6.72584I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{64} + 23u^{63} + \cdots + 20u^2 + 1$
c_2, c_6	$u^{64} - u^{63} + \cdots - 2u - 1$
c_3, c_4, c_8	$u^{64} + u^{63} + \cdots + 10u^2 - 25$
c_5, c_{11}	$u^{64} + u^{63} + \cdots - 2u - 1$
c_9, c_{10}, c_{12}	$u^{64} + 17u^{63} + \cdots - 20u^2 + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{64} + 37y^{63} + \cdots + 40y + 1$
c_2, c_6	$y^{64} - 23y^{63} + \cdots + 20y^2 + 1$
c_3, c_4, c_8	$y^{64} - 59y^{63} + \cdots - 500y + 625$
c_5, c_{11}	$y^{64} + 17y^{63} + \cdots - 20y^2 + 1$
c_9, c_{10}, c_{12}	$y^{64} + 61y^{63} + \cdots - 40y + 1$