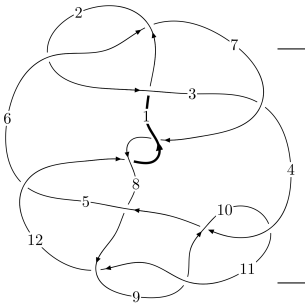
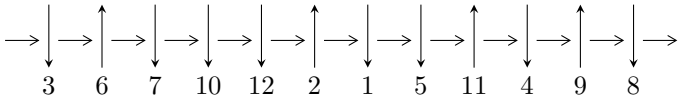
$12a_{0257}$ $(K12a_{0257})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{95} - u^{94} + \cdots + 2u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 95 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. $I_1^u = \langle u^{95} - u^{94} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^5 - u \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{12} - u^{10} - 3u^8 - 2u^6 - 2u^4 - u^2 + 1 \\ u^{12} + 2u^{10} + 4u^8 + 4u^6 + 3u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 + u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{17} - 2u^{15} - 5u^{13} - 6u^{11} - 7u^9 - 6u^7 - 4u^5 - 2u^3 - u \\ -u^{19} - 3u^{17} - 8u^{15} - 13u^{13} - 17u^{11} - 17u^9 - 12u^7 - 6u^5 - u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{29} + 4u^{27} + \cdots + 2u^3 + u \\ u^{31} + 5u^{29} + \cdots + 12u^7 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{60} - 9u^{58} + \cdots - u^2 + 1 \\ -u^{62} - 10u^{60} + \cdots - 24u^8 - u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{86} + 13u^{84} + \cdots + 2u^2 + 1 \\ -u^{86} - 14u^{84} + \cdots + 6u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{93} - 4u^{92} + \cdots - 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{95}+43u^{94}+\cdots+8u^2-1$
c_2, c_6	$u^{95}-u^{94}+\cdots-2u+1$
c_3	$u^{95}+u^{94}+\cdots+14u+1$
c_4, c_{10}	$u^{95}-u^{94}+\cdots+2u+1$
c_5	$u^{95}-u^{94}+\cdots-92u+137$
c_7, c_{12}	$u^{95}-5u^{94}+\cdots-32u+1$
c_8	$u^{95}+5u^{94}+\cdots+294u+133$
c_9, c_{11}	$u^{95}-31u^{94}+\cdots+48u^3+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{95}+19y^{94}+\cdots+16y-1$
c_2, c_6	$y^{95}+43y^{94}+\cdots+8y^2-1$
c_3	$y^{95}-5y^{94}+\cdots+128y-1$
c_4, c_{10}	$y^{95}+31y^{94}+\cdots+48y^3-1$
c_5	$y^{95}-9y^{94}+\cdots+896772y-18769$
c_7, c_{12}	$y^{95}+71y^{94}+\cdots-160y-1$
c_8	$y^{95}+11y^{94}+\cdots-932876y-17689$
c_9, c_{11}	$y^{95}+67y^{94}+\cdots+240y^2-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.025374+0.996365I$	$3.39359+2.05855I$	0
$u=-0.025374-0.996365I$	$3.39359-2.05855I$	0
$u=\ \ 0.688552+0.710603I$	$-1.61555+2.05010I$	0
$u=\ \ 0.688552-0.710603I$	$-1.61555-2.05010I$	0
$u=\ \ 0.162735+0.962083I$	$-0.62221-5.79334I$	0
$u=\ \ 0.162735-0.962083I$	$-0.62221+5.79334I$	0
$u=\ \ 0.783327+0.661650I$	$0.46053-2.05790I$	0
$u=\ \ 0.783327-0.661650I$	$0.46053+2.05790I$	0
$u=-0.792414+0.666730I$	$1.90721-3.04956I$	0
$u=-0.792414-0.666730I$	$1.90721+3.04956I$	0
$u=-0.664879+0.797772I$	$-0.75904+2.06607I$	0
$u=-0.664879-0.797772I$	$-0.75904-2.06607I$	0
$u=-0.116057+0.943891I$	$1.78252+1.86135I$	0
$u=-0.116057-0.943891I$	$1.78252-1.86135I$	0
$u=-0.121403+1.042030I$	$2.49177+3.69809I$	0
$u=-0.121403-1.042030I$	$2.49177-3.69809I$	0
$u=-0.807377+0.674403I$	$1.23776-5.80863I$	0
$u=-0.807377-0.674403I$	$1.23776+5.80863I$	0
$u=\ \ 0.801126+0.686555I$	$-3.76784+3.66575I$	0
$u=\ \ 0.801126-0.686555I$	$-3.76784-3.66575I$	0
$u=\ \ 0.812471+0.676289I$	$-0.79180+11.00210I$	0
$u=\ \ 0.812471-0.676289I$	$-0.79180-11.00210I$	0
$u=-0.092609+1.059680I$	$6.51481-2.32814I$	0
$u=-0.092609-1.059680I$	$6.51481+2.32814I$	0
$u=\ \ 0.102345+1.059420I$	$8.05978-2.83312I$	0
$u=\ \ 0.102345-1.059420I$	$8.05978+2.83312I$	0
$u=\ \ 0.121178+1.061000I$	$7.57589-5.67216I$	0
$u=\ \ 0.121178-1.061000I$	$7.57589+5.67216I$	0
$u=\ \ 0.777967+0.733865I$	$-4.07255+1.06245I$	0
$u=\ \ 0.777967-0.733865I$	$-4.07255-1.06245I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.127841+1.062700I$	$5.61435+10.88280I$	0
$u=-0.127841-1.062700I$	$5.61435-10.88280I$	0
$u=-0.548579+0.929139I$	$0.16534+2.05730I$	0
$u=-0.548579-0.929139I$	$0.16534-2.05730I$	0
$u=-0.795141+0.730923I$	$-6.83927-5.00516I$	0
$u=-0.795141-0.730923I$	$-6.83927+5.00516I$	0
$u=-0.512610+0.959195I$	$3.41295-4.75674I$	0
$u=-0.512610-0.959195I$	$3.41295+4.75674I$	0
$u=-0.786842+0.752501I$	$-7.21645+2.39167I$	0
$u=-0.786842-0.752501I$	$-7.21645-2.39167I$	0
$u=0.525009+0.960490I$	$5.26653-0.42158I$	0
$u=0.525009-0.960490I$	$5.26653+0.42158I$	0
$u=0.763637+0.796878I$	$-5.64412-1.43967I$	0
$u=0.763637-0.796878I$	$-5.64412+1.43967I$	0
$u=0.179757+0.869468I$	$-1.18916+1.08720I$	$-4.00000+0.I$
$u=0.179757-0.869468I$	$-1.18916-1.08720I$	$-4.00000+0.I$
$u=0.551131+0.969689I$	$5.46527-3.23411I$	0
$u=0.551131-0.969689I$	$5.46527+3.23411I$	0
$u=-0.753152+0.826974I$	$-1.33209+3.62695I$	0
$u=-0.753152-0.826974I$	$-1.33209-3.62695I$	0
$u=-0.561092+0.975263I$	$3.78528+8.40244I$	0
$u=-0.561092-0.975263I$	$3.78528-8.40244I$	0
$u=0.767643+0.826868I$	$-3.35404-8.52661I$	0
$u=0.767643-0.826868I$	$-3.35404+8.52661I$	0
$u=-0.722926+0.898055I$	$-1.10687+1.97536I$	0
$u=-0.722926-0.898055I$	$-1.10687-1.97536I$	0
$u=-0.662004+0.944559I$	$-0.26646+3.07979I$	0
$u=-0.662004-0.944559I$	$-0.26646-3.07979I$	0
$u=0.740558+0.905396I$	$-3.10874+2.82819I$	0
$u=0.740558-0.905396I$	$-3.10874-2.82819I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.727240 + 0.932293I$	$-5.22662 - 4.20781I$	0
$u = \quad 0.727240 - 0.932293I$	$-5.22662 + 4.20781I$	0
$u = \quad 0.676581 + 0.972999I$	$-0.82645 - 7.34635I$	0
$u = \quad 0.676581 - 0.972999I$	$-0.82645 + 7.34635I$	0
$u = -0.729754 + 0.970163I$	$-6.55061 + 3.33190I$	0
$u = -0.729754 - 0.970163I$	$-6.55061 - 3.33190I$	0
$u = \quad 0.719199 + 0.979027I$	$-3.32556 - 6.72756I$	0
$u = \quad 0.719199 - 0.979027I$	$-3.32556 + 6.72756I$	0
$u = -0.727823 + 0.985567I$	$-6.06270 + 10.74590I$	0
$u = -0.727823 - 0.985567I$	$-6.06270 - 10.74590I$	0
$u = \quad 0.701087 + 1.014230I$	$1.51800 - 3.55713I$	0
$u = \quad 0.701087 - 1.014230I$	$1.51800 + 3.55713I$	0
$u = -0.706030 + 1.015360I$	$2.95696 + 8.70626I$	0
$u = -0.706030 - 1.015360I$	$2.95696 - 8.70626I$	0
$u = \quad 0.715903 + 1.010230I$	$-2.78685 - 9.38176I$	0
$u = \quad 0.715903 - 1.010230I$	$-2.78685 + 9.38176I$	0
$u = -0.714560 + 1.017460I$	$2.27642 + 11.53550I$	0
$u = -0.714560 - 1.017460I$	$2.27642 - 11.53550I$	0
$u = \quad 0.717327 + 1.018480I$	$0.2459 - 16.7524I$	0
$u = \quad 0.717327 - 1.018480I$	$0.2459 + 16.7524I$	0
$u = -0.584226 + 0.317973I$	$2.20807 - 4.13991I$	$-4.07308 + 2.37991I$
$u = -0.584226 - 0.317973I$	$2.20807 + 4.13991I$	$-4.07308 - 2.37991I$
$u = -0.619100 + 0.223089I$	$1.50088 + 8.68705I$	$-5.76786 - 7.67002I$
$u = -0.619100 - 0.223089I$	$1.50088 - 8.68705I$	$-5.76786 + 7.67002I$
$u = \quad 0.586261 + 0.287574I$	$3.82783 - 0.92285I$	$-1.55964 + 2.82366I$
$u = \quad 0.586261 - 0.287574I$	$3.82783 + 0.92285I$	$-1.55964 - 2.82366I$
$u = \quad 0.607360 + 0.237130I$	$3.44405 - 3.55467I$	$-2.57489 + 3.34534I$
$u = \quad 0.607360 - 0.237130I$	$3.44405 + 3.55467I$	$-2.57489 - 3.34534I$
$u = -0.561156 + 0.201491I$	$-1.41921 + 1.66796I$	$-9.52383 - 3.17492I$
$u = -0.561156 - 0.201491I$	$-1.41921 - 1.66796I$	$-9.52383 + 3.17492I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.546096 + 0.041650I$	$-3.71966 - 3.51943I$	$-12.44692 + 4.79847I$
$u = \quad 0.546096 - 0.041650I$	$-3.71966 + 3.51943I$	$-12.44692 - 4.79847I$
$u = -0.307196 + 0.416082I$	$-0.50840 + 1.39719I$	$-4.77257 - 4.63743I$
$u = -0.307196 - 0.416082I$	$-0.50840 - 1.39719I$	$-4.77257 + 4.63743I$
$u = -0.468689$	-1.06413	-9.37220

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{95}+43u^{94}+\cdots+8u^2-1$
c_2, c_6	$u^{95}-u^{94}+\cdots-2u+1$
c_3	$u^{95}+u^{94}+\cdots+14u+1$
c_4, c_{10}	$u^{95}-u^{94}+\cdots+2u+1$
c_5	$u^{95}-u^{94}+\cdots-92u+137$
c_7, c_{12}	$u^{95}-5u^{94}+\cdots-32u+1$
c_8	$u^{95}+5u^{94}+\cdots+294u+133$
c_9, c_{11}	$u^{95}-31u^{94}+\cdots+48u^3+1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{95} + 19y^{94} + \cdots + 16y - 1$
c_2, c_6	$y^{95} + 43y^{94} + \cdots + 8y^2 - 1$
c_3	$y^{95} - 5y^{94} + \cdots + 128y - 1$
c_4, c_{10}	$y^{95} + 31y^{94} + \cdots + 48y^3 - 1$
c_5	$y^{95} - 9y^{94} + \cdots + 896772y - 18769$
c_7, c_{12}	$y^{95} + 71y^{94} + \cdots - 160y - 1$
c_8	$y^{95} + 11y^{94} + \cdots - 932876y - 17689$
c_9, c_{11}	$y^{95} + 67y^{94} + \cdots + 240y^2 - 1$