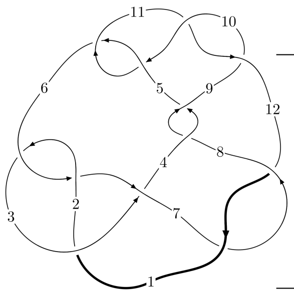
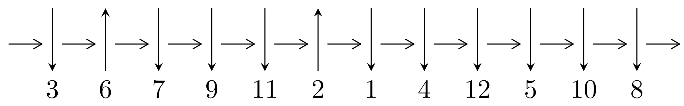
$12a_{0226}$ ($K12a_{0226}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{90} + u^{89} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $I_1^u = \langle u^{90} + u^{89} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ u^9 + u^7 + u^5 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{17} - 4u^{15} - 9u^{13} - 12u^{11} - 11u^9 - 8u^7 - 6u^5 - 4u^3 - u \\ -u^{17} - 3u^{15} - 5u^{13} - 4u^{11} - u^9 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{12} + 3u^{10} + 5u^8 + 4u^6 + 2u^4 + u^2 + 1 \\ -u^{14} - 2u^{12} - 3u^{10} - 2u^8 - 2u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{43} + 10u^{41} + \cdots - 5u^3 - 2u \\ -u^{45} - 9u^{43} + \cdots + u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{74} + 17u^{72} + \cdots + 3u^2 + 1 \\ -u^{76} - 16u^{74} + \cdots - 3u^4 - 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{30} - 7u^{28} + \cdots - 4u^4 + 1 \\ -u^{30} - 6u^{28} + \cdots + 2u^4 + u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{89} - 4u^{88} + \cdots + 4u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{90} + 41u^{89} + \cdots - 3u + 1$
c_2, c_6	$u^{90} - u^{89} + \cdots - u - 1$
c_3	$u^{90} + u^{89} + \cdots + 11u - 1$
c_4, c_8	$u^{90} - u^{89} + \cdots - 3u - 1$
c_5, c_{10}	$u^{90} + u^{89} + \cdots - 3u - 1$
c_7, c_{12}	$u^{90} - 5u^{89} + \cdots + 145u - 21$
c_9, c_{11}	$u^{90} + 31u^{89} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{90} + 17y^{89} + \cdots - 51y + 1$
c_2, c_6	$y^{90} + 41y^{89} + \cdots - 3y + 1$
c_3	$y^{90} - 7y^{89} + \cdots + 125y + 1$
c_4, c_8	$y^{90} - 51y^{89} + \cdots - 83y + 1$
c_5, c_{10}	$y^{90} - 31y^{89} + \cdots - 3y + 1$
c_7, c_{12}	$y^{90} + 61y^{89} + \cdots + 51089y + 441$
c_9, c_{11}	$y^{90} + 57y^{89} + \cdots - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.501963 + 0.898997I$	$1.67262 - 2.04573I$	0
$u = -0.501963 - 0.898997I$	$1.67262 + 2.04573I$	0
$u = 0.016868 + 1.030800I$	$3.00085 - 2.77316I$	0
$u = 0.016868 - 1.030800I$	$3.00085 + 2.77316I$	0
$u = 0.249218 + 1.008390I$	$-2.02407 - 1.06219I$	0
$u = 0.249218 - 1.008390I$	$-2.02407 + 1.06219I$	0
$u = -0.355572 + 0.888939I$	$-0.53261 - 1.53431I$	0
$u = -0.355572 - 0.888939I$	$-0.53261 + 1.53431I$	0
$u = 0.525356 + 0.925869I$	$0.94370 + 7.33842I$	0
$u = 0.525356 - 0.925869I$	$0.94370 - 7.33842I$	0
$u = 0.177394 + 1.050490I$	$-1.87659 - 1.33249I$	0
$u = 0.177394 - 1.050490I$	$-1.87659 + 1.33249I$	0
$u = 0.723590 + 0.554540I$	$3.94277 + 8.63048I$	$-4.05227 - 7.29473I$
$u = 0.723590 - 0.554540I$	$3.94277 - 8.63048I$	$-4.05227 + 7.29473I$
$u = 0.407249 + 1.012720I$	$-3.09800 + 3.08334I$	0
$u = 0.407249 - 1.012720I$	$-3.09800 - 3.08334I$	0
$u = -0.723374 + 0.544890I$	$5.04502 - 3.02424I$	$-2.05045 + 2.44739I$
$u = -0.723374 - 0.544890I$	$5.04502 + 3.02424I$	$-2.05045 - 2.44739I$
$u = -0.206935 + 1.078590I$	$-3.26676 - 3.36781I$	0
$u = -0.206935 - 1.078590I$	$-3.26676 + 3.36781I$	0
$u = 0.141824 + 1.094660I$	$-0.62220 - 3.55946I$	0
$u = 0.141824 - 1.094660I$	$-0.62220 + 3.55946I$	0
$u = -0.754490 + 0.481579I$	$8.22286 - 1.43634I$	$0. + 2.56189I$
$u = -0.754490 - 0.481579I$	$8.22286 + 1.43634I$	$0. - 2.56189I$
$u = 0.758461 + 0.471953I$	$8.16996 - 4.24799I$	$0. + 3.40241I$
$u = 0.758461 - 0.471953I$	$8.16996 + 4.24799I$	$0. - 3.40241I$
$u = -0.170343 + 1.093900I$	$-6.56383 + 2.91091I$	0
$u = -0.170343 - 1.093900I$	$-6.56383 - 2.91091I$	0
$u = -0.145257 + 1.104810I$	$-1.82142 + 9.11969I$	0
$u = -0.145257 - 1.104810I$	$-1.82142 - 9.11969I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.692194 + 0.551325I$	$-0.96504 + 2.69141I$	$-9.30626 - 3.76557I$
$u = \quad 0.692194 - 0.551325I$	$-0.96504 - 2.69141I$	$-9.30626 + 3.76557I$
$u = -0.779428 + 0.408233I$	$3.15401 + 11.35790I$	$-5.13106 - 7.30784I$
$u = -0.779428 - 0.408233I$	$3.15401 - 11.35790I$	$-5.13106 + 7.30784I$
$u = \quad 0.775037 + 0.413272I$	$4.33585 - 5.73221I$	$-3.09381 + 2.62769I$
$u = \quad 0.775037 - 0.413272I$	$4.33585 + 5.73221I$	$-3.09381 - 2.62769I$
$u = -0.699433 + 0.507173I$	$3.25860 - 0.93323I$	$-1.98235 + 2.97328I$
$u = -0.699433 - 0.507173I$	$3.25860 + 0.93323I$	$-1.98235 - 2.97328I$
$u = -0.762752 + 0.398359I$	$-1.77122 + 5.17263I$	$-10.25794 - 3.78971I$
$u = -0.762752 - 0.398359I$	$-1.77122 - 5.17263I$	$-10.25794 + 3.78971I$
$u = \quad 0.744383 + 0.417449I$	$2.78033 - 3.35446I$	$-3.31785 + 3.49388I$
$u = \quad 0.744383 - 0.417449I$	$2.78033 + 3.35446I$	$-3.31785 - 3.49388I$
$u = \quad 0.405058 + 1.093730I$	$-3.77807 + 2.56808I$	0
$u = \quad 0.405058 - 1.093730I$	$-3.77807 - 2.56808I$	0
$u = \quad 0.582288 + 1.013010I$	$-2.33340 + 2.22713I$	0
$u = \quad 0.582288 - 1.013010I$	$-2.33340 - 2.22713I$	0
$u = -0.727699 + 0.389178I$	$1.22174 - 1.10018I$	$-7.10486 + 1.96284I$
$u = -0.727699 - 0.389178I$	$1.22174 + 1.10018I$	$-7.10486 - 1.96284I$
$u = -0.400532 + 1.107050I$	$-5.12142 + 2.61021I$	0
$u = -0.400532 - 1.107050I$	$-5.12142 - 2.61021I$	0
$u = \quad 0.608187 + 1.017900I$	$2.56703 - 3.54065I$	0
$u = \quad 0.608187 - 1.017900I$	$2.56703 + 3.54065I$	0
$u = \quad 0.441817 + 1.101300I$	$-3.52532 + 4.80773I$	0
$u = \quad 0.441817 - 1.101300I$	$-3.52532 - 4.80773I$	0
$u = -0.422685 + 1.110300I$	$-9.04985 - 3.77247I$	0
$u = -0.422685 - 1.110300I$	$-9.04985 + 3.77247I$	0
$u = -0.605703 + 1.024670I$	$3.62058 - 2.05673I$	0
$u = -0.605703 - 1.024670I$	$3.62058 + 2.05673I$	0
$u = -0.442733 + 1.111360I$	$-4.83695 - 10.14260I$	0
$u = -0.442733 - 1.111360I$	$-4.83695 + 10.14260I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.584864+1.044800I$	$1.66537-4.01436I$	0
$u=-0.584864-1.044800I$	$1.66537+4.01436I$	0
$u=0.560377+1.066900I$	$0.01118+7.69723I$	0
$u=0.560377-1.066900I$	$0.01118-7.69723I$	0
$u=-0.473389+0.634112I$	$2.39074-2.06952I$	$-2.67251+3.85924I$
$u=-0.473389-0.634112I$	$2.39074+2.06952I$	$-2.67251-3.85924I$
$u=0.556806+0.552055I$	$1.92931-2.99812I$	$-4.64252+2.70074I$
$u=0.556806-0.552055I$	$1.92931+2.99812I$	$-4.64252-2.70074I$
$u=-0.607693+1.068190I$	$6.48101-3.73161I$	0
$u=-0.607693-1.068190I$	$6.48101+3.73161I$	0
$u=0.607083+1.073890I$	$6.38293+9.42351I$	0
$u=0.607083-1.073890I$	$6.38293-9.42351I$	0
$u=0.625319+0.432375I$	$1.84509-2.98280I$	$-5.82371+4.10556I$
$u=0.625319-0.432375I$	$1.84509+2.98280I$	$-5.82371-4.10556I$
$u=-0.576053+1.098500I$	$-0.85267-3.87735I$	0
$u=-0.576053-1.098500I$	$-0.85267+3.87735I$	0
$u=0.587200+1.093990I$	$0.78468+8.41873I$	0
$u=0.587200-1.093990I$	$0.78468-8.41873I$	0
$u=-0.588705+1.105070I$	$-3.85739-10.28380I$	0
$u=-0.588705-1.105070I$	$-3.85739+10.28380I$	0
$u=0.597219+1.103510I$	$2.29023+10.90840I$	0
$u=0.597219-1.103510I$	$2.29023-10.90840I$	0
$u=-0.597318+1.106640I$	$1.0834-16.5446I$	0
$u=-0.597318-1.106640I$	$1.0834+16.5446I$	0
$u=-0.625268+0.058000I$	$-1.95110+6.19847I$	$-9.59402-5.63729I$
$u=-0.625268-0.058000I$	$-1.95110-6.19847I$	$-9.59402+5.63729I$
$u=-0.621508$	-6.02816	-14.3370
$u=0.592899+0.061563I$	$-0.725428-0.939411I$	$-7.71421+0.78565I$
$u=0.592899-0.061563I$	$-0.725428+0.939411I$	$-7.71421-0.78565I$
$u=0.374226$	-0.816002	-12.1280

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{90} + 41u^{89} + \cdots - 3u + 1$
c_2, c_6	$u^{90} - u^{89} + \cdots - u - 1$
c_3	$u^{90} + u^{89} + \cdots + 11u - 1$
c_4, c_8	$u^{90} - u^{89} + \cdots - 3u - 1$
c_5, c_{10}	$u^{90} + u^{89} + \cdots - 3u - 1$
c_7, c_{12}	$u^{90} - 5u^{89} + \cdots + 145u - 21$
c_9, c_{11}	$u^{90} + 31u^{89} + \cdots + 3u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{90} + 17y^{89} + \cdots - 51y + 1$
c_2, c_6	$y^{90} + 41y^{89} + \cdots - 3y + 1$
c_3	$y^{90} - 7y^{89} + \cdots + 125y + 1$
c_4, c_8	$y^{90} - 51y^{89} + \cdots - 83y + 1$
c_5, c_{10}	$y^{90} - 31y^{89} + \cdots - 3y + 1$
c_7, c_{12}	$y^{90} + 61y^{89} + \cdots + 51089y + 441$
c_9, c_{11}	$y^{90} + 57y^{89} + \cdots - 3y + 1$