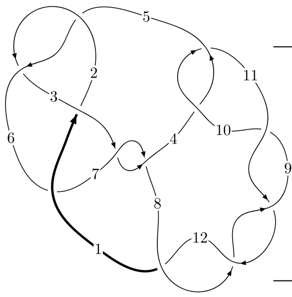
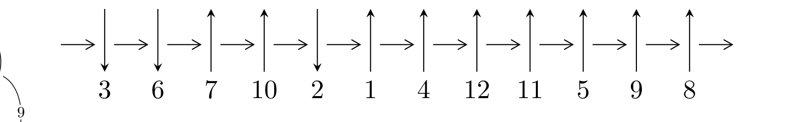
$12a_{0241}$ ($K12a_{0241}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{63} - u^{62} + \cdots + 2u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 63 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. $I_1^u = \langle u^{63} - u^{62} + \cdots + 2u^2 - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{10} + u^8 - 4u^6 + 3u^4 - 3u^2 + 1 \\ -u^{12} + 2u^{10} - 4u^8 + 6u^6 - 3u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{19} - 2u^{17} + 8u^{15} - 12u^{13} + 21u^{11} - 22u^9 + 20u^7 - 12u^5 + 5u^3 - 2u \\ u^{21} - 3u^{19} + \cdots - 3u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{48} - 5u^{46} + \cdots - 4u^2 + 1 \\ u^{50} - 6u^{48} + \cdots - 10u^4 + u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{28} - 3u^{26} + \cdots - 5u^2 + 1 \\ -u^{28} + 2u^{26} + \cdots - 3u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{62} - 28u^{60} + \cdots + 16u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{63} + 29u^{62} + \cdots + 4u + 1$
c_2, c_5	$u^{63} + u^{62} + \cdots + 2u - 1$
c_3, c_7	$u^{63} - u^{62} + \cdots + 420u - 97$
c_4, c_{10}	$u^{63} - u^{62} + \cdots + 2u^2 - 1$
c_6	$u^{63} + 3u^{62} + \cdots + 34u - 5$
c_8, c_9, c_{11} c_{12}	$u^{63} - 13u^{62} + \cdots + 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{63} + 11y^{62} + \cdots + 16y - 1$
c_2, c_5	$y^{63} - 29y^{62} + \cdots + 4y - 1$
c_3, c_7	$y^{63} - 37y^{62} + \cdots - 58340y - 9409$
c_4, c_{10}	$y^{63} - 13y^{62} + \cdots + 4y - 1$
c_6	$y^{63} + 7y^{62} + \cdots - 164y - 25$
c_8, c_9, c_{11} c_{12}	$y^{63} + 75y^{62} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.906180 + 0.422177I$	$1.99168 + 1.38995I$	$8.07559 + 0.94279I$
$u = -0.906180 - 0.422177I$	$1.99168 - 1.38995I$	$8.07559 - 0.94279I$
$u = 0.784033 + 0.600648I$	$-4.27567 + 5.81688I$	$-0.70813 - 8.29875I$
$u = 0.784033 - 0.600648I$	$-4.27567 - 5.81688I$	$-0.70813 + 8.29875I$
$u = 0.909103 + 0.447406I$	$3.51366 + 3.59358I$	$10.41272 - 6.28502I$
$u = 0.909103 - 0.447406I$	$3.51366 - 3.59358I$	$10.41272 + 6.28502I$
$u = -0.886115 + 0.506891I$	$-1.82319 - 4.09825I$	$2.15651 + 6.10462I$
$u = -0.886115 - 0.506891I$	$-1.82319 + 4.09825I$	$2.15651 - 6.10462I$
$u = 0.922893 + 0.488111I$	$2.97083 + 6.11707I$	$9.16199 - 6.56976I$
$u = 0.922893 - 0.488111I$	$2.97083 - 6.11707I$	$9.16199 + 6.56976I$
$u = -0.930909 + 0.500771I$	$0.97651 - 11.21790I$	$6.00000 + 10.77314I$
$u = -0.930909 - 0.500771I$	$0.97651 + 11.21790I$	$6.00000 - 10.77314I$
$u = 0.693202 + 0.621062I$	$-4.56079 - 1.25575I$	$-2.19329 + 0.63310I$
$u = 0.693202 - 0.621062I$	$-4.56079 + 1.25575I$	$-2.19329 - 0.63310I$
$u = 0.928590 + 0.045314I$	$4.01932 + 6.32514I$	$11.57164 - 5.86598I$
$u = 0.928590 - 0.045314I$	$4.01932 - 6.32514I$	$11.57164 + 5.86598I$
$u = -0.922742 + 0.024554I$	$5.80192 - 1.27063I$	$14.7143 + 0.7560I$
$u = -0.922742 - 0.024554I$	$5.80192 + 1.27063I$	$14.7143 - 0.7560I$
$u = -0.733886 + 0.550039I$	$-1.66010 - 2.08982I$	$2.72200 + 4.60622I$
$u = -0.733886 - 0.550039I$	$-1.66010 + 2.08982I$	$2.72200 - 4.60622I$
$u = -0.778547 + 0.292819I$	$0.09263 - 3.54491I$	$8.23338 + 8.37976I$
$u = -0.778547 - 0.292819I$	$0.09263 + 3.54491I$	$8.23338 - 8.37976I$
$u = 0.817837$	1.00618	9.44630
$u = -0.524223 + 0.608616I$	$-2.97072 - 0.11505I$	$-1.75022 + 0.66782I$
$u = -0.524223 - 0.608616I$	$-2.97072 + 0.11505I$	$-1.75022 - 0.66782I$
$u = -0.453370 + 0.659277I$	$-0.53569 + 6.90071I$	$1.90400 - 5.03856I$
$u = -0.453370 - 0.659277I$	$-0.53569 - 6.90071I$	$1.90400 + 5.03856I$
$u = 0.438773 + 0.630314I$	$1.46155 - 1.93140I$	$5.21037 + 0.69413I$
$u = 0.438773 - 0.630314I$	$1.46155 + 1.93140I$	$5.21037 - 0.69413I$
$u = 0.884768 + 0.873290I$	$-6.09691 + 4.77546I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.884768 - 0.873290I$	$-6.09691 - 4.77546I$	0
$u = -0.881328 + 0.885625I$	$-4.93494 + 0.19327I$	0
$u = -0.881328 - 0.885625I$	$-4.93494 - 0.19327I$	0
$u = -0.881069 + 0.903523I$	$-6.02303 + 2.71306I$	0
$u = -0.881069 - 0.903523I$	$-6.02303 - 2.71306I$	0
$u = \ \ 0.880732 + 0.909053I$	$-8.19478 - 7.84444I$	0
$u = \ \ 0.880732 - 0.909053I$	$-8.19478 + 7.84444I$	0
$u = \ \ 0.892755 + 0.903388I$	$-10.84960 - 0.25881I$	0
$u = \ \ 0.892755 - 0.903388I$	$-10.84960 + 0.25881I$	0
$u = \ \ 0.945495 + 0.850520I$	$-5.90653 + 1.61727I$	0
$u = \ \ 0.945495 - 0.850520I$	$-5.90653 - 1.61727I$	0
$u = -0.954008 + 0.855513I$	$-4.70515 - 6.63865I$	0
$u = -0.954008 - 0.855513I$	$-4.70515 + 6.63865I$	0
$u = \ \ 0.927641 + 0.889208I$	$-10.23000 + 3.28333I$	0
$u = \ \ 0.927641 - 0.889208I$	$-10.23000 - 3.28333I$	0
$u = -0.924436 + 0.899708I$	$-13.41990 + 0.59197I$	0
$u = -0.924436 - 0.899708I$	$-13.41990 - 0.59197I$	0
$u = \ \ 0.702440 + 0.074381I$	$0.950672 + 0.027060I$	$11.34231 - 0.59705I$
$u = \ \ 0.702440 - 0.074381I$	$0.950672 - 0.027060I$	$11.34231 + 0.59705I$
$u = -0.937504 + 0.893407I$	$-13.3778 - 7.2055I$	0
$u = -0.937504 - 0.893407I$	$-13.3778 + 7.2055I$	0
$u = -0.965088 + 0.864759I$	$-5.75398 - 9.24348I$	0
$u = -0.965088 - 0.864759I$	$-5.75398 + 9.24348I$	0
$u = \ \ 0.958623 + 0.872225I$	$-10.63780 + 6.81425I$	0
$u = \ \ 0.958623 - 0.872225I$	$-10.63780 - 6.81425I$	0
$u = \ \ 0.968793 + 0.867363I$	$-7.9118 + 14.4004I$	0
$u = \ \ 0.968793 - 0.867363I$	$-7.9118 - 14.4004I$	0
$u = \ \ 0.350486 + 0.566383I$	$1.88232 + 0.20853I$	$5.90645 - 0.29596I$
$u = \ \ 0.350486 - 0.566383I$	$1.88232 - 0.20853I$	$5.90645 + 0.29596I$
$u = -0.285841 + 0.571386I$	$0.19917 - 5.00950I$	$2.45073 + 5.54298I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.285841-0.571386I$	$0.19917+5.00950I$	$2.45073-5.54298I$
$u=-0.132000+0.431030I$	$-1.65849+1.14871I$	$-1.62308-0.85275I$
$u=-0.132000-0.431030I$	$-1.65849-1.14871I$	$-1.62308+0.85275I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{63} + 29u^{62} + \cdots + 4u + 1$
c_2, c_5	$u^{63} + u^{62} + \cdots + 2u - 1$
c_3, c_7	$u^{63} - u^{62} + \cdots + 420u - 97$
c_4, c_{10}	$u^{63} - u^{62} + \cdots + 2u^2 - 1$
c_6	$u^{63} + 3u^{62} + \cdots + 34u - 5$
c_8, c_9, c_{11} c_{12}	$u^{63} - 13u^{62} + \cdots + 4u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{63} + 11y^{62} + \cdots + 16y - 1$
c_2, c_5	$y^{63} - 29y^{62} + \cdots + 4y - 1$
c_3, c_7	$y^{63} - 37y^{62} + \cdots - 58340y - 9409$
c_4, c_{10}	$y^{63} - 13y^{62} + \cdots + 4y - 1$
c_6	$y^{63} + 7y^{62} + \cdots - 164y - 25$
c_8, c_9, c_{11} c_{12}	$y^{63} + 75y^{62} + \cdots - 8y - 1$