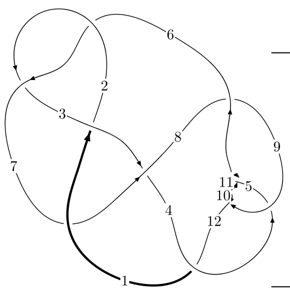
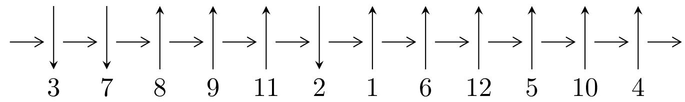
$12a_{0514}$ ($K12a_{0514}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{93} - u^{92} + \cdots - u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 93 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. $I_1^u = \langle u^{93} - u^{92} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^4 - u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^9 + 2u^7 - 3u^5 + 2u^3 - u \\ -u^9 + u^7 - u^5 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{16} + 3u^{14} - 7u^{12} + 10u^{10} - 11u^8 + 8u^6 - 4u^4 + 1 \\ -u^{16} + 2u^{14} - 4u^{12} + 4u^{10} - 2u^8 + 2u^4 - 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^8 + u^6 - u^4 + 1 \\ u^{10} - 2u^8 + 3u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{27} - 4u^{25} + \cdots + u^3 - 2u \\ -u^{29} + 5u^{27} + \cdots - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{42} + 7u^{40} + \cdots - 3u^2 + 1 \\ -u^{42} + 6u^{40} + \cdots + 4u^4 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{72} - 11u^{70} + \cdots - 2u^2 + 1 \\ -u^{74} + 12u^{72} + \cdots - 4u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{91} + 56u^{89} + \cdots - 12u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{93}+45u^{92}+\cdots+3u+1$
c_2, c_6	$u^{93}-u^{92}+\cdots+3u-1$
c_3	$u^{93}+u^{92}+\cdots-15u-1$
c_4	$u^{93}-u^{92}+\cdots+3237u-481$
c_5, c_{10}	$u^{93}+u^{92}+\cdots-u-1$
c_7	$u^{93}-3u^{92}+\cdots+6347u-949$
c_8, c_{12}	$u^{93}+7u^{92}+\cdots+9u+5$
c_9, c_{11}	$u^{93}-29u^{92}+\cdots+3u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{93} + 7y^{92} + \cdots - 9y - 1$
c_2, c_6	$y^{93} - 45y^{92} + \cdots + 3y - 1$
c_3	$y^{93} + 3y^{92} + \cdots - 61y - 1$
c_4	$y^{93} + 23y^{92} + \cdots - 5811377y - 231361$
c_5, c_{10}	$y^{93} - 29y^{92} + \cdots + 3y - 1$
c_7	$y^{93} + 31y^{92} + \cdots - 22453981y - 900601$
c_8, c_{12}	$y^{93} + 75y^{92} + \cdots - 1129y - 25$
c_9, c_{11}	$y^{93} + 71y^{92} + \cdots + 7y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.001330 + 0.020624I$	$5.22907 + 0.91927I$	0
$u = 1.001330 - 0.020624I$	$5.22907 - 0.91927I$	0
$u = 0.950842 + 0.299864I$	$-2.51592 - 5.16810I$	0
$u = 0.950842 - 0.299864I$	$-2.51592 + 5.16810I$	0
$u = 0.971710 + 0.262556I$	$-4.09655 + 2.66309I$	0
$u = 0.971710 - 0.262556I$	$-4.09655 - 2.66309I$	0
$u = -1.010030 + 0.039683I$	$3.45576 - 5.61543I$	0
$u = -1.010030 - 0.039683I$	$3.45576 + 5.61543I$	0
$u = 1.000590 + 0.171975I$	$2.41507 + 4.46350I$	0
$u = 1.000590 - 0.171975I$	$2.41507 - 4.46350I$	0
$u = -0.974861 + 0.137746I$	$1.78185 - 0.05525I$	0
$u = -0.974861 - 0.137746I$	$1.78185 + 0.05525I$	0
$u = 0.852921 + 0.560937I$	$-0.31851 + 4.89376I$	0
$u = 0.852921 - 0.560937I$	$-0.31851 - 4.89376I$	0
$u = -0.933380 + 0.277710I$	$-0.033888 + 0.415540I$	0
$u = -0.933380 - 0.277710I$	$-0.033888 - 0.415540I$	0
$u = 0.746143 + 0.706717I$	$-3.63252 + 0.94988I$	0
$u = 0.746143 - 0.706717I$	$-3.63252 - 0.94988I$	0
$u = -1.016430 + 0.215896I$	$-3.70029 - 3.19651I$	0
$u = -1.016430 - 0.215896I$	$-3.70029 + 3.19651I$	0
$u = 1.023660 + 0.199077I$	$0.67170 + 6.17554I$	0
$u = 1.023660 - 0.199077I$	$0.67170 - 6.17554I$	0
$u = 0.670081 + 0.679818I$	$-1.70281 - 5.79619I$	0
$u = 0.670081 - 0.679818I$	$-1.70281 + 5.79619I$	0
$u = -0.771220 + 0.558683I$	$0.994657 - 0.499555I$	0
$u = -0.771220 - 0.558683I$	$0.994657 + 0.499555I$	0
$u = -1.032350 + 0.202863I$	$-1.78029 - 11.11130I$	0
$u = -1.032350 - 0.202863I$	$-1.78029 + 11.11130I$	0
$u = -0.689312 + 0.649627I$	$0.342510 + 1.086330I$	0
$u = -0.689312 - 0.649627I$	$0.342510 - 1.086330I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.727491 + 0.813517I$	$-4.08031 + 3.83714I$	0
$u = -0.727491 - 0.813517I$	$-4.08031 - 3.83714I$	0
$u = \quad 0.740790 + 0.801851I$	$-4.40160 + 0.77019I$	0
$u = \quad 0.740790 - 0.801851I$	$-4.40160 - 0.77019I$	0
$u = -0.724420 + 0.831405I$	$-6.13241 + 5.62657I$	0
$u = -0.724420 - 0.831405I$	$-6.13241 - 5.62657I$	0
$u = \quad 0.722484 + 0.835791I$	$-8.65339 - 10.61050I$	0
$u = \quad 0.722484 - 0.835791I$	$-8.65339 + 10.61050I$	0
$u = \quad 0.732247 + 0.834353I$	$-10.58940 - 2.51762I$	0
$u = \quad 0.732247 - 0.834353I$	$-10.58940 + 2.51762I$	0
$u = \quad 0.763399 + 0.821833I$	$-6.84470 + 1.82953I$	0
$u = \quad 0.763399 - 0.821833I$	$-6.84470 - 1.82953I$	0
$u = \quad 0.867613 + 0.712408I$	$-2.70656 + 2.72583I$	0
$u = \quad 0.867613 - 0.712408I$	$-2.70656 - 2.72583I$	0
$u = -0.756825 + 0.829646I$	$-11.03530 + 1.47379I$	0
$u = -0.756825 - 0.829646I$	$-11.03530 - 1.47379I$	0
$u = -0.849545 + 0.742275I$	$-5.61738 + 0.89934I$	0
$u = -0.849545 - 0.742275I$	$-5.61738 - 0.89934I$	0
$u = -0.768568 + 0.826375I$	$-9.48988 - 6.65080I$	0
$u = -0.768568 - 0.826375I$	$-9.48988 + 6.65080I$	0
$u = \quad 0.941591 + 0.622723I$	$0.133887 - 0.249972I$	0
$u = \quad 0.941591 - 0.622723I$	$0.133887 + 0.249972I$	0
$u = -0.870650$	1.28457	8.08940
$u = -0.950088 + 0.641340I$	$1.63499 - 4.36679I$	0
$u = -0.950088 - 0.641340I$	$1.63499 + 4.36679I$	0
$u = -0.886663 + 0.737195I$	$-5.50506 - 6.51714I$	0
$u = -0.886663 - 0.737195I$	$-5.50506 + 6.51714I$	0
$u = -0.968162 + 0.663549I$	$1.15436 - 6.24286I$	0
$u = -0.968162 - 0.663549I$	$1.15436 + 6.24286I$	0
$u = \quad 0.949183 + 0.691571I$	$-3.02732 + 4.42892I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.949183 - 0.691571I$	$-3.02732 - 4.42892I$	0
$u = 0.977806 + 0.669587I$	$-0.81456 + 11.03840I$	0
$u = 0.977806 - 0.669587I$	$-0.81456 - 11.03840I$	0
$u = 0.985258 + 0.734339I$	$-3.65236 + 5.01380I$	0
$u = 0.985258 - 0.734339I$	$-3.65236 - 5.01380I$	0
$u = 0.978130 + 0.754810I$	$-6.18355 + 4.07733I$	0
$u = 0.978130 - 0.754810I$	$-6.18355 - 4.07733I$	0
$u = -0.976810 + 0.759947I$	$-8.84813 + 0.71413I$	0
$u = -0.976810 - 0.759947I$	$-8.84813 - 0.71413I$	0
$u = -0.995560 + 0.736711I$	$-3.26058 - 9.66054I$	0
$u = -0.995560 - 0.736711I$	$-3.26058 + 9.66054I$	0
$u = -0.985383 + 0.756842I$	$-10.33160 - 7.40978I$	0
$u = -0.985383 - 0.756842I$	$-10.33160 + 7.40978I$	0
$u = -1.003730 + 0.744358I$	$-5.27555 - 11.52500I$	0
$u = -1.003730 - 0.744358I$	$-5.27555 + 11.52500I$	0
$u = 1.000900 + 0.749015I$	$-9.76389 + 8.44033I$	0
$u = 1.000900 - 0.749015I$	$-9.76389 - 8.44033I$	0
$u = 1.006440 + 0.745742I$	$-7.7817 + 16.5258I$	0
$u = 1.006440 - 0.745742I$	$-7.7817 - 16.5258I$	0
$u = 0.064744 + 0.654577I$	$-5.31407 + 8.34808I$	$-0.77857 - 6.46875I$
$u = 0.064744 - 0.654577I$	$-5.31407 - 8.34808I$	$-0.77857 + 6.46875I$
$u = 0.034676 + 0.651101I$	$-7.07189 + 0.37285I$	$-3.52702 + 0.04105I$
$u = 0.034676 - 0.651101I$	$-7.07189 - 0.37285I$	$-3.52702 - 0.04105I$
$u = -0.059096 + 0.639839I$	$-2.79903 - 3.46984I$	$2.25559 + 2.92012I$
$u = -0.059096 - 0.639839I$	$-2.79903 + 3.46984I$	$2.25559 - 2.92012I$
$u = 0.418124 + 0.432028I$	$-0.68065 + 4.62109I$	$4.09607 - 7.10172I$
$u = 0.418124 - 0.432028I$	$-0.68065 - 4.62109I$	$4.09607 + 7.10172I$
$u = -0.520386 + 0.269923I$	$1.095460 - 0.355508I$	$9.32542 + 1.84818I$
$u = -0.520386 - 0.269923I$	$1.095460 + 0.355508I$	$9.32542 - 1.84818I$
$u = -0.056031 + 0.564927I$	$-0.90222 - 2.08357I$	$3.05215 + 4.33699I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.056031 - 0.564927I$	$-0.90222 + 2.08357I$	$3.05215 - 4.33699I$
$u = 0.191004 + 0.437112I$	$-1.51913 - 1.65442I$	$0.806639 + 0.122424I$
$u = 0.191004 - 0.437112I$	$-1.51913 + 1.65442I$	$0.806639 - 0.122424I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{93} + 45u^{92} + \cdots + 3u + 1$
c_2, c_6	$u^{93} - u^{92} + \cdots + 3u - 1$
c_3	$u^{93} + u^{92} + \cdots - 15u - 1$
c_4	$u^{93} - u^{92} + \cdots + 3237u - 481$
c_5, c_{10}	$u^{93} + u^{92} + \cdots - u - 1$
c_7	$u^{93} - 3u^{92} + \cdots + 6347u - 949$
c_8, c_{12}	$u^{93} + 7u^{92} + \cdots + 9u + 5$
c_9, c_{11}	$u^{93} - 29u^{92} + \cdots + 3u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{93} + 7y^{92} + \cdots - 9y - 1$
c_2, c_6	$y^{93} - 45y^{92} + \cdots + 3y - 1$
c_3	$y^{93} + 3y^{92} + \cdots - 61y - 1$
c_4	$y^{93} + 23y^{92} + \cdots - 5811377y - 231361$
c_5, c_{10}	$y^{93} - 29y^{92} + \cdots + 3y - 1$
c_7	$y^{93} + 31y^{92} + \cdots - 22453981y - 900601$
c_8, c_{12}	$y^{93} + 75y^{92} + \cdots - 1129y - 25$
c_9, c_{11}	$y^{93} + 71y^{92} + \cdots + 7y - 1$