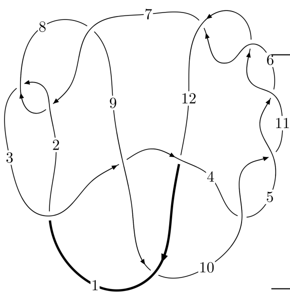
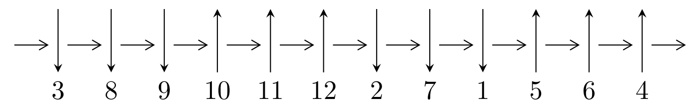
$12a_{0714}$ $(K12a_{0714})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{53} + u^{52} + \cdots - u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 53 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. $I_1^u = \langle u^{53} + u^{52} + \cdots - u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^8 + u^6 - u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^9 + 2u^7 - 3u^5 + 2u^3 - u \\ -u^{11} + u^9 - 2u^7 + u^5 - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{28} - 5u^{26} + \cdots + u^2 + 1 \\ u^{30} - 4u^{28} + \cdots - 2u^4 + u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{20} - 3u^{18} + 7u^{16} - 10u^{14} + 10u^{12} - 7u^{10} + u^8 + 2u^6 - 3u^4 + u^2 + 1 \\ u^{20} - 4u^{18} + 10u^{16} - 18u^{14} + 23u^{12} - 24u^{10} + 18u^8 - 10u^6 + 3u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{39} + 6u^{37} + \cdots + 8u^5 - 2u^3 \\ -u^{39} + 7u^{37} + \cdots - 3u^5 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{47} - 8u^{45} + \cdots - 10u^5 + 4u^3 \\ u^{49} - 7u^{47} + \cdots - 2u^7 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{52} - 36u^{50} + \cdots - 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{53} + 17u^{52} + \cdots - u + 1$
c_2, c_7	$u^{53} + u^{52} + \cdots - u - 1$
c_3	$u^{53} - u^{52} + \cdots + 13u - 1$
c_4, c_5, c_6 c_{10}, c_{11}	$u^{53} + u^{52} + \cdots - u - 1$
c_9	$u^{53} + 7u^{52} + \cdots + 293u + 295$
c_{12}	$u^{53} + 5u^{52} + \cdots - 417u - 99$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{53} + 39y^{52} + \cdots + 19y - 1$
c_2, c_7	$y^{53} - 17y^{52} + \cdots - y - 1$
c_3	$y^{53} + 3y^{52} + \cdots + 47y - 1$
c_4, c_5, c_6 c_{10}, c_{11}	$y^{53} - 69y^{52} + \cdots - y - 1$
c_9	$y^{53} + 23y^{52} + \cdots - 620381y - 87025$
c_{12}	$y^{53} - 13y^{52} + \cdots + 120231y - 9801$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.917964 + 0.396458I$	$11.02350 - 1.17650I$	$3.47656 - 1.29829I$
$u = -0.917964 - 0.396458I$	$11.02350 + 1.17650I$	$3.47656 + 1.29829I$
$u = 1.004410 + 0.120149I$	$-3.30847 - 2.92968I$	$-6.10401 + 5.98646I$
$u = 1.004410 - 0.120149I$	$-3.30847 + 2.92968I$	$-6.10401 - 5.98646I$
$u = -0.965969 + 0.058477I$	$-2.10934 + 0.19404I$	$-2.74556 + 1.38490I$
$u = -0.965969 - 0.058477I$	$-2.10934 - 0.19404I$	$-2.74556 - 1.38490I$
$u = -1.026680 + 0.154387I$	$0.16153 + 5.66463I$	$0.36927 - 7.13482I$
$u = -1.026680 - 0.154387I$	$0.16153 - 5.66463I$	$0.36927 + 7.13482I$
$u = 1.03975$	5.77807	-1.63810
$u = 0.808317 + 0.497173I$	$1.80074 + 0.19940I$	$3.10423 - 0.79204I$
$u = 0.808317 - 0.497173I$	$1.80074 - 0.19940I$	$3.10423 + 0.79204I$
$u = 1.045770 + 0.171126I$	$9.64765 - 7.13925I$	$1.62928 + 5.46600I$
$u = 1.045770 - 0.171126I$	$9.64765 + 7.13925I$	$1.62928 - 5.46600I$
$u = -0.711976 + 0.788691I$	$2.77377 - 2.54983I$	$2.56238 + 3.84090I$
$u = -0.711976 - 0.788691I$	$2.77377 + 2.54983I$	$2.56238 - 3.84090I$
$u = 0.741129 + 0.766184I$	$3.37856 - 0.51833I$	$4.74330 + 3.74158I$
$u = 0.741129 - 0.766184I$	$3.37856 + 0.51833I$	$4.74330 - 3.74158I$
$u = -0.898334 + 0.585827I$	$-0.89223 + 2.27300I$	$-4.11058 - 2.34862I$
$u = -0.898334 - 0.585827I$	$-0.89223 - 2.27300I$	$-4.11058 + 2.34862I$
$u = 0.706508 + 0.812636I$	$6.62164 + 5.35410I$	$7.68244 - 4.25676I$
$u = 0.706508 - 0.812636I$	$6.62164 - 5.35410I$	$7.68244 + 4.25676I$
$u = -0.703816 + 0.827557I$	$16.3321 - 6.9044I$	$8.55087 + 2.77192I$
$u = -0.703816 - 0.827557I$	$16.3321 + 6.9044I$	$8.55087 - 2.77192I$
$u = -0.780598 + 0.788930I$	$7.91993 + 2.45268I$	$9.54638 - 3.47883I$
$u = -0.780598 - 0.788930I$	$7.91993 - 2.45268I$	$9.54638 + 3.47883I$
$u = 0.941389 + 0.627556I$	$1.18896 - 4.90002I$	$2.00262 + 7.53056I$
$u = 0.941389 - 0.627556I$	$1.18896 + 4.90002I$	$2.00262 - 7.53056I$
$u = 0.792770 + 0.808036I$	$17.9061 - 3.4233I$	$9.92605 + 2.63045I$
$u = 0.792770 - 0.808036I$	$17.9061 + 3.4233I$	$9.92605 - 2.63045I$
$u = -0.567997 + 0.619087I$	$10.69110 - 0.81715I$	$5.56596 - 0.12172I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.567997 - 0.619087I$	$10.69110 + 0.81715I$	$5.56596 + 0.12172I$
$u = -0.984073 + 0.636487I$	$9.59431 + 5.77095I$	$0. - 5.49289I$
$u = -0.984073 - 0.636487I$	$9.59431 - 5.77095I$	$0. + 5.49289I$
$u = -0.952798 + 0.740289I$	$7.39031 + 3.31063I$	0
$u = -0.952798 - 0.740289I$	$7.39031 - 3.31063I$	0
$u = 0.974166 + 0.713810I$	$2.66592 - 5.09809I$	0
$u = 0.974166 - 0.713810I$	$2.66592 + 5.09809I$	0
$u = 0.952090 + 0.759043I$	$17.4152 - 2.4557I$	0
$u = 0.952090 - 0.759043I$	$17.4152 + 2.4557I$	0
$u = -0.994703 + 0.718854I$	$1.91508 + 8.24431I$	0
$u = -0.994703 - 0.718854I$	$1.91508 - 8.24431I$	0
$u = 1.005020 + 0.728341I$	$5.71195 - 11.14500I$	0
$u = 1.005020 - 0.728341I$	$5.71195 + 11.14500I$	0
$u = 0.654395 + 0.369401I$	$1.81787 + 0.23650I$	$4.15811 + 0.08826I$
$u = 0.654395 - 0.369401I$	$1.81787 - 0.23650I$	$4.15811 - 0.08826I$
$u = -1.011890 + 0.734334I$	$15.3906 + 12.7564I$	0
$u = -1.011890 - 0.734334I$	$15.3906 - 12.7564I$	0
$u = -0.124769 + 0.640044I$	$13.4136 + 4.6017I$	$8.93924 - 3.30114I$
$u = -0.124769 - 0.640044I$	$13.4136 - 4.6017I$	$8.93924 + 3.30114I$
$u = 0.124451 + 0.589584I$	$3.80539 - 3.34966I$	$8.46314 + 5.01124I$
$u = 0.124451 - 0.589584I$	$3.80539 + 3.34966I$	$8.46314 - 5.01124I$
$u = -0.128727 + 0.466132I$	$0.171113 + 1.087940I$	$2.68023 - 5.97711I$
$u = -0.128727 - 0.466132I$	$0.171113 - 1.087940I$	$2.68023 + 5.97711I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{53} + 17u^{52} + \cdots - u + 1$
c_2, c_7	$u^{53} + u^{52} + \cdots - u - 1$
c_3	$u^{53} - u^{52} + \cdots + 13u - 1$
c_4, c_5, c_6 c_{10}, c_{11}	$u^{53} + u^{52} + \cdots - u - 1$
c_9	$u^{53} + 7u^{52} + \cdots + 293u + 295$
c_{12}	$u^{53} + 5u^{52} + \cdots - 417u - 99$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{53} + 39y^{52} + \cdots + 19y - 1$
c_2, c_7	$y^{53} - 17y^{52} + \cdots - y - 1$
c_3	$y^{53} + 3y^{52} + \cdots + 47y - 1$
c_4, c_5, c_6 c_{10}, c_{11}	$y^{53} - 69y^{52} + \cdots - y - 1$
c_9	$y^{53} + 23y^{52} + \cdots - 620381y - 87025$
c_{12}	$y^{53} - 13y^{52} + \cdots + 120231y - 9801$