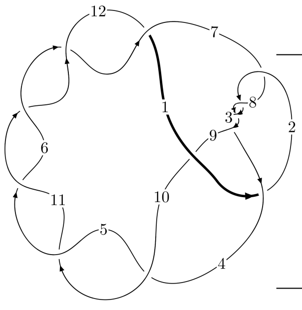
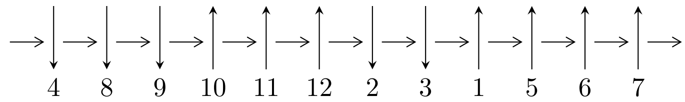
$12a_{1128}$ ($K12a_{1128}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$6{,}11 \xrightarrow[c_{11}]{} 12 \xrightarrow[c_{6}]{} 7 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_{5}]{} 5 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_{4}]{} 4 \xrightarrow[c_{1}]{} 2 \xrightarrow[c_{9}]{} 9 \xrightarrow[c_{3}]{} 3 \xrightarrow[c_{8}]{} 8 \gg c_2, c_7$$

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

$$I_1^u = \langle u^{29} - u^{28} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 29 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. $I_1^u = \langle u^{29} - u^{28} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{10} + 7u^8 - 16u^6 + 13u^4 - 3u^2 + 1 \\ u^{10} - 6u^8 + 11u^6 - 6u^4 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^8 - 5u^6 + 7u^4 - 4u^2 + 1 \\ -u^{10} + 6u^8 - 11u^6 + 6u^4 + u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{21} - 14u^{19} + \cdots - 6u^3 - u \\ -u^{23} + 15u^{21} + \cdots + 3u^5 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{23} - 16u^{21} + \cdots - 44u^5 + 6u^3 \\ -u^{23} + 15u^{21} + \cdots + 3u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{26} + 76u^{24} - 624u^{22} + 2900u^{20} - 4u^{19} - 8396u^{18} + 56u^{17} + 15708u^{16} - 320u^{15} - 19072u^{14} + 960u^{13} + 14724u^{12} - 1620u^{11} - 6940u^{10} + 1528u^9 + 1900u^8 - 752u^7 - 256u^6 + 180u^5 - 28u^4 - 36u^3 + 8u^2 + 4u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{29} - 7u^{28} + \cdots - 7u + 1$
c_2, c_3, c_7 c_8	$u^{29} + u^{28} + \cdots + u - 1$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$u^{29} - u^{28} + \cdots + u - 1$
c_9	$u^{29} - 5u^{28} + \cdots + 17u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 3y^{28} + \cdots + 67y - 1$
c_2, c_3, c_7 c_8	$y^{29} - 33y^{28} + \cdots + 3y - 1$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$y^{29} - 41y^{28} + \cdots + 3y - 1$
c_9	$y^{29} - y^{28} + \cdots + 239y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.07968$	2.46262	2.59660
$u = -0.840545 + 0.145144I$	$-5.25732 + 0.07846I$	$2.69491 + 1.17577I$
$u = -0.840545 - 0.145144I$	$-5.25732 - 0.07846I$	$2.69491 - 1.17577I$
$u = -1.205760 + 0.116422I$	$6.35623 - 1.67361I$	$9.89817 + 0.46541I$
$u = -1.205760 - 0.116422I$	$6.35623 + 1.67361I$	$9.89817 - 0.46541I$
$u = 1.202640 + 0.175266I$	$5.26333 + 5.33299I$	$6.65607 - 6.84513I$
$u = 1.202640 - 0.175266I$	$5.26333 - 5.33299I$	$6.65607 + 6.84513I$
$u = -1.199740 + 0.218974I$	$-2.23245 - 7.72857I$	$3.61909 + 5.37469I$
$u = -1.199740 - 0.218974I$	$-2.23245 + 7.72857I$	$3.61909 - 5.37469I$
$u = 1.26442$	1.39387	5.96400
$u = 0.471072 + 0.447454I$	$-7.58667 + 5.43585I$	$-0.17849 - 6.76696I$
$u = 0.471072 - 0.447454I$	$-7.58667 - 5.43585I$	$-0.17849 + 6.76696I$
$u = -0.467285 + 0.371692I$	$-0.11770 - 3.45863I$	$2.80280 + 9.42983I$
$u = -0.467285 - 0.371692I$	$-0.11770 + 3.45863I$	$2.80280 - 9.42983I$
$u = 0.182355 + 0.485286I$	$-8.43922 - 2.34125I$	$-3.35682 - 0.17846I$
$u = 0.182355 - 0.485286I$	$-8.43922 + 2.34125I$	$-3.35682 + 0.17846I$
$u = 0.466672 + 0.213238I$	$0.927707 + 0.489193I$	$8.47168 - 2.23458I$
$u = 0.466672 - 0.213238I$	$0.927707 - 0.489193I$	$8.47168 + 2.23458I$
$u = -0.153276 + 0.375440I$	$-1.021340 + 0.906585I$	$-2.70117 - 1.63465I$
$u = -0.153276 - 0.375440I$	$-1.021340 - 0.906585I$	$-2.70117 + 1.63465I$
$u = 1.73522$	4.28136	2.00000
$u = -1.76786$	12.9166	2.00000
$u = 1.78372 + 0.05527I$	$8.64020 + 8.93823I$	$0. - 4.29230I$
$u = 1.78372 - 0.05527I$	$8.64020 - 8.93823I$	$0. + 4.29230I$
$u = -1.78538 + 0.04379I$	$16.1866 - 6.3008I$	$0. + 5.54756I$
$u = -1.78538 - 0.04379I$	$16.1866 + 6.3008I$	$0. - 5.54756I$
$u = 1.78638 + 0.03003I$	$17.3230 + 2.3306I$	0
$u = 1.78638 - 0.03003I$	$17.3230 - 2.3306I$	0
$u = -1.79318$	12.6221	5.86870

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{29} - 7u^{28} + \cdots - 7u + 1$
c_2, c_3, c_7 c_8	$u^{29} + u^{28} + \cdots + u - 1$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$u^{29} - u^{28} + \cdots + u - 1$
c_9	$u^{29} - 5u^{28} + \cdots + 17u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{29} + 3y^{28} + \cdots + 67y - 1$
c_2, c_3, c_7 c_8	$y^{29} - 33y^{28} + \cdots + 3y - 1$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$y^{29} - 41y^{28} + \cdots + 3y - 1$
c_9	$y^{29} - y^{28} + \cdots + 239y - 1$