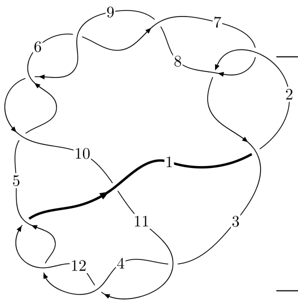
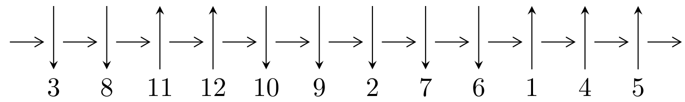
$12a_{0791}$ ($K12a_{0791}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{31} - u^{30} + \cdots - 2u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 31 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. $I_1^u = \langle u^{31} - u^{30} + \cdots - 2u^2 + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^6 + u^4 - 2u^2 + 1 \\ u^6 + u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{14} - u^{12} + 4u^{10} - 3u^8 + 2u^6 - 2u^2 + 1 \\ u^{16} - 2u^{14} + 6u^{12} - 8u^{10} + 10u^8 - 6u^6 + 4u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{27} - 2u^{25} + \cdots + 12u^5 - 5u^3 \\ u^{29} - 3u^{27} + \cdots - u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^8 - u^6 + 3u^4 - 2u^2 + 1 \\ -u^8 - 2u^4 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{21} + 2u^{19} + \cdots + 6u^3 - u \\ u^{21} - u^{19} + 7u^{17} - 6u^{15} + 16u^{13} - 11u^{11} + 13u^9 - 6u^7 + 3u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{30} - 12u^{28} + 4u^{27} + 60u^{26} - 8u^{25} - 136u^{24} + 44u^{23} + 344u^{22} - 72u^{21} - 592u^{20} + 184u^{19} + 960u^{18} - 240u^{17} - 1232u^{16} + 372u^{15} + 1356u^{14} - 376u^{13} - 1232u^{12} + 388u^{11} + 896u^{10} - 300u^9 - 504u^8 + 204u^7 + 204u^6 - 112u^5 - 40u^4 + 40u^3 - 12u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$u^{31} + 5u^{30} + \cdots + 4u + 1$
c_2, c_7	$u^{31} + u^{30} + \cdots + 2u^2 - 1$
c_3, c_4, c_{11} c_{12}	$u^{31} - u^{30} + \cdots - 2u - 1$
c_{10}	$u^{31} + 11u^{30} + \cdots + 904u + 329$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$y^{31} + 43y^{30} + \cdots - 32y - 1$
c_2, c_7	$y^{31} - 5y^{30} + \cdots + 4y - 1$
c_3, c_4, c_{11} c_{12}	$y^{31} - 37y^{30} + \cdots + 4y - 1$
c_{10}	$y^{31} - 25y^{30} + \cdots - 9232y - 108241$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.791350+0.665692I$	$2.77292+2.49031I$	$0.70638-3.36912I$
$u=-0.791350-0.665692I$	$2.77292-2.49031I$	$0.70638+3.36912I$
$u=\ \ 0.734968+0.730997I$	$5.22440+0.49349I$	$6.40243-1.42889I$
$u=\ \ 0.734968-0.730997I$	$5.22440-0.49349I$	$6.40243+1.42889I$
$u=\ \ 0.862163+0.360448I$	$6.88853-4.31158I$	$1.70139+6.75618I$
$u=\ \ 0.862163-0.360448I$	$6.88853+4.31158I$	$1.70139-6.75618I$
$u=-0.720478+0.790919I$	$13.50980-2.17197I$	$7.93260+0.27794I$
$u=-0.720478-0.790919I$	$13.50980+2.17197I$	$7.93260-0.27794I$
$u=\ \ 0.861511+0.679212I$	$4.80823-5.72178I$	$4.77645+8.09118I$
$u=\ \ 0.861511-0.679212I$	$4.80823+5.72178I$	$4.77645-8.09118I$
$u=-0.906594+0.698694I$	$12.8848+7.6593I$	$6.39810-6.24102I$
$u=-0.906594-0.698694I$	$12.8848-7.6593I$	$6.39810+6.24102I$
$u=-0.853762$	5.04240	-2.72190
$u=-0.778513+0.296852I$	$-0.36181+2.94393I$	$-1.66820-9.97564I$
$u=-0.778513-0.296852I$	$-0.36181-2.94393I$	$-1.66820+9.97564I$
$u=\ \ 0.704905+0.147061I$	$-1.148080-0.379484I$	$-7.32750+0.54568I$
$u=\ \ 0.704905-0.147061I$	$-1.148080+0.379484I$	$-7.32750-0.54568I$
$u=\ \ 0.946436+0.923716I$	$12.91130-3.39712I$	$2.13967+2.24704I$
$u=\ \ 0.946436-0.923716I$	$12.91130+3.39712I$	$2.13967-2.24704I$
$u=-0.937373+0.934900I$	$15.4949-0.4280I$	$6.07033+1.46342I$
$u=-0.937373-0.934900I$	$15.4949+0.4280I$	$6.07033-1.46342I$
$u=\ \ 0.933748+0.947021I$	$-15.3696+2.7248I$	$7.83122-0.36082I$
$u=\ \ 0.933748-0.947021I$	$-15.3696-2.7248I$	$7.83122+0.36082I$
$u=-0.960199+0.921928I$	$15.4193+7.2526I$	$5.88050-5.99908I$
$u=-0.960199-0.921928I$	$15.4193-7.2526I$	$5.88050+5.99908I$
$u=\ \ 0.971666+0.924478I$	$-15.4964-9.5974I$	$7.61372+4.81531I$
$u=\ \ 0.971666-0.924478I$	$-15.4964+9.5974I$	$7.61372-4.81531I$
$u=\ \ 0.286578+0.593109I$	$8.74676+0.94916I$	$8.06495-0.10527I$
$u=\ \ 0.286578-0.593109I$	$8.74676-0.94916I$	$8.06495+0.10527I$
$u=-0.280590+0.401102I$	$1.103510-0.348173I$	$7.83889+1.08782I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.280590 - 0.401102I$	$1.103510 + 0.348173I$	$7.83889 - 1.08782I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$u^{31} + 5u^{30} + \cdots + 4u + 1$
c_2, c_7	$u^{31} + u^{30} + \cdots + 2u^2 - 1$
c_3, c_4, c_{11} c_{12}	$u^{31} - u^{30} + \cdots - 2u - 1$
c_{10}	$u^{31} + 11u^{30} + \cdots + 904u + 329$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_8, c_9	$y^{31} + 43y^{30} + \cdots - 32y - 1$
c_2, c_7	$y^{31} - 5y^{30} + \cdots + 4y - 1$
c_3, c_4, c_{11} c_{12}	$y^{31} - 37y^{30} + \cdots + 4y - 1$
c_{10}	$y^{31} - 25y^{30} + \cdots - 9232y - 108241$