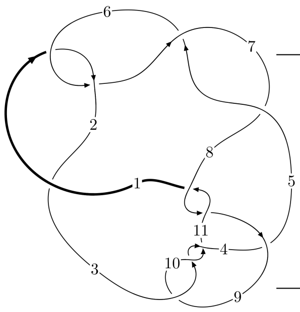
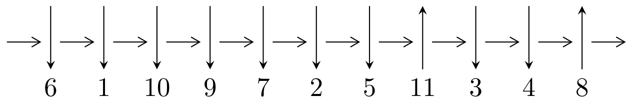
$11a_{220}$ ($K11a_{220}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{42} + u^{41} + \cdots - 3u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 42 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. $I_1^u = \langle u^{42} + u^{41} + \cdots - 3u - 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 - 3u^6 + u^4 + 2u^2 + 1 \\ -u^8 + 4u^6 - 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{19} + 8u^{17} - 24u^{15} + 30u^{13} - 7u^{11} - 10u^9 - 4u^7 + 6u^5 + 3u^3 + 2u \\ u^{19} - 9u^{17} + 32u^{15} - 55u^{13} + 43u^{11} - 9u^9 - 4u^5 - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{16} + 7u^{14} - 19u^{12} + 24u^{10} - 13u^8 + 2u^6 - 2u^4 + 2u^2 + 1 \\ u^{18} - 8u^{16} + 25u^{14} - 36u^{12} + 19u^{10} + 4u^8 - 2u^6 - 2u^4 - 3u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{27} + 12u^{25} + \cdots - u^3 - 2u \\ u^{29} - 13u^{27} + \cdots + 5u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{27} + 12u^{25} + \cdots - u^3 - 2u \\ u^{29} - 13u^{27} + \cdots + 5u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{39} + 72u^{37} - 4u^{36} - 584u^{35} + 68u^{34} + 2804u^{33} - 516u^{32} - 8800u^{31} + 2288u^{30} + 18804u^{29} - 6508u^{28} - 27664u^{27} + 12240u^{26} + 27920u^{25} - 15080u^{24} - 19668u^{23} + 11628u^{22} + 11364u^{21} - 5344u^{20} - 7448u^{19} + 2056u^{18} + 4732u^{17} - 1372u^{16} - 1840u^{15} + 300u^{14} + 420u^{13} + 420u^{12} - 76u^{11} - 200u^{10} - 84u^9 + 160u^8 + 76u^7 - 112u^6 - 52u^5 - 20u^4 + 24u^3 - 24u^2 - 12u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{42} - u^{41} + \cdots - u - 1$
c_2, c_5, c_7	$u^{42} + 11u^{41} + \cdots + 3u + 1$
c_3, c_9, c_{10}	$u^{42} + u^{41} + \cdots - 3u - 1$
c_4	$u^{42} - 3u^{41} + \cdots + 61u + 39$
c_8, c_{11}	$u^{42} + 7u^{41} + \cdots + 279u + 23$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{42} - 11y^{41} + \cdots - 3y + 1$
c_2, c_5, c_7	$y^{42} + 41y^{41} + \cdots - 11y + 1$
c_3, c_9, c_{10}	$y^{42} - 39y^{41} + \cdots - 3y + 1$
c_4	$y^{42} - 11y^{41} + \cdots - 25951y + 1521$
c_8, c_{11}	$y^{42} + 29y^{41} + \cdots - 14039y + 529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.196810 + 0.224203I$	$4.01809 + 0.23438I$	$-4.86393 - 0.79093I$
$u = -1.196810 - 0.224203I$	$4.01809 - 0.23438I$	$-4.86393 + 0.79093I$
$u = \quad 0.356883 + 0.692055I$	$3.38201 - 9.13654I$	$-5.22617 + 8.05199I$
$u = \quad 0.356883 - 0.692055I$	$3.38201 + 9.13654I$	$-5.22617 - 8.05199I$
$u = -0.341594 + 0.685182I$	$3.89441 + 3.00577I$	$-4.12276 - 3.17486I$
$u = -0.341594 - 0.685182I$	$3.89441 - 3.00577I$	$-4.12276 + 3.17486I$
$u = -1.233130 + 0.069457I$	$-2.15848 + 0.53603I$	$-5.34890 + 0.I$
$u = -1.233130 - 0.069457I$	$-2.15848 - 0.53603I$	$-5.34890 + 0.I$
$u = \quad 1.217450 + 0.233216I$	$3.86157 - 6.43991I$	$-5.27816 + 6.02462I$
$u = \quad 1.217450 - 0.233216I$	$3.86157 + 6.43991I$	$-5.27816 - 6.02462I$
$u = \quad 0.396277 + 0.634373I$	$-3.48205 - 4.78463I$	$-11.04017 + 7.62920I$
$u = \quad 0.396277 - 0.634373I$	$-3.48205 + 4.78463I$	$-11.04017 - 7.62920I$
$u = \quad 0.556137 + 0.493828I$	$2.57048 + 5.10842I$	$-7.05988 - 2.20532I$
$u = \quad 0.556137 - 0.493828I$	$2.57048 - 5.10842I$	$-7.05988 + 2.20532I$
$u = \quad 0.454805 + 0.560740I$	$-3.76676 + 0.88407I$	$-12.38985 - 0.56473I$
$u = \quad 0.454805 - 0.560740I$	$-3.76676 - 0.88407I$	$-12.38985 + 0.56473I$
$u = -0.553895 + 0.455920I$	$3.00179 + 0.90271I$	$-6.25769 - 2.96370I$
$u = -0.553895 - 0.455920I$	$3.00179 - 0.90271I$	$-6.25769 + 2.96370I$
$u = \quad 1.305380 + 0.145441I$	$-3.32923 - 3.99615I$	$-9.76353 + 7.26560I$
$u = \quad 1.305380 - 0.145441I$	$-3.32923 + 3.99615I$	$-9.76353 - 7.26560I$
$u = -0.011445 + 0.679358I$	$7.60462 + 3.09519I$	$-0.01509 - 2.78190I$
$u = -0.011445 - 0.679358I$	$7.60462 - 3.09519I$	$-0.01509 + 2.78190I$
$u = -0.361045 + 0.570627I$	$-0.76961 + 1.72495I$	$-4.78052 - 3.91512I$
$u = -0.361045 - 0.570627I$	$-0.76961 - 1.72495I$	$-4.78052 + 3.91512I$
$u = \quad 1.34637$	-5.74682	-16.7140
$u = \quad 1.44469 + 0.15665I$	$-3.29340 - 3.04757I$	0
$u = \quad 1.44469 - 0.15665I$	$-3.29340 + 3.04757I$	0
$u = \quad 1.43643 + 0.22136I$	$-6.53816 - 4.66456I$	0
$u = \quad 1.43643 - 0.22136I$	$-6.53816 + 4.66456I$	0
$u = \quad 1.43871 + 0.26142I$	$-1.81787 - 6.45853I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.43871 - 0.26142I$	$-1.81787 + 6.45853I$	0
$u = -0.098085 + 0.527806I$	$1.00543 + 1.56832I$	$-1.50314 - 6.19843I$
$u = -0.098085 - 0.527806I$	$1.00543 - 1.56832I$	$-1.50314 + 6.19843I$
$u = -1.44577 + 0.26317I$	$-2.40746 + 12.62150I$	0
$u = -1.44577 - 0.26317I$	$-2.40746 - 12.62150I$	0
$u = -1.46178 + 0.16297I$	$-3.85638 - 2.79254I$	0
$u = -1.46178 - 0.16297I$	$-3.85638 + 2.79254I$	0
$u = -1.45781 + 0.20477I$	$-9.89796 + 1.92247I$	0
$u = -1.45781 - 0.20477I$	$-9.89796 - 1.92247I$	0
$u = -1.45327 + 0.23647I$	$-9.43094 + 7.97441I$	0
$u = -1.45327 - 0.23647I$	$-9.43094 - 7.97441I$	0
$u = -0.330600$	-0.781422	-13.7110

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{42} - u^{41} + \cdots - u - 1$
c_2, c_5, c_7	$u^{42} + 11u^{41} + \cdots + 3u + 1$
c_3, c_9, c_{10}	$u^{42} + u^{41} + \cdots - 3u - 1$
c_4	$u^{42} - 3u^{41} + \cdots + 61u + 39$
c_8, c_{11}	$u^{42} + 7u^{41} + \cdots + 279u + 23$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{42} - 11y^{41} + \cdots - 3y + 1$
c_2, c_5, c_7	$y^{42} + 41y^{41} + \cdots - 11y + 1$
c_3, c_9, c_{10}	$y^{42} - 39y^{41} + \cdots - 3y + 1$
c_4	$y^{42} - 11y^{41} + \cdots - 25951y + 1521$
c_8, c_{11}	$y^{42} + 29y^{41} + \cdots - 14039y + 529$