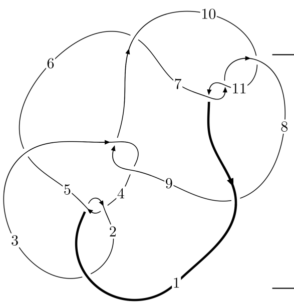
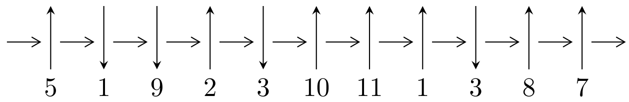
$11n_{20}$ $(K11n_{20})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I^u_1 = \langle -u^{16} + 2u^{15} + \cdots + 2b - 1,\ -2u^{16} + 6u^{15} + \cdots + 2a + 5,\ u^{17} - 3u^{16} + \cdots - 2u + 1\rangle$
$I^u_2 = \langle u^2a + b + a,\ -u^2a + a^2 - au - a - u,\ u^3 + u^2 + 2u + 1\rangle$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 23 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. $I^u_1 =$
$\langle -u^{16}+2u^{15}+\cdots+2b-1,\ -2u^{16}+6u^{15}+\cdots+2a+5,\ u^{17}-3u^{16}+\cdots-2u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^{16}-\frac{3}{2}u^{15}+\frac{13}{2}u^{14}-\frac{15}{2}u^{13}+\frac{33}{2}u^{12}-19u^{11}+23u^{10}-\frac{67}{2}u^9+24u^8-\frac{81}{2}u^7+22u^6-17u^5+12u^4+13u^3+\frac{19}{2}u+\frac{1}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{17} + 4u^{16} + \cdots + 3u + 1$
c_2	$u^{17} + 2u^{16} + \cdots + 3u - 1$
c_3, c_9	$u^{17} + u^{16} + \cdots - 96u - 64$
c_5	$u^{17} - 4u^{16} + \cdots + 557u + 137$
c_6, c_8	$u^{17} - 3u^{16} + \cdots + 2u - 1$
c_7, c_{10}, c_{11}	$u^{17} + 3u^{16} + \cdots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{17} + 2y^{16} + \cdots + 3y - 1$
c_2	$y^{17} + 30y^{16} + \cdots + 3y - 1$
c_3, c_9	$y^{17} + 35y^{16} + \cdots + 9216y - 4096$
c_5	$y^{17} + 58y^{16} + \cdots - 518053y - 18769$
c_6, c_8	$y^{17} - 31y^{16} + \cdots - 14y - 1$
c_7, c_{10}, c_{11}	$y^{17} + 13y^{16} + \cdots - 14y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.219268 + 0.999289I$ $a = 1.80602 - 0.25255I$ $b = 0.77227 - 1.25221I$	$-1.31705 + 3.54605I$	$2.16487 - 2.95335I$
$u = 0.219268 - 0.999289I$ $a = 1.80602 + 0.25255I$ $b = 0.77227 + 1.25221I$	$-1.31705 - 3.54605I$	$2.16487 + 2.95335I$
$u = 1.052720 + 0.047013I$ $a = 0.092101 - 0.115408I$ $b = -0.02224 - 2.20267I$	$15.8539 + 3.8626I$	$6.39661 - 2.12816I$
$u = 1.052720 - 0.047013I$ $a = 0.092101 + 0.115408I$ $b = -0.02224 + 2.20267I$	$15.8539 - 3.8626I$	$6.39661 + 2.12816I$
$u = -0.095288 + 1.269800I$ $a = 0.670660 + 0.619159I$ $b = 0.689025 + 0.075156I$	$-4.44298 - 1.97657I$	$-3.41444 + 3.62302I$
$u = -0.095288 - 1.269800I$ $a = 0.670660 - 0.619159I$ $b = 0.689025 - 0.075156I$	$-4.44298 + 1.97657I$	$-3.41444 - 3.62302I$
$u = -0.228042 + 0.683004I$ $a = -1.181530 + 0.437561I$ $b = -0.295357 + 0.574121I$	$0.22550 - 1.43526I$	$4.15937 + 3.64291I$
$u = -0.228042 - 0.683004I$ $a = -1.181530 - 0.437561I$ $b = -0.295357 - 0.574121I$	$0.22550 + 1.43526I$	$4.15937 - 3.64291I$
$u = -0.710942$ $a = -0.587793$ $b = -0.244243$	1.69761	6.54340
$u = -0.281522 + 1.323870I$ $a = -0.413372 + 0.348973I$ $b = -0.121248 + 0.378439I$	$-2.51924 - 3.59257I$	$1.69678 + 1.62034I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.281522 - 1.323870I$ $a = -0.413372 - 0.348973I$ $b = -0.121248 - 0.378439I$	$-2.51924 + 3.59257I$	$1.69678 - 1.62034I$
$u = 0.55805 + 1.32231I$ $a = -1.54225 + 1.32872I$ $b = -0.28772 + 2.07576I$	$11.91540 + 1.84478I$	$3.96952 - 0.75367I$
$u = 0.55805 - 1.32231I$ $a = -1.54225 - 1.32872I$ $b = -0.28772 - 2.07576I$	$11.91540 - 1.84478I$	$3.96952 + 0.75367I$
$u = 0.50759 + 1.37481I$ $a = 1.54834 - 1.48310I$ $b = 0.23471 - 2.13882I$	$11.4057 + 9.4106I$	$3.33658 - 4.76975I$
$u = 0.50759 - 1.37481I$ $a = 1.54834 + 1.48310I$ $b = 0.23471 + 2.13882I$	$11.4057 - 9.4106I$	$3.33658 + 4.76975I$
$u = 0.122694 + 0.403191I$ $a = -1.68607 + 0.58270I$ $b = 0.152683 + 0.763557I$	$0.106087 - 1.407490I$	$0.91901 + 2.91397I$
$u = 0.122694 - 0.403191I$ $a = -1.68607 - 0.58270I$ $b = 0.152683 - 0.763557I$	$0.106087 + 1.407490I$	$0.91901 - 2.91397I$

II. $I^u_2 = \langle u^2a + b + a,\ -u^2a + a^2 - au - a - u,\ u^3 + u^2 + 2u + 1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -u^2a - a \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^2a - au \\ -2u^2a - au - 2a \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ -u^2 - u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + a - 2u - 1 \\ -u^2a - a - u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ -u^2a - a \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ -u^2 - u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ -u^2 - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^2a - au + 3u^2 + 5a + 3u + 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$(u^2 + u + 1)^3$
c_3, c_9	u^6
c_4	$(u^2 - u + 1)^3$
c_6, c_8	$(u^3 - u^2 + 1)^2$
c_7	$(u^3 + u^2 + 2u + 1)^2$
c_{10}, c_{11}	$(u^3 - u^2 + 2u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$(y^2 + y + 1)^3$
c_3, c_9	y^6
c_6, c_8	$(y^3 - y^2 + 2y - 1)^2$
c_7, c_{10}, c_{11}	$(y^3 + 3y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.215080 + 1.307140I$ $a = \quad 0.206350 + 1.132320I$ $b = -0.500000 + 0.866025I$	$-3.02413 - 4.85801I$	$-1.45566 + 6.64456I$
$u = -0.215080 + 1.307140I$ $a = -1.083790 - 0.387453I$ $b = -0.500000 - 0.866025I$	$-3.02413 - 0.79824I$	$2.09851 - 0.12339I$
$u = -0.215080 - 1.307140I$ $a = \quad 0.206350 - 1.132320I$ $b = -0.500000 - 0.866025I$	$-3.02413 + 4.85801I$	$-1.45566 - 6.64456I$
$u = -0.215080 - 1.307140I$ $a = -1.083790 + 0.387453I$ $b = -0.500000 + 0.866025I$	$-3.02413 + 0.79824I$	$2.09851 + 0.12339I$
$u = -0.569840$ $a = \quad 0.377439 + 0.653743I$ $b = -0.500000 - 0.866025I$	$1.11345 - 2.02988I$	$5.85715 + 4.49037I$
$u = -0.569840$ $a = \quad 0.377439 - 0.653743I$ $b = -0.500000 + 0.866025I$	$1.11345 + 2.02988I$	$5.85715 - 4.49037I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^3)(u^{17}+4u^{16}+\cdots+3u+1)$
c_2	$((u^2+u+1)^3)(u^{17}+2u^{16}+\cdots+3u-1)$
c_3, c_9	$u^6(u^{17}+u^{16}+\cdots-96u-64)$
c_4	$((u^2-u+1)^3)(u^{17}+4u^{16}+\cdots+3u+1)$
c_5	$((u^2+u+1)^3)(u^{17}-4u^{16}+\cdots+557u+137)$
c_6, c_8	$((u^3-u^2+1)^2)(u^{17}-3u^{16}+\cdots+2u-1)$
c_7	$((u^3+u^2+2u+1)^2)(u^{17}+3u^{16}+\cdots-2u-1)$
c_{10}, c_{11}	$((u^3-u^2+2u-1)^2)(u^{17}+3u^{16}+\cdots-2u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^3)(y^{17}+2y^{16}+\cdots+3y-1)$
c_2	$((y^2+y+1)^3)(y^{17}+30y^{16}+\cdots+3y-1)$
c_3, c_9	$y^6(y^{17}+35y^{16}+\cdots+9216y-4096)$
c_5	$((y^2+y+1)^3)(y^{17}+58y^{16}+\cdots-518053y-18769)$
c_6, c_8	$((y^3-y^2+2y-1)^2)(y^{17}-31y^{16}+\cdots-14y-1)$
c_7, c_{10}, c_{11}	$((y^3+3y^2+2y-1)^2)(y^{17}+13y^{16}+\cdots-14y-1)$