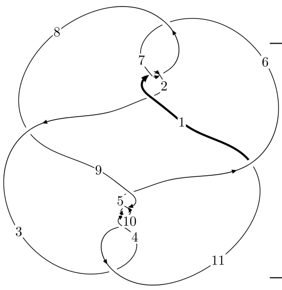
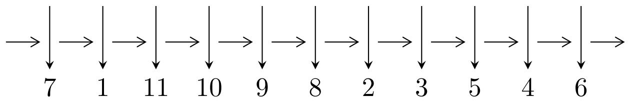
$11a_{238}$ ($K11a_{238}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{32} - u^{31} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 32 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. $I^u_1 = \langle u^{32} - u^{31} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{20} + 3u^{18} - 7u^{16} + 10u^{14} - 10u^{12} + 7u^{10} - u^8 - 2u^6 + 3u^4 - 3u^2 + 1 \\ -u^{20} + 4u^{18} - 10u^{16} + 18u^{14} - 23u^{12} + 24u^{10} - 18u^8 + 10u^6 - 5u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^7 + 2u^5 - 2u^3 + 2u \\ -u^9 + u^7 - u^5 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{19} + 4u^{17} - 10u^{15} + 18u^{13} - 23u^{11} + 24u^9 - 18u^7 + 10u^5 - 5u^3 \\ -u^{21} + 3u^{19} - 7u^{17} + 10u^{15} - 10u^{13} + 7u^{11} - u^9 - 2u^7 + 3u^5 - 3u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{31} + 6u^{29} + \cdots - 2u^3 + 2u \\ -u^{31} + u^{30} + \cdots + 2u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{31} + 6u^{29} + \cdots - 2u^3 + 2u \\ -u^{31} + u^{30} + \cdots + 2u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -4u^{31} + 24u^{29} - 4u^{28} - 88u^{27} + 20u^{26} + 228u^{25} - 72u^{24} - 456u^{23} + 180u^{22} + 736u^{21} - 356u^{20} - 976u^{19} + 568u^{18} + 1080u^{17} - 740u^{16} - 996u^{15} + 812u^{14} + 760u^{13} - 736u^{12} - 468u^{11} + 564u^{10} + 220u^9 - 356u^8 - 68u^7 + 176u^6 + 8u^5 - 76u^4 + 4u^3 + 20u^2 - 4u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{32} + u^{31} + \cdots - 2u - 1$
c_2, c_6	$u^{32} + 11u^{31} + \cdots + 8u + 1$
c_3, c_4, c_5 c_9, c_{10}	$u^{32} - u^{31} + \cdots - 2u - 1$
c_8, c_{11}	$u^{32} - u^{31} + \cdots + 8u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{32} - 11y^{31} + \cdots - 8y + 1$
c_2, c_6	$y^{32} + 21y^{31} + \cdots - 8y + 1$
c_3, c_4, c_5 c_9, c_{10}	$y^{32} + 41y^{31} + \cdots - 8y + 1$
c_8, c_{11}	$y^{32} - 15y^{31} + \cdots - 280y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.645707+0.769221I$	$3.20190-3.54493I$	$-5.40363+3.59501I$
$u=-0.645707-0.769221I$	$3.20190+3.54493I$	$-5.40363-3.59501I$
$u=-0.766364+0.598235I$	$1.37609+2.05463I$	$-7.69647-5.64619I$
$u=-0.766364-0.598235I$	$1.37609-2.05463I$	$-7.69647+5.64619I$
$u=\ \ 0.650134+0.810724I$	$12.44820+5.14177I$	$-4.17146-2.01638I$
$u=\ \ 0.650134-0.810724I$	$12.44820-5.14177I$	$-4.17146+2.01638I$
$u=-1.05287$	-5.13714	-18.4380
$u=\ \ 1.056330+0.061026I$	$-2.61740-3.12405I$	$-13.03032+4.71506I$
$u=\ \ 1.056330-0.061026I$	$-2.61740+3.12405I$	$-13.03032-4.71506I$
$u=\ \ 0.636819+0.693070I$	$0.007012+0.662924I$	$-11.48005-1.53290I$
$u=\ \ 0.636819-0.693070I$	$0.007012-0.662924I$	$-11.48005+1.53290I$
$u=-1.082110+0.105469I$	$6.12682+4.72021I$	$-11.09441-3.42797I$
$u=-1.082110-0.105469I$	$6.12682-4.72021I$	$-11.09441+3.42797I$
$u=\ \ 0.858044+0.724840I$	$6.28397-2.75786I$	$-2.60459+3.27604I$
$u=\ \ 0.858044-0.724840I$	$6.28397+2.75786I$	$-2.60459-3.27604I$
$u=\ \ 0.989901+0.536666I$	$8.67678-1.64389I$	$-8.39822+2.78158I$
$u=\ \ 0.989901-0.536666I$	$8.67678+1.64389I$	$-8.39822-2.78158I$
$u=-0.971964+0.621405I$	$0.65027+2.73837I$	$-9.34927-0.96616I$
$u=-0.971964-0.621405I$	$0.65027-2.73837I$	$-9.34927+0.96616I$
$u=-0.869866+0.770916I$	$16.1380+2.8994I$	$-2.41783-2.82935I$
$u=-0.869866-0.770916I$	$16.1380-2.8994I$	$-2.41783+2.82935I$
$u=\ \ 1.002990+0.660346I$	$-1.07052-5.91452I$	$-13.1301+6.2502I$
$u=\ \ 1.002990-0.660346I$	$-1.07052+5.91452I$	$-13.1301-6.2502I$
$u=-1.016710+0.688378I$	$2.09241+9.07761I$	$-7.53326-8.39661I$
$u=-1.016710-0.688378I$	$2.09241-9.07761I$	$-7.53326+8.39661I$
$u=\ \ 1.028400+0.706586I$	$11.3054-10.8467I$	$-6.07367+6.73348I$
$u=\ \ 1.028400-0.706586I$	$11.3054+10.8467I$	$-6.07367-6.73348I$
$u=\ \ 0.283633+0.646722I$	$10.54710-2.61943I$	$-4.33176+2.54357I$
$u=\ \ 0.283633-0.646722I$	$10.54710+2.61943I$	$-4.33176-2.54357I$
$u=-0.343359+0.506821I$	$1.71293+1.66616I$	$-5.31847-4.81567I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.343359 - 0.506821I$	$1.71293 - 1.66616I$	$-5.31847 + 4.81567I$
$u = \quad 0.432503$	-0.576779	-17.4950

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{32} + u^{31} + \cdots - 2u - 1$
c_2, c_6	$u^{32} + 11u^{31} + \cdots + 8u + 1$
c_3, c_4, c_5 c_9, c_{10}	$u^{32} - u^{31} + \cdots - 2u - 1$
c_8, c_{11}	$u^{32} - u^{31} + \cdots + 8u - 4$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{32} - 11y^{31} + \cdots - 8y + 1$
c_2, c_6	$y^{32} + 21y^{31} + \cdots - 8y + 1$
c_3, c_4, c_5 c_9, c_{10}	$y^{32} + 41y^{31} + \cdots - 8y + 1$
c_8, c_{11}	$y^{32} - 15y^{31} + \cdots - 280y + 16$