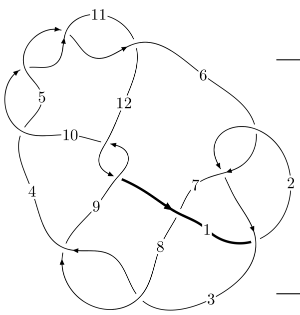
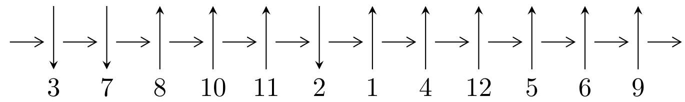
$12a_{0533}$ ($K12a_{0533}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{68} + u^{67} + \cdots + 3u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 68 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. $I_1^u = \langle u^{68} + u^{67} + \cdots + 3u^2 - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^6 + 3u^4 - 2u^2 + 1 \\ u^8 - 4u^6 + 4u^4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + 5u^4 - 3u^2 + 1 \\ u^{12} - 6u^{10} + 12u^8 - 8u^6 + u^4 - 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{10} + 5u^8 - 8u^6 + 5u^4 - 3u^2 + 1 \\ u^{10} - 4u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{19} - 10u^{17} + 40u^{15} - 82u^{13} + 95u^{11} - 72u^9 + 44u^7 - 18u^5 + 5u^3 - 2u \\ -u^{19} + 9u^{17} - 30u^{15} + 43u^{13} - 21u^{11} + u^9 - 6u^7 - u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{32} - 17u^{30} + \cdots - 6u^2 + 1 \\ -u^{34} + 18u^{32} + \cdots + 8u^4 + u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{50} + 27u^{48} + \cdots - 5u^2 + 1 \\ u^{50} - 26u^{48} + \cdots - 8u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{65} - 144u^{63} + \cdots - 20u + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{68} + 31u^{67} + \cdots + 6u + 1$
c_2, c_6	$u^{68} - u^{67} + \cdots + 2u - 1$
c_3, c_8	$u^{68} + u^{67} + \cdots + 92u - 13$
c_4, c_5, c_{10} c_{11}	$u^{68} - u^{67} + \cdots + 3u^2 - 1$
c_7	$u^{68} - 3u^{67} + \cdots - 20u + 1$
c_9, c_{12}	$u^{68} + 13u^{67} + \cdots - 180u - 23$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{68} + 13y^{67} + \cdots - 6y + 1$
c_2, c_6	$y^{68} - 31y^{67} + \cdots - 6y + 1$
c_3, c_8	$y^{68} - 47y^{67} + \cdots - 9686y + 169$
c_4, c_5, c_{10} c_{11}	$y^{68} - 75y^{67} + \cdots - 6y + 1$
c_7	$y^{68} + 5y^{67} + \cdots - 110y + 1$
c_9, c_{12}	$y^{68} + 33y^{67} + \cdots + 7114y + 529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.835401 + 0.076969I$	$3.98870 - 6.35660I$	$11.96357 + 5.97351I$
$u = -0.835401 - 0.076969I$	$3.98870 + 6.35660I$	$11.96357 - 5.97351I$
$u = 0.831050 + 0.041295I$	$5.76628 + 1.28729I$	$15.0699 - 0.8084I$
$u = 0.831050 - 0.041295I$	$5.76628 - 1.28729I$	$15.0699 + 0.8084I$
$u = 0.612556 + 0.561591I$	$0.04182 + 11.86150I$	$6.37979 - 10.46070I$
$u = 0.612556 - 0.561591I$	$0.04182 - 11.86150I$	$6.37979 + 10.46070I$
$u = -0.612136 + 0.551160I$	$2.09389 - 6.71465I$	$9.52044 + 6.37548I$
$u = -0.612136 - 0.551160I$	$2.09389 + 6.71465I$	$9.52044 - 6.37548I$
$u = -0.616362 + 0.518645I$	$2.80869 - 4.10090I$	$10.70764 + 6.36642I$
$u = -0.616362 - 0.518645I$	$2.80869 + 4.10090I$	$10.70764 - 6.36642I$
$u = 0.585980 + 0.550245I$	$-2.78920 + 4.53214I$	$2.74588 - 5.66472I$
$u = 0.585980 - 0.550245I$	$-2.78920 - 4.53214I$	$2.74588 + 5.66472I$
$u = 0.621345 + 0.497725I$	$1.38303 - 0.91928I$	$8.53731 - 1.06257I$
$u = 0.621345 - 0.497725I$	$1.38303 + 0.91928I$	$8.53731 + 1.06257I$
$u = -0.507777 + 0.569607I$	$-5.47539 - 5.67160I$	$0.47362 + 7.79451I$
$u = -0.507777 - 0.569607I$	$-5.47539 + 5.67160I$	$0.47362 - 7.79451I$
$u = -0.464449 + 0.572539I$	$-5.60242 + 1.75390I$	$-0.214027 - 0.465353I$
$u = -0.464449 - 0.572539I$	$-5.60242 - 1.75390I$	$-0.214027 + 0.465353I$
$u = 0.486921 + 0.541642I$	$-2.59155 + 1.87214I$	$4.19602 - 4.04466I$
$u = 0.486921 - 0.541642I$	$-2.59155 - 1.87214I$	$4.19602 + 4.04466I$
$u = -0.694797$	0.907173	9.94330
$u = 0.332805 + 0.598999I$	$-0.77445 - 7.89771I$	$4.14994 + 4.52279I$
$u = 0.332805 - 0.598999I$	$-0.77445 + 7.89771I$	$4.14994 - 4.52279I$
$u = 0.366988 + 0.568928I$	$-3.42846 - 0.68233I$	$0.547475 - 0.922163I$
$u = 0.366988 - 0.568928I$	$-3.42846 + 0.68233I$	$0.547475 + 0.922163I$
$u = -0.325745 + 0.583572I$	$1.26237 + 2.82639I$	$7.27704 - 0.30320I$
$u = -0.325745 - 0.583572I$	$1.26237 - 2.82639I$	$7.27704 + 0.30320I$
$u = 0.556194 + 0.317442I$	$-0.21535 + 3.63596I$	$8.68786 - 8.76844I$
$u = 0.556194 - 0.317442I$	$-0.21535 - 3.63596I$	$8.68786 + 8.76844I$
$u = -0.285763 + 0.538664I$	$1.87263 + 0.44543I$	$8.05642 + 0.19579I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.285763 - 0.538664I$	$1.87263 - 0.44543I$	$8.05642 - 0.19579I$
$u = \ \ 0.244521 + 0.522979I$	$0.33376 + 4.43660I$	$5.03394 - 5.63421I$
$u = \ \ 0.244521 - 0.522979I$	$0.33376 - 4.43660I$	$5.03394 + 5.63421I$
$u = -1.43293 + 0.08268I$	$4.69332 + 5.60280I$	0
$u = -1.43293 - 0.08268I$	$4.69332 - 5.60280I$	0
$u = \ \ 1.45312 + 0.06829I$	$6.74595 - 0.72677I$	0
$u = \ \ 1.45312 - 0.06829I$	$6.74595 + 0.72677I$	0
$u = -0.524220 + 0.080652I$	$0.800382 - 0.035159I$	$12.87268 + 1.03494I$
$u = -0.524220 - 0.080652I$	$0.800382 + 0.035159I$	$12.87268 - 1.03494I$
$u = -1.46881 + 0.10794I$	$2.45112 - 1.55036I$	0
$u = -1.46881 - 0.10794I$	$2.45112 + 1.55036I$	0
$u = \ \ 1.50453 + 0.15035I$	$0.861268 + 0.774157I$	0
$u = \ \ 1.50453 - 0.15035I$	$0.861268 - 0.774157I$	0
$u = -1.52221 + 0.14559I$	$4.06744 - 4.28308I$	0
$u = -1.52221 - 0.14559I$	$4.06744 + 4.28308I$	0
$u = \ \ 1.52815 + 0.06626I$	$7.60675 + 0.77642I$	0
$u = \ \ 1.52815 - 0.06626I$	$7.60675 - 0.77642I$	0
$u = \ \ 1.52367 + 0.16029I$	$1.24045 + 8.26818I$	0
$u = \ \ 1.52367 - 0.16029I$	$1.24045 - 8.26818I$	0
$u = -1.54603 + 0.09488I$	$6.83939 - 5.14255I$	0
$u = -1.54603 - 0.09488I$	$6.83939 + 5.14255I$	0
$u = -1.55970 + 0.16290I$	$4.38474 - 7.12790I$	0
$u = -1.55970 - 0.16290I$	$4.38474 + 7.12790I$	0
$u = \ \ 1.56912 + 0.16482I$	$9.39965 + 9.33939I$	0
$u = \ \ 1.56912 - 0.16482I$	$9.39965 - 9.33939I$	0
$u = -1.56899 + 0.16875I$	$7.3423 - 14.5405I$	0
$u = -1.56899 - 0.16875I$	$7.3423 + 14.5405I$	0
$u = \ \ 1.57101 + 0.15333I$	$10.15460 + 6.56396I$	0
$u = \ \ 1.57101 - 0.15333I$	$10.15460 - 6.56396I$	0
$u = -1.57221 + 0.14666I$	$8.75910 - 1.44505I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.57221 - 0.14666I$	$8.75910 + 1.44505I$	0
$u = \quad 1.58883$	8.73667	0
$u = -1.60657 + 0.00745I$	$14.01720 - 1.44111I$	0
$u = -1.60657 - 0.00745I$	$14.01720 + 1.44111I$	0
$u = \quad 1.60735 + 0.01384I$	$12.25660 + 6.64311I$	0
$u = \quad 1.60735 - 0.01384I$	$12.25660 - 6.64311I$	0
$u = \quad 0.106973 + 0.377298I$	$-1.48571 - 1.30445I$	$0.644293 + 0.844711I$
$u = \quad 0.106973 - 0.377298I$	$-1.48571 + 1.30445I$	$0.644293 - 0.844711I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{68} + 31u^{67} + \cdots + 6u + 1$
c_2, c_6	$u^{68} - u^{67} + \cdots + 2u - 1$
c_3, c_8	$u^{68} + u^{67} + \cdots + 92u - 13$
c_4, c_5, c_{10} c_{11}	$u^{68} - u^{67} + \cdots + 3u^2 - 1$
c_7	$u^{68} - 3u^{67} + \cdots - 20u + 1$
c_9, c_{12}	$u^{68} + 13u^{67} + \cdots - 180u - 23$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{68} + 13y^{67} + \cdots - 6y + 1$
c_2, c_6	$y^{68} - 31y^{67} + \cdots - 6y + 1$
c_3, c_8	$y^{68} - 47y^{67} + \cdots - 9686y + 169$
c_4, c_5, c_{10} c_{11}	$y^{68} - 75y^{67} + \cdots - 6y + 1$
c_7	$y^{68} + 5y^{67} + \cdots - 110y + 1$
c_9, c_{12}	$y^{68} + 33y^{67} + \cdots + 7114y + 529$