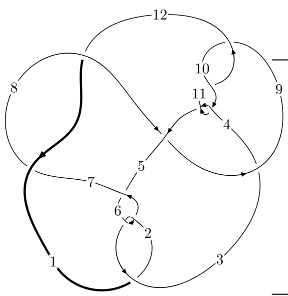
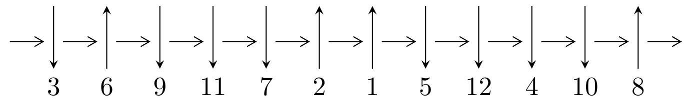
$12a_{0406}$ ($K12a_{0406}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{89} + u^{88} + \cdots + u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 89 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. $I_1^u = \langle u^{89} + u^{88} + \cdots + u - 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^8 - u^6 - u^4 + 1 \\ -u^{10} - 2u^8 - 3u^6 - 2u^4 - u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{14} + 3u^{12} + 6u^{10} + 7u^8 + 6u^6 + 4u^4 + 2u^2 + 1 \\ u^{14} + 2u^{12} + 3u^{10} + 2u^8 - u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{31} - 6u^{29} + \cdots - 18u^5 - 6u^3 \\ -u^{31} - 5u^{29} + \cdots + 2u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{13} + 2u^{11} + 3u^9 + 2u^7 - u \\ u^{15} + 3u^{13} + 6u^{11} + 7u^9 + 6u^7 + 4u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{42} + 7u^{40} + \cdots + u^2 + 1 \\ u^{44} + 8u^{42} + \cdots + 22u^6 + 5u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{71} + 12u^{69} + \cdots + 16u^5 + 4u^3 \\ u^{73} + 13u^{71} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{88} - 60u^{86} + \cdots + 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{89} + 31u^{88} + \cdots - 3u - 1$
c_2, c_6	$u^{89} - u^{88} + \cdots + u + 1$
c_3	$u^{89} + u^{88} + \cdots + 361u + 97$
c_4, c_{10}	$u^{89} - u^{88} + \cdots + u + 1$
c_7, c_{12}	$u^{89} + 5u^{88} + \cdots + 107u + 21$
c_8	$u^{89} - 7u^{88} + \cdots - 1205u - 391$
c_9, c_{11}	$u^{89} + 29u^{88} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{89} + 55y^{88} + \cdots + 5y - 1$
c_2, c_6	$y^{89} + 31y^{88} + \cdots - 3y - 1$
c_3	$y^{89} - 9y^{88} + \cdots + 469821y - 9409$
c_4, c_{10}	$y^{89} - 29y^{88} + \cdots - 3y - 1$
c_7, c_{12}	$y^{89} + 59y^{88} + \cdots - 9131y - 441$
c_8	$y^{89} + 11y^{88} + \cdots - 5202795y - 152881$
c_9, c_{11}	$y^{89} + 63y^{88} + \cdots - 27y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.792424 + 0.618504I$	$3.11119 - 5.13284I$	0
$u = 0.792424 - 0.618504I$	$3.11119 + 5.13284I$	0
$u = -0.796751 + 0.614079I$	$2.10885 + 10.87920I$	0
$u = -0.796751 - 0.614079I$	$2.10885 - 10.87920I$	0
$u = 0.756551 + 0.674024I$	$5.26973 - 2.66595I$	0
$u = 0.756551 - 0.674024I$	$5.26973 + 2.66595I$	0
$u = -0.781291 + 0.601828I$	$-3.26113 + 5.11902I$	0
$u = -0.781291 - 0.601828I$	$-3.26113 - 5.11902I$	0
$u = -0.749471 + 0.687801I$	$4.91888 - 3.02362I$	0
$u = -0.749471 - 0.687801I$	$4.91888 + 3.02362I$	0
$u = 0.762514 + 0.617485I$	$0.72677 - 2.95488I$	0
$u = 0.762514 - 0.617485I$	$0.72677 + 2.95488I$	0
$u = -0.050173 + 0.978604I$	$-0.29363 - 2.69848I$	0
$u = -0.050173 - 0.978604I$	$-0.29363 + 2.69848I$	0
$u = 0.414241 + 0.879359I$	$0.79840 + 7.49051I$	0
$u = 0.414241 - 0.879359I$	$0.79840 - 7.49051I$	0
$u = -0.448726 + 0.856142I$	$1.61410 - 2.05998I$	0
$u = -0.448726 - 0.856142I$	$1.61410 + 2.05998I$	0
$u = -0.746043 + 0.583768I$	$-1.104240 - 0.816505I$	0
$u = -0.746043 - 0.583768I$	$-1.104240 + 0.816505I$	0
$u = -0.705718 + 0.816241I$	$1.374950 - 0.274630I$	0
$u = -0.705718 - 0.816241I$	$1.374950 + 0.274630I$	0
$u = -0.037143 + 1.080270I$	$-5.00271 - 2.21550I$	0
$u = -0.037143 - 1.080270I$	$-5.00271 + 2.21550I$	0
$u = -0.063504 + 1.094470I$	$-2.92880 - 4.38942I$	0
$u = -0.063504 - 1.094470I$	$-2.92880 + 4.38942I$	0
$u = 0.018621 + 1.097080I$	$-6.71736 - 1.83677I$	0
$u = 0.018621 - 1.097080I$	$-6.71736 + 1.83677I$	0
$u = 0.045471 + 1.100660I$	$-9.16961 + 4.22423I$	0
$u = 0.045471 - 1.100660I$	$-9.16961 - 4.22423I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.063947 + 1.101120I$	$-3.96933 + 10.08100I$	0
$u = 0.063947 - 1.101120I$	$-3.96933 - 10.08100I$	0
$u = 0.111277 + 0.878977I$	$-0.48030 - 2.60995I$	$-8.16580 + 1.81655I$
$u = 0.111277 - 0.878977I$	$-0.48030 + 2.60995I$	$-8.16580 - 1.81655I$
$u = -0.748159 + 0.826966I$	$6.86792 + 4.32397I$	0
$u = -0.748159 - 0.826966I$	$6.86792 - 4.32397I$	0
$u = 0.715743 + 0.859066I$	$4.12520 + 2.73162I$	0
$u = 0.715743 - 0.859066I$	$4.12520 - 2.73162I$	0
$u = 0.701524 + 0.532948I$	$-1.45390 - 3.14036I$	$-5.81541 + 3.08693I$
$u = 0.701524 - 0.532948I$	$-1.45390 + 3.14036I$	$-5.81541 - 3.08693I$
$u = 0.745460 + 0.835125I$	$7.56666 + 1.42671I$	0
$u = 0.745460 - 0.835125I$	$7.56666 - 1.42671I$	0
$u = 0.313983 + 0.821757I$	$-3.73770 + 2.25778I$	$-12.76156 - 5.27279I$
$u = 0.313983 - 0.821757I$	$-3.73770 - 2.25778I$	$-12.76156 + 5.27279I$
$u = -0.702092 + 0.892182I$	$1.14647 - 5.11858I$	0
$u = -0.702092 - 0.892182I$	$1.14647 + 5.11858I$	0
$u = 0.735138 + 0.888062I$	$7.40603 + 4.18505I$	0
$u = 0.735138 - 0.888062I$	$7.40603 - 4.18505I$	0
$u = -0.734636 + 0.895406I$	$6.66040 - 9.94218I$	0
$u = -0.734636 - 0.895406I$	$6.66040 + 9.94218I$	0
$u = -0.611338 + 0.569358I$	$-0.124299 - 0.982347I$	$-2.27042 + 3.59861I$
$u = -0.611338 - 0.569358I$	$-0.124299 + 0.982347I$	$-2.27042 - 3.59861I$
$u = -0.599043 + 1.012220I$	$0.31919 - 2.05341I$	0
$u = -0.599043 - 1.012220I$	$0.31919 + 2.05341I$	0
$u = 0.596824 + 1.020580I$	$-0.71708 - 3.53466I$	0
$u = 0.596824 - 1.020580I$	$-0.71708 + 3.53466I$	0
$u = 0.662757 + 0.464863I$	$-4.15479 + 2.64865I$	$-8.87639 - 4.03321I$
$u = 0.662757 - 0.464863I$	$-4.15479 - 2.64865I$	$-8.87639 + 4.03321I$
$u = -0.632747 + 1.010330I$	$-1.35976 - 4.01784I$	0
$u = -0.632747 - 1.010330I$	$-1.35976 + 4.01784I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.616311 + 1.024920I$	$-5.65284 + 2.29612I$	0
$u = \quad 0.616311 - 1.024920I$	$-5.65284 - 2.29612I$	0
$u = -0.687197 + 0.991834I$	$4.00117 - 2.45258I$	0
$u = -0.687197 - 0.991834I$	$4.00117 + 2.45258I$	0
$u = \quad 0.638227 + 1.029020I$	$-2.85651 + 8.30192I$	0
$u = \quad 0.638227 - 1.029020I$	$-2.85651 - 8.30192I$	0
$u = \quad 0.688393 + 1.000560I$	$4.28705 + 8.16569I$	0
$u = \quad 0.688393 - 1.000560I$	$4.28705 - 8.16569I$	0
$u = -0.664209 + 1.031080I$	$-2.41122 - 4.56435I$	0
$u = -0.664209 - 1.031080I$	$-2.41122 + 4.56435I$	0
$u = \quad 0.657312 + 0.403482I$	$0.89298 + 8.30474I$	$-2.77230 - 7.50293I$
$u = \quad 0.657312 - 0.403482I$	$0.89298 - 8.30474I$	$-2.77230 + 7.50293I$
$u = \quad 0.677609 + 1.026170I$	$-0.48705 + 8.43111I$	0
$u = \quad 0.677609 - 1.026170I$	$-0.48705 - 8.43111I$	0
$u = -0.679374 + 1.036700I$	$-4.55418 - 10.64520I$	0
$u = -0.679374 - 1.036700I$	$-4.55418 + 10.64520I$	0
$u = \quad 0.688505 + 1.034580I$	$1.86598 + 10.72270I$	0
$u = \quad 0.688505 - 1.034580I$	$1.86598 - 10.72270I$	0
$u = -0.688639 + 1.037620I$	$0.8409 - 16.4799I$	0
$u = -0.688639 - 1.037620I$	$0.8409 + 16.4799I$	0
$u = -0.635260 + 0.400865I$	$1.86099 - 2.66579I$	$-0.88903 + 2.73641I$
$u = -0.635260 - 0.400865I$	$1.86099 + 2.66579I$	$-0.88903 - 2.73641I$
$u = -0.349167 + 0.527838I$	$-0.135235 - 1.066210I$	$-2.23468 + 5.96441I$
$u = -0.349167 - 0.527838I$	$-0.135235 + 1.066210I$	$-2.23468 - 5.96441I$
$u = -0.501948 + 0.197273I$	$3.26226 - 1.15588I$	$2.07588 + 2.90357I$
$u = -0.501948 - 0.197273I$	$3.26226 + 1.15588I$	$2.07588 - 2.90357I$
$u = \quad 0.507837 + 0.153612I$	$2.69964 - 4.37412I$	$0.81673 + 3.12761I$
$u = \quad 0.507837 - 0.153612I$	$2.69964 + 4.37412I$	$0.81673 - 3.12761I$
$u = \quad 0.403915$	-1.63407	-4.55070

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{89} + 31u^{88} + \cdots - 3u - 1$
c_2, c_6	$u^{89} - u^{88} + \cdots + u + 1$
c_3	$u^{89} + u^{88} + \cdots + 361u + 97$
c_4, c_{10}	$u^{89} - u^{88} + \cdots + u + 1$
c_7, c_{12}	$u^{89} + 5u^{88} + \cdots + 107u + 21$
c_8	$u^{89} - 7u^{88} + \cdots - 1205u - 391$
c_9, c_{11}	$u^{89} + 29u^{88} + \cdots - 3u + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{89} + 55y^{88} + \cdots + 5y - 1$
c_2, c_6	$y^{89} + 31y^{88} + \cdots - 3y - 1$
c_3	$y^{89} - 9y^{88} + \cdots + 469821y - 9409$
c_4, c_{10}	$y^{89} - 29y^{88} + \cdots - 3y - 1$
c_7, c_{12}	$y^{89} + 59y^{88} + \cdots - 9131y - 441$
c_8	$y^{89} + 11y^{88} + \cdots - 5202795y - 152881$
c_9, c_{11}	$y^{89} + 63y^{88} + \cdots - 27y - 1$