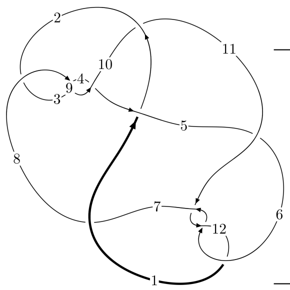
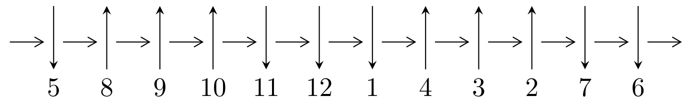
$12a_{1275}$ $(K12a_{1275})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{74} - u^{73} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 74 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. $I^u_1 = \langle u^{74} - u^{73} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{10} - 5u^8 - 8u^6 - 3u^4 + 3u^2 + 1 \\ u^{10} + 4u^8 + 5u^6 - 3u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{27} + 12u^{25} + \cdots - 2u^5 - 5u^3 \\ -u^{27} - 11u^{25} + \cdots + u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{15} - 6u^{13} - 14u^{11} - 14u^9 - 2u^7 + 6u^5 + 2u^3 - 2u \\ u^{17} + 7u^{15} + 19u^{13} + 22u^{11} + 3u^9 - 14u^7 - 6u^5 + 4u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{32} + 13u^{30} + \cdots + 2u^2 + 1 \\ -u^{34} - 14u^{32} + \cdots - 8u^4 - u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{71} + 30u^{69} + \cdots + 2u^3 - 2u \\ -u^{71} - 29u^{69} + \cdots + 6u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{72} + 4u^{71} + \cdots + 16u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{74} + 7u^{73} + \cdots + 1051u + 209$
c_2, c_4	$u^{74} - u^{73} + \cdots - 185u + 53$
c_3, c_8, c_9	$u^{74} + u^{73} + \cdots - u + 1$
c_5, c_7	$u^{74} + u^{73} + \cdots + 185u + 53$
c_6, c_{11}, c_{12}	$u^{74} - u^{73} + \cdots + u + 1$
c_{10}	$u^{74} - 7u^{73} + \cdots - 1051u + 209$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{74} + 9y^{73} + \cdots + 1550953y + 43681$
c_2, c_4, c_5 c_7	$y^{74} - 47y^{73} + \cdots + 27997y + 2809$
c_3, c_6, c_8 c_9, c_{11}, c_{12}	$y^{74} + 61y^{73} + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.290768 + 1.117300I$	$1.14872I$	0
$u = \quad 0.290768 - 1.117300I$	$-\,1.14872I$	0
$u = -0.324090 + 1.110960I$	$-2.96888 + 2.81369I$	0
$u = -0.324090 - 1.110960I$	$-2.96888 - 2.81369I$	0
$u = \quad 0.340353 + 1.111580I$	$1.67515 - 6.84116I$	0
$u = \quad 0.340353 - 1.111580I$	$1.67515 + 6.84116I$	0
$u = \quad 0.802470 + 0.130425I$	$4.65634 + 11.01850I$	$4.64030 - 7.81931I$
$u = \quad 0.802470 - 0.130425I$	$4.65634 - 11.01850I$	$4.64030 + 7.81931I$
$u = -0.802459 + 0.093121I$	$9.88986 - 4.23778I$	$9.30073 + 4.00124I$
$u = -0.802459 - 0.093121I$	$9.88986 + 4.23778I$	$9.30073 - 4.00124I$
$u = -0.793977 + 0.130936I$	$-\,6.91793I$	$0. + 6.13026I$
$u = -0.793977 - 0.130936I$	$6.91793I$	$0. - 6.13026I$
$u = \quad 0.795872 + 0.040531I$	$7.32429 - 2.79968I$	$7.76972 + 2.28386I$
$u = \quad 0.795872 - 0.040531I$	$7.32429 + 2.79968I$	$7.76972 - 2.28386I$
$u = \quad 0.779195 + 0.129403I$	$2.96888 + 2.81369I$	$3.02254 - 2.39385I$
$u = \quad 0.779195 - 0.129403I$	$2.96888 - 2.81369I$	$3.02254 + 2.39385I$
$u = \quad 0.306970 + 1.177980I$	$0.555909 + 0.643800I$	0
$u = \quad 0.306970 - 1.177980I$	$0.555909 - 0.643800I$	0
$u = -0.345532 + 1.167910I$	$6.61248 + 0.07497I$	0
$u = -0.345532 - 1.167910I$	$6.61248 - 0.07497I$	0
$u = \quad 0.773369 + 0.093105I$	$3.84154 + 3.28982I$	$5.14819 - 5.68985I$
$u = \quad 0.773369 - 0.093105I$	$3.84154 - 3.28982I$	$5.14819 + 5.68985I$
$u = -0.760510 + 0.047187I$	$2.61422 - 0.28130I$	$2.27770 - 1.35961I$
$u = -0.760510 - 0.047187I$	$2.61422 + 0.28130I$	$2.27770 + 1.35961I$
$u = -0.321303 + 1.227780I$	$-1.01750 - 3.63130I$	0
$u = -0.321303 - 1.227780I$	$-1.01750 + 3.63130I$	0
$u = \quad 0.347536 + 1.223860I$	$3.68281 + 6.92602I$	0
$u = \quad 0.347536 - 1.223860I$	$3.68281 - 6.92602I$	0
$u = \quad 0.074908 + 1.327650I$	$2.75328I$	0
$u = \quad 0.074908 - 1.327650I$	$-\,2.75328I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.344101 + 1.291670I$	$3.17203 + 1.30582I$	0
$u = \quad 0.344101 - 1.291670I$	$3.17203 - 1.30582I$	0
$u = -0.320980 + 1.304460I$	$-1.61489 - 4.17996I$	0
$u = -0.320980 - 1.304460I$	$-1.61489 + 4.17996I$	0
$u = -0.023470 + 1.343830I$	$-5.21500 - 1.38418I$	0
$u = -0.023470 - 1.343830I$	$-5.21500 + 1.38418I$	0
$u = -0.331164 + 0.554652I$	$0.61507 - 7.28641I$	$0.06041 + 7.92815I$
$u = -0.331164 - 0.554652I$	$0.61507 + 7.28641I$	$0.06041 - 7.92815I$
$u = -0.241952 + 1.334300I$	$-3.17203 + 1.30582I$	0
$u = -0.241952 - 1.334300I$	$-3.17203 - 1.30582I$	0
$u = \quad 0.256488 + 1.336440I$	$-7.32429 + 2.79968I$	0
$u = \quad 0.256488 - 1.336440I$	$-7.32429 - 2.79968I$	0
$u = -0.616895 + 0.165838I$	$1.01750 - 3.63130I$	$1.69390 + 5.02884I$
$u = -0.616895 - 0.165838I$	$1.01750 + 3.63130I$	$1.69390 - 5.02884I$
$u = \quad 0.294614 + 0.565311I$	$-3.84154 + 3.28982I$	$-5.14819 - 5.68985I$
$u = \quad 0.294614 - 0.565311I$	$-3.84154 - 3.28982I$	$-5.14819 + 5.68985I$
$u = -0.235241 + 0.589951I$	$-0.555909 + 0.643800I$	$-2.19301 + 1.30767I$
$u = -0.235241 - 0.589951I$	$-0.555909 - 0.643800I$	$-2.19301 - 1.30767I$
$u = -0.270507 + 1.339790I$	$-3.68281 - 6.92602I$	0
$u = -0.270507 - 1.339790I$	$-3.68281 + 6.92602I$	0
$u = \quad 0.332666 + 1.326540I$	$-0.61507 + 7.28641I$	0
$u = \quad 0.332666 - 1.326540I$	$-0.61507 - 7.28641I$	0
$u = -0.349042 + 1.327480I$	$5.43359 - 8.38875I$	0
$u = -0.349042 - 1.327480I$	$5.43359 + 8.38875I$	0
$u = \quad 0.334534 + 1.345960I$	$-1.67515 + 6.84116I$	0
$u = \quad 0.334534 - 1.345960I$	$-1.67515 - 6.84116I$	0
$u = -0.038463 + 1.388830I$	$-6.61248 - 0.07497I$	0
$u = -0.038463 - 1.388830I$	$-6.61248 + 0.07497I$	0
$u = -0.341541 + 1.348220I$	$-4.65634 - 11.01850I$	0
$u = -0.341541 - 1.348220I$	$-4.65634 + 11.01850I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.050909 + 1.390270I$	$-9.88986 + 4.23778I$	0
$u = 0.050909 - 1.390270I$	$-9.88986 - 4.23778I$	0
$u = -0.060018 + 1.391240I$	$-5.43359 - 8.38875I$	0
$u = -0.060018 - 1.391240I$	$-5.43359 + 8.38875I$	0
$u = 0.346017 + 1.348870I$	$15.1629I$	0
$u = 0.346017 - 1.348870I$	$-15.1629I$	0
$u = 0.561279 + 0.191120I$	$-2.61422 - 0.28130I$	$-2.27770 - 1.35961I$
$u = 0.561279 - 0.191120I$	$-2.61422 + 0.28130I$	$-2.27770 + 1.35961I$
$u = -0.531415 + 0.239733I$	$1.61489 + 4.17996I$	$2.65426 - 1.13367I$
$u = -0.531415 - 0.239733I$	$1.61489 - 4.17996I$	$2.65426 + 1.13367I$
$u = 0.364240 + 0.387169I$	$5.21500 + 1.38418I$	$5.54354 - 4.85899I$
$u = 0.364240 - 0.387169I$	$5.21500 - 1.38418I$	$5.54354 + 4.85899I$
$u = -0.187727 + 0.357544I$	$-0.840445I$	$0. + 8.12337I$
$u = -0.187727 - 0.357544I$	$0.840445I$	$0. - 8.12337I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{74} + 7u^{73} + \cdots + 1051u + 209$
c_2, c_4	$u^{74} - u^{73} + \cdots - 185u + 53$
c_3, c_8, c_9	$u^{74} + u^{73} + \cdots - u + 1$
c_5, c_7	$u^{74} + u^{73} + \cdots + 185u + 53$
c_6, c_{11}, c_{12}	$u^{74} - u^{73} + \cdots + u + 1$
c_{10}	$u^{74} - 7u^{73} + \cdots - 1051u + 209$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{74} + 9y^{73} + \cdots + 1550953y + 43681$
c_2, c_4, c_5 c_7	$y^{74} - 47y^{73} + \cdots + 27997y + 2809$
c_3, c_6, c_8 c_9, c_{11}, c_{12}	$y^{74} + 61y^{73} + \cdots + 5y + 1$