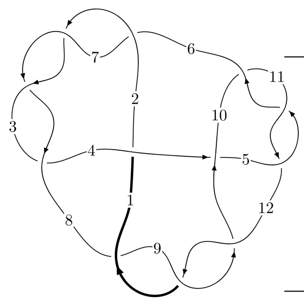
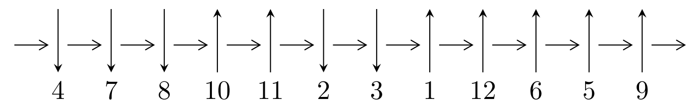
$12a_{1030}$ $(K12a_{1030})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{45} + u^{44} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 45 representations.

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[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. $I_1^u = \langle u^{45} + u^{44} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^8 + 3u^6 + u^4 - 2u^2 + 1 \\ -u^8 - 4u^6 - 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{20} + 9u^{18} + \cdots - 3u^2 + 1 \\ u^{22} + 10u^{20} + \cdots - 10u^4 + u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{12} - 5u^{10} - 7u^8 + 2u^4 - 3u^2 + 1 \\ u^{12} + 6u^{10} + 12u^8 + 8u^6 + u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{31} - 14u^{29} + \cdots + 20u^5 - 8u^3 \\ u^{31} + 15u^{29} + \cdots - 8u^5 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{39} - 18u^{37} + \cdots - 22u^5 + 6u^3 \\ -u^{41} - 19u^{39} + \cdots + 13u^5 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{43} - 4u^{42} + \cdots + 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{45} - 15u^{44} + \cdots + 9649u - 1519$
c_2, c_3, c_6 c_7	$u^{45} - u^{44} + \cdots + u + 1$
c_4	$u^{45} - u^{44} + \cdots - 77u + 185$
c_5, c_{10}, c_{11}	$u^{45} + u^{44} + \cdots + u + 1$
c_8, c_9, c_{12}	$u^{45} + 5u^{44} + \cdots - 75u - 11$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{45} - 29y^{44} + \cdots + 732811y - 2307361$
c_2, c_3, c_6 c_7	$y^{45} - 53y^{44} + \cdots + 3y - 1$
c_4	$y^{45} + 23y^{44} + \cdots - 661921y - 34225$
c_5, c_{10}, c_{11}	$y^{45} + 43y^{44} + \cdots + 3y - 1$
c_8, c_9, c_{12}	$y^{45} + 51y^{44} + \cdots - 2229y - 121$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.694472+0.462147I$	$-15.5741-8.0130I$	$-5.65409+5.67100I$
$u=-0.694472-0.462147I$	$-15.5741+8.0130I$	$-5.65409-5.67100I$
$u=-0.653290+0.517630I$	$-15.7763+3.5247I$	$-6.18458+0.18087I$
$u=-0.653290-0.517630I$	$-15.7763-3.5247I$	$-6.18458-0.18087I$
$u=\ \ 0.676367+0.461366I$	$-7.18094+5.79158I$	$-3.96237-7.08311I$
$u=\ \ 0.676367-0.461366I$	$-7.18094-5.79158I$	$-3.96237+7.08311I$
$u=\ \ 0.646732+0.497182I$	$-7.31795-1.39903I$	$-4.46873+0.97736I$
$u=\ \ 0.646732-0.497182I$	$-7.31795+1.39903I$	$-4.46873-0.97736I$
$u=-0.652812+0.470140I$	$-4.81518-2.15871I$	$-0.09882+3.07844I$
$u=-0.652812-0.470140I$	$-4.81518+2.15871I$	$-0.09882-3.07844I$
$u=-0.133945+1.220780I$	$-8.55123-2.70934I$	0
$u=-0.133945-1.220780I$	$-8.55123+2.70934I$	0
$u=\ \ 0.042496+1.232290I$	$-2.07584+1.44827I$	$0.-5.05918I$
$u=\ \ 0.042496-1.232290I$	$-2.07584-1.44827I$	$0.+5.05918I$
$u=\ \ 0.616614+0.253485I$	$-7.36995+4.81091I$	$-1.70501-6.62764I$
$u=\ \ 0.616614-0.253485I$	$-7.36995-4.81091I$	$-1.70501+6.62764I$
$u=\ \ 0.156680+1.346240I$	$-3.63417+2.80099I$	0
$u=\ \ 0.156680-1.346240I$	$-3.63417-2.80099I$	0
$u=-0.195571+1.364550I$	$-4.96920-5.95062I$	0
$u=-0.195571-1.364550I$	$-4.96920+5.95062I$	0
$u=\ \ 0.314112+0.527766I$	$-8.57820-1.58893I$	$-5.96750-0.20348I$
$u=\ \ 0.314112-0.527766I$	$-8.57820+1.58893I$	$-5.96750+0.20348I$
$u=\ \ 0.222603+1.378670I$	$-12.5405+7.8575I$	0
$u=\ \ 0.222603-1.378670I$	$-12.5405-7.8575I$	0
$u=-0.102260+1.393560I$	$-6.53884-0.76013I$	0
$u=-0.102260-1.393560I$	$-6.53884+0.76013I$	0
$u=-0.560189+0.217034I$	$0.02712-3.19853I$	$1.49402+9.60591I$
$u=-0.560189-0.217034I$	$0.02712+3.19853I$	$1.49402-9.60591I$
$u=-0.594571$	-4.94513	3.01030
$u=\ \ 0.09606+1.43767I$	$-14.7381-0.1515I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.09606 - 1.43767I$	$-14.7381 + 0.1515I$	0
$u = \quad 0.493436 + 0.121548I$	$1.008560 + 0.465711I$	$7.68686 - 1.44848I$
$u = \quad 0.493436 - 0.121548I$	$1.008560 - 0.465711I$	$7.68686 + 1.44848I$
$u = -0.23186 + 1.48396I$	$-11.13820 - 5.38792I$	0
$u = -0.23186 - 1.48396I$	$-11.13820 + 5.38792I$	0
$u = \quad 0.24189 + 1.48537I$	$-13.4825 + 9.1436I$	0
$u = \quad 0.24189 - 1.48537I$	$-13.4825 - 9.1436I$	0
$u = \quad 0.22338 + 1.49166I$	$-13.76630 + 1.76687I$	0
$u = \quad 0.22338 - 1.49166I$	$-13.76630 - 1.76687I$	0
$u = -0.24882 + 1.48904I$	$17.5851 - 11.4561I$	0
$u = -0.24882 - 1.48904I$	$17.5851 + 11.4561I$	0
$u = -0.22026 + 1.50077I$	$17.1392 + 0.3529I$	0
$u = -0.22026 - 1.50077I$	$17.1392 - 0.3529I$	0
$u = -0.239609 + 0.377539I$	$-1.077410 + 0.619571I$	$-5.52422 - 1.42738I$
$u = -0.239609 - 0.377539I$	$-1.077410 - 0.619571I$	$-5.52422 + 1.42738I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{45} - 15u^{44} + \cdots + 9649u - 1519$
c_2, c_3, c_6 c_7	$u^{45} - u^{44} + \cdots + u + 1$
c_4	$u^{45} - u^{44} + \cdots - 77u + 185$
c_5, c_{10}, c_{11}	$u^{45} + u^{44} + \cdots + u + 1$
c_8, c_9, c_{12}	$u^{45} + 5u^{44} + \cdots - 75u - 11$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{45} - 29y^{44} + \cdots + 732811y - 2307361$
c_2, c_3, c_6 c_7	$y^{45} - 53y^{44} + \cdots + 3y - 1$
c_4	$y^{45} + 23y^{44} + \cdots - 661921y - 34225$
c_5, c_{10}, c_{11}	$y^{45} + 43y^{44} + \cdots + 3y - 1$
c_8, c_9, c_{12}	$y^{45} + 51y^{44} + \cdots - 2229y - 121$