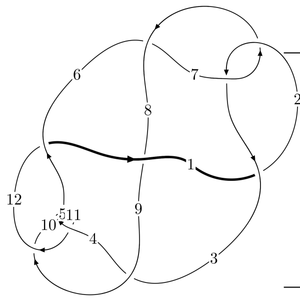
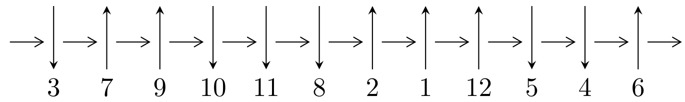
$12a_{0583}$ ($K12a_{0583}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{80} - u^{79} + \cdots + 2u^2 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 80 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. $I_1^u = \langle u^{80} - u^{79} + \cdots + 2u^2 + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^7 + 2u^5 + 2u^3 + 2u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{14} - 3u^{12} - 6u^{10} - 9u^8 - 8u^6 - 6u^4 - 2u^2 + 1 \\ -u^{14} - 2u^{12} - 5u^{10} - 6u^8 - 6u^6 - 4u^4 - u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^{10} + u^8 + 2u^6 + u^4 + u^2 + 1 \\ u^{12} + 2u^{10} + 4u^8 + 4u^6 + 3u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{29} - 4u^{27} + \cdots + 2u^3 + 3u \\ -u^{31} - 5u^{29} + \cdots + 4u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{40} + 7u^{38} + \cdots + 4u^2 + 1 \\ u^{40} + 6u^{38} + \cdots - 12u^6 + 2u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{74} - 11u^{72} + \cdots + u^2 + 1 \\ -u^{76} - 12u^{74} + \cdots + 18u^6 + 5u^4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{78} + 4u^{77} + \cdots + 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{80} + 25u^{79} + \cdots + 4u + 1$
c_2, c_7	$u^{80} + u^{79} + \cdots + 2u^2 + 1$
c_3, c_{12}	$u^{80} + u^{79} + \cdots - 172u + 40$
c_4, c_5, c_{10}	$u^{80} - u^{79} + \cdots + 2u + 1$
c_8	$u^{80} - 5u^{79} + \cdots - 932u + 57$
c_9	$u^{80} + 19u^{79} + \cdots + 1544u + 89$
c_{11}	$u^{80} + 3u^{79} + \cdots + 14u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{80} + 61y^{79} + \cdots + 24y + 1$
c_2, c_7	$y^{80} + 25y^{79} + \cdots + 4y + 1$
c_3, c_{12}	$y^{80} - 63y^{79} + \cdots + 27216y + 1600$
c_4, c_5, c_{10}	$y^{80} - 71y^{79} + \cdots + 4y + 1$
c_8	$y^{80} - 19y^{79} + \cdots - 264424y + 3249$
c_9	$y^{80} + 9y^{79} + \cdots + 393576y + 7921$
c_{11}	$y^{80} + 5y^{79} + \cdots - 52y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.619966+0.786914I$	$0.42644-1.54033I$	0
$u=-0.619966-0.786914I$	$0.42644+1.54033I$	0
$u=-0.229389+0.976414I$	$-0.61767-2.77149I$	0
$u=-0.229389-0.976414I$	$-0.61767+2.77149I$	0
$u=-0.203923+0.991830I$	$-0.77157-2.75902I$	0
$u=-0.203923-0.991830I$	$-0.77157+2.75902I$	0
$u=-0.309223+0.937662I$	$-3.45303+4.19727I$	0
$u=-0.309223-0.937662I$	$-3.45303-4.19727I$	0
$u=\quad 0.518377+0.839755I$	$-5.13729+3.43589I$	0
$u=\quad 0.518377-0.839755I$	$-5.13729-3.43589I$	0
$u=-0.024413+0.986356I$	$-3.66960-1.60184I$	$-7.19925+4.73035I$
$u=-0.024413-0.986356I$	$-3.66960+1.60184I$	$-7.19925-4.73035I$
$u=\quad 0.148549+1.004380I$	$-6.95009+1.80190I$	0
$u=\quad 0.148549-1.004380I$	$-6.95009-1.80190I$	0
$u=\quad 0.273076+0.944130I$	$1.59921-0.69313I$	0
$u=\quad 0.273076-0.944130I$	$1.59921+0.69313I$	0
$u=\quad 0.029820+1.016980I$	$-9.23696+4.28967I$	0
$u=\quad 0.029820-1.016980I$	$-9.23696-4.28967I$	0
$u=\quad 0.662709+0.705824I$	$1.21175-1.58323I$	$0.+4.26377I$
$u=\quad 0.662709-0.705824I$	$1.21175+1.58323I$	$0.-4.26377I$
$u=\quad 0.202557+1.021710I$	$0.97049+6.47019I$	0
$u=\quad 0.202557-1.021710I$	$0.97049-6.47019I$	0
$u=-0.197204+1.033250I$	$-4.29004-10.10410I$	0
$u=-0.197204-1.033250I$	$-4.29004+10.10410I$	0
$u=-0.664562+0.656622I$	$-4.15092+4.60431I$	$-2.70077-3.70353I$
$u=-0.664562-0.656622I$	$-4.15092-4.60431I$	$-2.70077+3.70353I$
$u=-0.800857+0.723425I$	$-0.65569+1.27499I$	0
$u=-0.800857-0.723425I$	$-0.65569-1.27499I$	0
$u=\quad 0.833959+0.720054I$	$2.54380-9.63751I$	0
$u=\quad 0.833959-0.720054I$	$2.54380+9.63751I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.831932 + 0.726163I$	$7.79063 + 5.89158I$	0
$u = -0.831932 - 0.726163I$	$7.79063 - 5.89158I$	0
$u = 0.825177 + 0.735546I$	$5.94352 - 1.97384I$	0
$u = 0.825177 - 0.735546I$	$5.94352 + 1.97384I$	0
$u = -0.738819 + 0.827281I$	$0.331327 + 0.184079I$	0
$u = -0.738819 - 0.827281I$	$0.331327 - 0.184079I$	0
$u = 0.824599 + 0.748438I$	$6.16085 - 1.74955I$	0
$u = 0.824599 - 0.748438I$	$6.16085 + 1.74955I$	0
$u = -0.823667 + 0.762018I$	$8.44386 - 2.05213I$	0
$u = -0.823667 - 0.762018I$	$8.44386 + 2.05213I$	0
$u = 0.822681 + 0.770940I$	$3.46646 + 5.77538I$	0
$u = 0.822681 - 0.770940I$	$3.46646 - 5.77538I$	0
$u = 0.723307 + 0.867234I$	$4.04288 + 2.75909I$	0
$u = 0.723307 - 0.867234I$	$4.04288 - 2.75909I$	0
$u = 0.625784 + 0.954049I$	$-5.78541 + 1.18269I$	0
$u = 0.625784 - 0.954049I$	$-5.78541 - 1.18269I$	0
$u = -0.651819 + 0.939019I$	$-0.08169 - 3.46733I$	0
$u = -0.651819 - 0.939019I$	$-0.08169 + 3.46733I$	0
$u = -0.729625 + 0.901949I$	$0.10678 - 5.76811I$	0
$u = -0.729625 - 0.901949I$	$0.10678 + 5.76811I$	0
$u = 0.669067 + 0.963826I$	$0.45244 + 6.78522I$	0
$u = 0.669067 - 0.963826I$	$0.45244 - 6.78522I$	0
$u = -0.662943 + 0.978808I$	$-5.07006 - 9.78770I$	0
$u = -0.662943 - 0.978808I$	$-5.07006 + 9.78770I$	0
$u = -0.729433 + 0.993592I$	$-1.47902 - 7.03962I$	0
$u = -0.729433 - 0.993592I$	$-1.47902 + 7.03962I$	0
$u = 0.758648 + 0.973630I$	$2.84191 + 0.14624I$	0
$u = 0.758648 - 0.973630I$	$2.84191 - 0.14624I$	0
$u = -0.755419 + 0.979729I$	$7.77358 - 3.86199I$	0
$u = -0.755419 - 0.979729I$	$7.77358 + 3.86199I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\ \ 0.750624+0.988208I$	$5.42406+7.65060I$	0
$u=\ \ 0.750624-0.988208I$	$5.42406-7.65060I$	0
$u=\ \ 0.745337+0.995580I$	$5.14520+7.85865I$	0
$u=\ \ 0.745337-0.995580I$	$5.14520-7.85865I$	0
$u=-0.745312+1.003050I$	$6.94092-11.79480I$	0
$u=-0.745312-1.003050I$	$6.94092+11.79480I$	0
$u=\ \ 0.743866+1.006870I$	$1.6640+15.5411I$	0
$u=\ \ 0.743866-1.006870I$	$1.6640-15.5411I$	0
$u=\ \ 0.451632+0.486887I$	$-4.91838+3.38985I$	$-3.46005-4.67060I$
$u=\ \ 0.451632-0.486887I$	$-4.91838-3.38985I$	$-3.46005+4.67060I$
$u=-0.649486+0.072886I$	$-0.73064-7.38585I$	$2.01990+5.41683I$
$u=-0.649486-0.072886I$	$-0.73064+7.38585I$	$2.01990-5.41683I$
$u=\ \ 0.642091+0.053310I$	$4.41670+3.73992I$	$6.95982-4.49240I$
$u=\ \ 0.642091-0.053310I$	$4.41670-3.73992I$	$6.95982+4.49240I$
$u=-0.625192+0.014679I$	$2.42454-0.05216I$	$4.20411-0.59319I$
$u=-0.625192-0.014679I$	$2.42454+0.05216I$	$4.20411+0.59319I$
$u=\ \ 0.517369+0.128509I$	$-3.48911-0.30076I$	$-0.040470-1.348912I$
$u=\ \ 0.517369-0.128509I$	$-3.48911+0.30076I$	$-0.040470+1.348912I$
$u=-0.276045+0.350553I$	$0.105034-0.970178I$	$2.01489+6.99046I$
$u=-0.276045-0.350553I$	$0.105034+0.970178I$	$2.01489-6.99046I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{80} + 25u^{79} + \cdots + 4u + 1$
c_2, c_7	$u^{80} + u^{79} + \cdots + 2u^2 + 1$
c_3, c_{12}	$u^{80} + u^{79} + \cdots - 172u + 40$
c_4, c_5, c_{10}	$u^{80} - u^{79} + \cdots + 2u + 1$
c_8	$u^{80} - 5u^{79} + \cdots - 932u + 57$
c_9	$u^{80} + 19u^{79} + \cdots + 1544u + 89$
c_{11}	$u^{80} + 3u^{79} + \cdots + 14u + 3$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{80} + 61y^{79} + \cdots + 24y + 1$
c_2, c_7	$y^{80} + 25y^{79} + \cdots + 4y + 1$
c_3, c_{12}	$y^{80} - 63y^{79} + \cdots + 27216y + 1600$
c_4, c_5, c_{10}	$y^{80} - 71y^{79} + \cdots + 4y + 1$
c_8	$y^{80} - 19y^{79} + \cdots - 264424y + 3249$
c_9	$y^{80} + 9y^{79} + \cdots + 393576y + 7921$
c_{11}	$y^{80} + 5y^{79} + \cdots - 52y + 9$