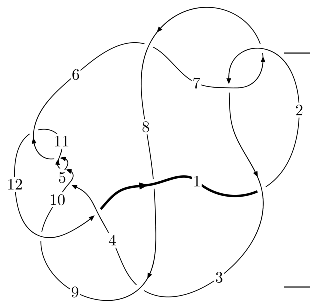
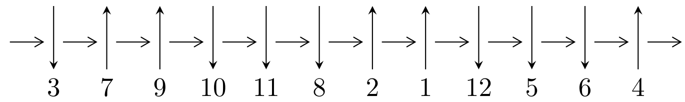
$12a_{0584}$ ($K12a_{0584}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{71} + u^{70} + \cdots + 2u - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 71 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. $I_1^u = \langle u^{71} + u^{70} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^7 + 4u^5 - 4u^3 \\ -u^7 + 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 + 2u^3 + u \\ -u^7 + 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{14} + 7u^{12} - 16u^{10} + 11u^8 + 2u^6 + 1 \\ -u^{16} + 8u^{14} - 24u^{12} + 34u^{10} - 26u^8 + 14u^6 - 4u^4 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{37} + 20u^{35} + \cdots - 2u^3 - u \\ -u^{39} + 21u^{37} + \cdots - 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{21} - 12u^{19} + \cdots + 2u^3 + u \\ u^{21} - 11u^{19} + \cdots - u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{44} + 25u^{42} + \cdots + u^2 + 1 \\ -u^{44} + 24u^{42} + \cdots - 3u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{69} + 160u^{67} + \cdots + 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{71} + 23u^{70} + \cdots - 2u^2 - 1$
c_2, c_7	$u^{71} + u^{70} + \cdots - 2u^3 + 1$
c_3	$u^{71} + u^{70} + \cdots + 2490u + 457$
c_4, c_5, c_{10} c_{11}	$u^{71} - u^{70} + \cdots + 2u + 1$
c_8	$u^{71} - 5u^{70} + \cdots - 2u + 3$
c_9	$u^{71} - 19u^{70} + \cdots + 1600u - 89$
c_{12}	$u^{71} + 5u^{70} + \cdots - 7752u - 1305$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{71} + 51y^{70} + \cdots - 4y - 1$
c_2, c_7	$y^{71} + 23y^{70} + \cdots - 2y^2 - 1$
c_3	$y^{71} - 17y^{70} + \cdots + 8704460y - 208849$
c_4, c_5, c_{10} c_{11}	$y^{71} - 81y^{70} + \cdots - 6y^2 - 1$
c_8	$y^{71} + 3y^{70} + \cdots - 788y - 9$
c_9	$y^{71} - 9y^{70} + \cdots - 14236y - 7921$
c_{12}	$y^{71} + 23y^{70} + \cdots - 38225196y - 1703025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.694520 + 0.502040I$	$1.47824 - 12.20590I$	$-2.00000 + 10.79261I$
$u = 0.694520 - 0.502040I$	$1.47824 + 12.20590I$	$-2.00000 - 10.79261I$
$u = -0.686109 + 0.499545I$	$2.44009 + 6.44670I$	$-1.10008 - 6.01884I$
$u = -0.686109 - 0.499545I$	$2.44009 - 6.44670I$	$-1.10008 + 6.01884I$
$u = 0.700258 + 0.474049I$	$-3.94714 - 6.56549I$	$-8.76056 + 8.35836I$
$u = 0.700258 - 0.474049I$	$-3.94714 + 6.56549I$	$-8.76056 - 8.35836I$
$u = -0.819404 + 0.199766I$	$-0.41421 - 6.03410I$	$-6.32366 + 3.95661I$
$u = -0.819404 - 0.199766I$	$-0.41421 + 6.03410I$	$-6.32366 - 3.95661I$
$u = -0.742678 + 0.347222I$	$-2.39396 + 5.03136I$	$-8.06361 - 7.61297I$
$u = -0.742678 - 0.347222I$	$-2.39396 - 5.03136I$	$-8.06361 + 7.61297I$
$u = -0.773774 + 0.266762I$	$-5.28295 - 0.55811I$	$-12.29152 - 0.26685I$
$u = -0.773774 - 0.266762I$	$-5.28295 + 0.55811I$	$-12.29152 + 0.26685I$
$u = 0.703024 + 0.413777I$	$-1.93445 - 0.81590I$	$-7.02624 + 1.90766I$
$u = 0.703024 - 0.413777I$	$-1.93445 + 0.81590I$	$-7.02624 - 1.90766I$
$u = 0.795616 + 0.175367I$	$0.476047 + 0.465191I$	$-4.66638 + 1.01034I$
$u = 0.795616 - 0.175367I$	$0.476047 - 0.465191I$	$-4.66638 - 1.01034I$
$u = -0.667806 + 0.461108I$	$-0.10592 + 4.36995I$	$-0.97055 - 7.27867I$
$u = -0.667806 - 0.461108I$	$-0.10592 - 4.36995I$	$-0.97055 + 7.27867I$
$u = -0.596181 + 0.486156I$	$4.19049 + 3.85045I$	$1.36830 - 6.50077I$
$u = -0.596181 - 0.486156I$	$4.19049 - 3.85045I$	$1.36830 + 6.50077I$
$u = 0.575793 + 0.484978I$	$3.74442 + 1.85708I$	$0.613629 + 0.863069I$
$u = 0.575793 - 0.484978I$	$3.74442 - 1.85708I$	$0.613629 - 0.863069I$
$u = 0.664102 + 0.290971I$	$-1.30641 - 0.83369I$	$-5.07629 + 1.41246I$
$u = 0.664102 - 0.290971I$	$-1.30641 + 0.83369I$	$-5.07629 - 1.41246I$
$u = 0.341435 + 0.521053I$	$4.42335 - 5.35992I$	$2.64002 + 6.60618I$
$u = 0.341435 - 0.521053I$	$4.42335 + 5.35992I$	$2.64002 - 6.60618I$
$u = -0.319103 + 0.523340I$	$4.99394 - 0.33969I$	$4.01365 - 0.84861I$
$u = -0.319103 - 0.523340I$	$4.99394 + 0.33969I$	$4.01365 + 0.84861I$
$u = 0.190495 + 0.581319I$	$2.94888 + 8.50212I$	$0.66061 - 5.67594I$
$u = 0.190495 - 0.581319I$	$2.94888 - 8.50212I$	$0.66061 + 5.67594I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.201016 + 0.571795I$	$3.85337 - 2.77463I$	$2.53052 + 0.66682I$
$u = -0.201016 - 0.571795I$	$3.85337 + 2.77463I$	$2.53052 - 0.66682I$
$u = \quad 0.155597 + 0.545445I$	$-2.37528 + 3.05928I$	$-5.05542 - 3.36210I$
$u = \quad 0.155597 - 0.545445I$	$-2.37528 - 3.05928I$	$-5.05542 + 3.36210I$
$u = \quad 1.44840 + 0.04331I$	$-0.50030 - 1.43547I$	0
$u = \quad 1.44840 - 0.04331I$	$-0.50030 + 1.43547I$	0
$u = -1.45203 + 0.05521I$	$-1.21241 + 7.20699I$	0
$u = -1.45203 - 0.05521I$	$-1.21241 - 7.20699I$	0
$u = \quad 0.379794 + 0.378597I$	$-0.70736 - 1.31273I$	$-3.33366 + 6.00038I$
$u = \quad 0.379794 - 0.378597I$	$-0.70736 + 1.31273I$	$-3.33366 - 6.00038I$
$u = -0.209559 + 0.491967I$	$1.21382 - 1.02583I$	$3.75907 + 1.41426I$
$u = -0.209559 - 0.491967I$	$1.21382 + 1.02583I$	$3.75907 - 1.41426I$
$u = \quad 1.47502$	-3.93014	0
$u = -1.49713 + 0.03711I$	$-6.82266 + 2.52685I$	0
$u = -1.49713 - 0.03711I$	$-6.82266 - 2.52685I$	0
$u = \quad 0.049027 + 0.494041I$	$-0.09979 - 2.25257I$	$-2.19284 + 3.15175I$
$u = \quad 0.049027 - 0.494041I$	$-0.09979 + 2.25257I$	$-2.19284 - 3.15175I$
$u = -1.56274 + 0.12674I$	$-3.44771 + 0.30950I$	0
$u = -1.56274 - 0.12674I$	$-3.44771 - 0.30950I$	0
$u = \quad 1.56921 + 0.13152I$	$-3.10433 - 6.06433I$	0
$u = \quad 1.56921 - 0.13152I$	$-3.10433 + 6.06433I$	0
$u = \quad 1.59558 + 0.13224I$	$-7.79148 - 6.56095I$	0
$u = \quad 1.59558 - 0.13224I$	$-7.79148 + 6.56095I$	0
$u = -1.59911 + 0.08798I$	$-9.08336 + 2.27829I$	0
$u = -1.59911 - 0.08798I$	$-9.08336 - 2.27829I$	0
$u = \quad 1.59987 + 0.14555I$	$-5.30300 - 8.84275I$	0
$u = \quad 1.59987 - 0.14555I$	$-5.30300 + 8.84275I$	0
$u = -1.60443 + 0.12032I$	$-9.79272 + 2.81421I$	0
$u = -1.60443 - 0.12032I$	$-9.79272 - 2.81421I$	0
$u = -1.60276 + 0.14672I$	$-6.3061 + 14.6215I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.60276 - 0.14672I$	$-6.3061 - 14.6215I$	0
$u = -1.60505 + 0.13731I$	$-11.7781 + 8.8433I$	0
$u = -1.60505 - 0.13731I$	$-11.7781 - 8.8433I$	0
$u = -1.61040 + 0.05873I$	$-7.69046 + 0.45935I$	0
$u = -1.61040 - 0.05873I$	$-7.69046 - 0.45935I$	0
$u = \quad 1.61378 + 0.09699I$	$-10.45380 - 6.69233I$	0
$u = \quad 1.61378 - 0.09699I$	$-10.45380 + 6.69233I$	0
$u = \quad 1.61660 + 0.07746I$	$-13.45630 - 0.75227I$	0
$u = \quad 1.61660 - 0.07746I$	$-13.45630 + 0.75227I$	0
$u = \quad 1.61866 + 0.05966I$	$-8.71597 + 5.04086I$	0
$u = \quad 1.61866 - 0.05966I$	$-8.71597 - 5.04086I$	0

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{71} + 23u^{70} + \cdots - 2u^2 - 1$
c_2, c_7	$u^{71} + u^{70} + \cdots - 2u^3 + 1$
c_3	$u^{71} + u^{70} + \cdots + 2490u + 457$
c_4, c_5, c_{10} c_{11}	$u^{71} - u^{70} + \cdots + 2u + 1$
c_8	$u^{71} - 5u^{70} + \cdots - 2u + 3$
c_9	$u^{71} - 19u^{70} + \cdots + 1600u - 89$
c_{12}	$u^{71} + 5u^{70} + \cdots - 7752u - 1305$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{71} + 51y^{70} + \cdots - 4y - 1$
c_2, c_7	$y^{71} + 23y^{70} + \cdots - 2y^2 - 1$
c_3	$y^{71} - 17y^{70} + \cdots + 8704460y - 208849$
c_4, c_5, c_{10} c_{11}	$y^{71} - 81y^{70} + \cdots - 6y^2 - 1$
c_8	$y^{71} + 3y^{70} + \cdots - 788y - 9$
c_9	$y^{71} - 9y^{70} + \cdots - 14236y - 7921$
c_{12}	$y^{71} + 23y^{70} + \cdots - 38225196y - 1703025$