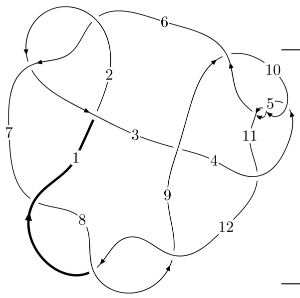
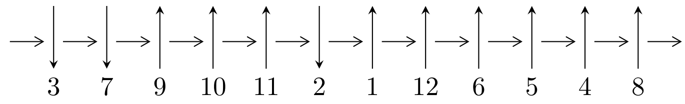
$12a_{0582}$ ($K12a_{0582}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{65} - u^{64} + \cdots + u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 65 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. $I_1^u = \langle u^{65} - u^{64} + \cdots + u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{10} - 5u^8 + 8u^6 - 3u^4 - 3u^2 + 1 \\ -u^{10} + 4u^8 - 5u^6 + 3u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{15} - 6u^{13} + 14u^{11} - 14u^9 + 2u^7 + 6u^5 - 2u^3 - 2u \\ u^{17} - 7u^{15} + 19u^{13} - 22u^{11} + 3u^9 + 14u^7 - 6u^5 - 4u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{25} - 10u^{23} + \cdots + 4u^3 + u \\ u^{27} - 11u^{25} + \cdots - u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{47} + 20u^{45} + \cdots - 8u^5 + 14u^3 \\ u^{47} - 19u^{45} + \cdots - 4u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{35} - 14u^{33} + \cdots - 5u^3 - 2u \\ u^{37} - 15u^{35} + \cdots - 7u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{63} + 104u^{61} + \cdots - 8u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 37u^{64} + \cdots + 5u + 1$
c_2, c_6	$u^{65} - u^{64} + \cdots + 3u - 1$
c_3	$u^{65} - u^{64} + \cdots - 975u - 1789$
c_4, c_5, c_{10}	$u^{65} + u^{64} + \cdots + u - 1$
c_7, c_8, c_{12}	$u^{65} - 3u^{64} + \cdots + 97u - 7$
c_9, c_{11}	$u^{65} - 3u^{64} + \cdots - 159u + 77$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 17y^{64} + \cdots - 23y - 1$
c_2, c_6	$y^{65} - 37y^{64} + \cdots + 5y - 1$
c_3	$y^{65} + 23y^{64} + \cdots - 57349307y - 3200521$
c_4, c_5, c_{10}	$y^{65} - 53y^{64} + \cdots + 5y - 1$
c_7, c_8, c_{12}	$y^{65} + 71y^{64} + \cdots + 3781y - 49$
c_9, c_{11}	$y^{65} + 47y^{64} + \cdots + 71481y - 5929$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.094573 + 0.834098I$	$-13.51750 - 0.44803I$	$-2.98623 + 0.17507I$
$u = -0.094573 - 0.834098I$	$-13.51750 + 0.44803I$	$-2.98623 - 0.17507I$
$u = -0.106309 + 0.831780I$	$-13.1248 - 9.9780I$	$-2.29837 + 6.37976I$
$u = -0.106309 - 0.831780I$	$-13.1248 + 9.9780I$	$-2.29837 - 6.37976I$
$u = \quad 0.100233 + 0.828509I$	$-9.52777 + 5.06782I$	$0.64782 - 3.34296I$
$u = \quad 0.100233 - 0.828509I$	$-9.52777 - 5.06782I$	$0.64782 + 3.34296I$
$u = \quad 1.160000 + 0.299339I$	$-1.25708 - 2.56686I$	0
$u = \quad 1.160000 - 0.299339I$	$-1.25708 + 2.56686I$	0
$u = \quad 0.044240 + 0.791420I$	$-6.38103 + 0.21871I$	$-4.02948 + 0.02486I$
$u = \quad 0.044240 - 0.791420I$	$-6.38103 - 0.21871I$	$-4.02948 - 0.02486I$
$u = -1.151480 + 0.383952I$	$-9.92789 + 5.59071I$	0
$u = -1.151480 - 0.383952I$	$-9.92789 - 5.59071I$	0
$u = \quad 0.101141 + 0.776834I$	$-4.45615 + 6.50629I$	$0.43803 - 8.00885I$
$u = \quad 0.101141 - 0.776834I$	$-4.45615 - 6.50629I$	$0.43803 + 8.00885I$
$u = \quad 1.159270 + 0.378976I$	$-6.28819 - 0.70922I$	0
$u = \quad 1.159270 - 0.378976I$	$-6.28819 + 0.70922I$	0
$u = -1.166850 + 0.385537I$	$-10.23340 - 3.94733I$	0
$u = -1.166850 - 0.385537I$	$-10.23340 + 3.94733I$	0
$u = -0.078114 + 0.754804I$	$-2.51311 - 2.38180I$	$3.80371 + 3.48935I$
$u = -0.078114 - 0.754804I$	$-2.51311 + 2.38180I$	$3.80371 - 3.48935I$
$u = -1.210410 + 0.285230I$	$0.91435 - 1.38824I$	0
$u = -1.210410 - 0.285230I$	$0.91435 + 1.38824I$	0
$u = -1.25678$	2.32752	0
$u = \quad 1.225780 + 0.337681I$	$-2.74836 + 3.85748I$	0
$u = \quad 1.225780 - 0.337681I$	$-2.74836 - 3.85748I$	0
$u = -0.048386 + 0.684959I$	$-1.42383 - 1.84364I$	$4.80084 + 4.67821I$
$u = -0.048386 - 0.684959I$	$-1.42383 + 1.84364I$	$4.80084 - 4.67821I$
$u = -1.287820 + 0.269388I$	$2.46404 - 1.51677I$	0
$u = -1.287820 - 0.269388I$	$2.46404 + 1.51677I$	0
$u = \quad 1.307270 + 0.296498I$	$2.83926 + 5.43289I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.307270 - 0.296498I$	$2.83926 - 5.43289I$	0
$u = -1.296820 + 0.344926I$	$-2.19604 - 4.31467I$	0
$u = -1.296820 - 0.344926I$	$-2.19604 + 4.31467I$	0
$u = \quad 1.348140 + 0.018843I$	$6.21518 + 0.45322I$	0
$u = \quad 1.348140 - 0.018843I$	$6.21518 - 0.45322I$	0
$u = -0.460545 + 0.448848I$	$-7.99941 - 6.33251I$	$0.97978 + 6.99711I$
$u = -0.460545 - 0.448848I$	$-7.99941 + 6.33251I$	$0.97978 - 6.99711I$
$u = \quad 1.318160 + 0.325546I$	$1.86620 + 6.29334I$	0
$u = \quad 1.318160 - 0.325546I$	$1.86620 - 6.29334I$	0
$u = -1.357310 + 0.046814I$	$4.98134 - 4.45057I$	0
$u = -1.357310 - 0.046814I$	$4.98134 + 4.45057I$	0
$u = -1.360890 + 0.109523I$	$1.21860 - 3.40283I$	0
$u = -1.360890 - 0.109523I$	$1.21860 + 3.40283I$	0
$u = \quad 1.359500 + 0.126402I$	$-2.55503 - 1.02133I$	0
$u = \quad 1.359500 - 0.126402I$	$-2.55503 + 1.02133I$	0
$u = -0.424540 + 0.468915I$	$-8.11205 + 2.96450I$	$0.512038 + 0.590116I$
$u = -0.424540 - 0.468915I$	$-8.11205 - 2.96450I$	$0.512038 - 0.590116I$
$u = -1.329800 + 0.335920I$	$0.03580 - 10.52840I$	0
$u = -1.329800 - 0.335920I$	$0.03580 + 10.52840I$	0
$u = \quad 1.373990 + 0.109382I$	$-2.26088 + 8.10639I$	0
$u = \quad 1.373990 - 0.109382I$	$-2.26088 - 8.10639I$	0
$u = \quad 0.434819 + 0.442821I$	$-4.36631 + 1.63515I$	$4.04889 - 3.95460I$
$u = \quad 0.434819 - 0.442821I$	$-4.36631 - 1.63515I$	$4.04889 + 3.95460I$
$u = \quad 1.331870 + 0.368474I$	$-9.04383 + 4.77398I$	0
$u = \quad 1.331870 - 0.368474I$	$-9.04383 - 4.77398I$	0
$u = -1.334750 + 0.364272I$	$-5.02433 - 9.36081I$	0
$u = -1.334750 - 0.364272I$	$-5.02433 + 9.36081I$	0
$u = \quad 1.338820 + 0.365504I$	$-8.5870 + 14.2869I$	0
$u = \quad 1.338820 - 0.365504I$	$-8.5870 - 14.2869I$	0
$u = \quad 0.466465 + 0.249612I$	$-0.58098 + 3.59821I$	$5.77066 - 8.87995I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.466465 - 0.249612I$	$-0.58098 - 3.59821I$	$5.77066 + 8.87995I$
$u = \quad 0.188336 + 0.389034I$	$-1.44853 - 1.18673I$	$0.463992 + 0.219440I$
$u = \quad 0.188336 - 0.389034I$	$-1.44853 + 1.18673I$	$0.463992 - 0.219440I$
$u = -0.421061 + 0.080852I$	$0.842001 - 0.137199I$	$12.42572 + 1.52219I$
$u = -0.421061 - 0.080852I$	$0.842001 + 0.137199I$	$12.42572 - 1.52219I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 37u^{64} + \cdots + 5u + 1$
c_2, c_6	$u^{65} - u^{64} + \cdots + 3u - 1$
c_3	$u^{65} - u^{64} + \cdots - 975u - 1789$
c_4, c_5, c_{10}	$u^{65} + u^{64} + \cdots + u - 1$
c_7, c_8, c_{12}	$u^{65} - 3u^{64} + \cdots + 97u - 7$
c_9, c_{11}	$u^{65} - 3u^{64} + \cdots - 159u + 77$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} - 17y^{64} + \cdots - 23y - 1$
c_2, c_6	$y^{65} - 37y^{64} + \cdots + 5y - 1$
c_3	$y^{65} + 23y^{64} + \cdots - 57349307y - 3200521$
c_4, c_5, c_{10}	$y^{65} - 53y^{64} + \cdots + 5y - 1$
c_7, c_8, c_{12}	$y^{65} + 71y^{64} + \cdots + 3781y - 49$
c_9, c_{11}	$y^{65} + 47y^{64} + \cdots + 71481y - 5929$