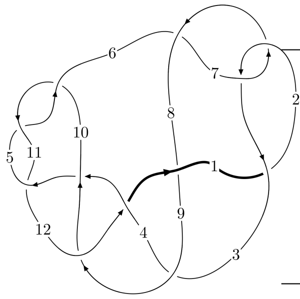
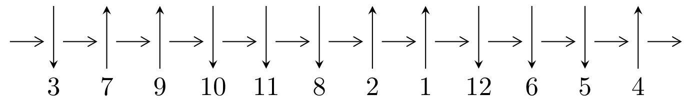
$12a_{0585}$ ($K12a_{0585}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{90} - u^{89} + \cdots - 3u + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $I_1^u = \langle u^{90} - u^{89} + \cdots - 3u + 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^{10} + 5u^8 + 8u^6 + 3u^4 - u^2 + 1 \\ u^{10} + 4u^8 + 5u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^6 - 3u^4 - 2u^2 + 1 \\ -u^8 - 4u^6 - 4u^4 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{17} + 8u^{15} + 25u^{13} + 36u^{11} + 19u^9 - 4u^7 - 2u^5 + 4u^3 + u \\ u^{19} + 9u^{17} + 32u^{15} + 55u^{13} + 43u^{11} + 9u^9 + 4u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{28} + 13u^{26} + \cdots - u^2 + 1 \\ u^{28} + 12u^{26} + \cdots + 2u^6 - 3u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{57} - 26u^{55} + \cdots + 2u^3 - u \\ -u^{57} - 25u^{55} + \cdots + 3u^5 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{46} + 21u^{44} + \cdots + 6u^4 + 1 \\ u^{48} + 22u^{46} + \cdots + 2u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{89} - 4u^{88} + \cdots + 20u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{90} + 29u^{89} + \cdots + u + 1$
c_2, c_7	$u^{90} + u^{89} + \cdots - u + 1$
c_3	$u^{90} + u^{89} + \cdots + 5329u + 2941$
c_4	$u^{90} - u^{89} + \cdots + 11u + 1$
c_5, c_{10}, c_{11}	$u^{90} + u^{89} + \cdots + 3u + 1$
c_8	$u^{90} - 5u^{89} + \cdots - u + 1$
c_9	$u^{90} - 19u^{89} + \cdots - 88451u + 4523$
c_{12}	$u^{90} + 7u^{89} + \cdots + 941u + 55$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{90} + 65y^{89} + \cdots + 5y + 1$
c_2, c_7	$y^{90} + 29y^{89} + \cdots + y + 1$
c_3	$y^{90} - 27y^{89} + \cdots - 251343687y + 8649481$
c_4	$y^{90} + 5y^{89} + \cdots - 47y + 1$
c_5, c_{10}, c_{11}	$y^{90} + 81y^{89} + \cdots + y + 1$
c_8	$y^{90} + y^{89} + \cdots + 29y + 1$
c_9	$y^{90} + 29y^{89} + \cdots + 330837793y + 20457529$
c_{12}	$y^{90} + 13y^{89} + \cdots + 155009y + 3025$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.092360 + 0.990486I$	$-0.19734 - 2.09371I$	0
$u = -0.092360 - 0.990486I$	$-0.19734 + 2.09371I$	0
$u = -0.174167 + 1.065840I$	$-2.74452 + 3.55694I$	0
$u = -0.174167 - 1.065840I$	$-2.74452 - 3.55694I$	0
$u = 0.109638 + 1.103100I$	$1.18483 - 1.77466I$	0
$u = 0.109638 - 1.103100I$	$1.18483 + 1.77466I$	0
$u = -0.208911 + 1.105270I$	$2.33069 + 9.15031I$	0
$u = -0.208911 - 1.105270I$	$2.33069 - 9.15031I$	0
$u = 0.196314 + 1.116870I$	$3.28147 - 3.51353I$	0
$u = 0.196314 - 1.116870I$	$3.28147 + 3.51353I$	0
$u = 0.708793 + 0.299494I$	$1.68759 - 12.58900I$	$-1.92424 + 10.40743I$
$u = 0.708793 - 0.299494I$	$1.68759 + 12.58900I$	$-1.92424 - 10.40743I$
$u = -0.703274 + 0.301535I$	$2.64941 + 6.81481I$	$-0.10297 - 5.63570I$
$u = -0.703274 - 0.301535I$	$2.64941 - 6.81481I$	$-0.10297 + 5.63570I$
$u = 0.700545 + 0.282219I$	$-3.78579 - 6.94246I$	$-7.67165 + 8.00926I$
$u = 0.700545 - 0.282219I$	$-3.78579 + 6.94246I$	$-7.67165 - 8.00926I$
$u = -0.678301 + 0.287933I$	$0.05334 + 4.69227I$	$0.02736 - 6.79114I$
$u = -0.678301 - 0.287933I$	$0.05334 - 4.69227I$	$0.02736 + 6.79114I$
$u = 0.384609 + 0.625740I$	$2.97480 + 8.70845I$	$0.78880 - 5.17975I$
$u = 0.384609 - 0.625740I$	$2.97480 - 8.70845I$	$0.78880 + 5.17975I$
$u = -0.646374 + 0.328778I$	$4.40452 + 4.07878I$	$2.14162 - 6.13926I$
$u = -0.646374 - 0.328778I$	$4.40452 - 4.07878I$	$2.14162 + 6.13926I$
$u = 0.677349 + 0.249229I$	$-1.86025 - 1.15632I$	$-5.97482 + 1.58422I$
$u = 0.677349 - 0.249229I$	$-1.86025 + 1.15632I$	$-5.97482 - 1.58422I$
$u = -0.386229 + 0.609030I$	$3.89211 - 2.96681I$	$2.65198 + 0.23669I$
$u = -0.386229 - 0.609030I$	$3.89211 + 2.96681I$	$2.65198 - 0.23669I$
$u = 0.633442 + 0.335557I$	$3.95811 + 1.65651I$	$1.36233 + 0.56944I$
$u = 0.633442 - 0.335557I$	$3.95811 - 1.65651I$	$1.36233 - 0.56944I$
$u = -0.677616 + 0.197513I$	$-2.43312 + 5.36697I$	$-7.06462 - 7.35684I$
$u = -0.677616 - 0.197513I$	$-2.43312 - 5.36697I$	$-7.06462 + 7.35684I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.031544 + 1.295490I$	$5.21152 - 2.64980I$	0
$u = 0.031544 - 1.295490I$	$5.21152 + 2.64980I$	0
$u = 0.322486 + 0.620173I$	$-2.39255 + 3.21804I$	$-4.96336 - 2.89069I$
$u = 0.322486 - 0.620173I$	$-2.39255 - 3.21804I$	$-4.96336 + 2.89069I$
$u = -0.669378 + 0.147993I$	$-5.42459 - 0.27478I$	$-11.47130 - 0.26528I$
$u = -0.669378 - 0.147993I$	$-5.42459 + 0.27478I$	$-11.47130 + 0.26528I$
$u = -0.673819 + 0.103290I$	$-0.64886 - 5.80042I$	$-5.73200 + 4.09941I$
$u = -0.673819 - 0.103290I$	$-0.64886 + 5.80042I$	$-5.73200 - 4.09941I$
$u = 0.472908 + 0.471039I$	$4.58313 - 5.28881I$	$3.03353 + 6.59017I$
$u = 0.472908 - 0.471039I$	$4.58313 + 5.28881I$	$3.03353 - 6.59017I$
$u = -0.455824 + 0.486101I$	$5.13756 - 0.42861I$	$4.31086 - 0.88245I$
$u = -0.455824 - 0.486101I$	$5.13756 + 0.42861I$	$4.31086 + 0.88245I$
$u = 0.655716 + 0.096723I$	$0.258872 + 0.271367I$	$-4.04834 + 0.93869I$
$u = 0.655716 - 0.096723I$	$0.258872 - 0.271367I$	$-4.04834 - 0.93869I$
$u = -0.237515 + 1.320140I$	$3.78695 - 2.51925I$	0
$u = -0.237515 - 1.320140I$	$3.78695 + 2.51925I$	0
$u = 0.216994 + 1.327150I$	$4.68022 - 2.85442I$	0
$u = 0.216994 - 1.327150I$	$4.68022 + 2.85442I$	0
$u = 0.130514 + 0.640490I$	$-0.18588 - 2.20059I$	$-2.47638 + 3.41832I$
$u = 0.130514 - 0.640490I$	$-0.18588 + 2.20059I$	$-2.47638 - 3.41832I$
$u = 0.621324 + 0.194532I$	$-1.33310 - 1.05611I$	$-4.15239 + 1.37352I$
$u = 0.621324 - 0.194532I$	$-1.33310 + 1.05611I$	$-4.15239 - 1.37352I$
$u = -0.251712 + 1.349720I$	$-0.70074 + 3.04867I$	0
$u = -0.251712 - 1.349720I$	$-0.70074 - 3.04867I$	0
$u = -0.336547 + 0.528039I$	$1.25107 - 1.13212I$	$3.66694 + 1.15328I$
$u = -0.336547 - 0.528039I$	$1.25107 + 1.13212I$	$3.66694 - 1.15328I$
$u = -0.263703 + 1.372860I$	$2.54773 + 8.78045I$	0
$u = -0.263703 - 1.372860I$	$2.54773 - 8.78045I$	0
$u = 0.244027 + 1.378980I$	$3.69075 - 4.21685I$	0
$u = 0.244027 - 1.378980I$	$3.69075 + 4.21685I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.167948 + 1.402410I$	$4.84787 - 3.56837I$	0
$u = \ \ 0.167948 - 1.402410I$	$4.84787 + 3.56837I$	0
$u = \ \ 0.26458 + 1.40036I$	$3.40298 - 4.58323I$	0
$u = \ \ 0.26458 - 1.40036I$	$3.40298 + 4.58323I$	0
$u = \ \ 0.12081 + 1.42071I$	$3.80098 + 1.71948I$	0
$u = \ \ 0.12081 - 1.42071I$	$3.80098 - 1.71948I$	0
$u = -0.14262 + 1.42305I$	$7.25500 + 0.67184I$	0
$u = -0.14262 - 1.42305I$	$7.25500 - 0.67184I$	0
$u = -0.26571 + 1.41535I$	$5.49670 + 8.13758I$	0
$u = -0.26571 - 1.41535I$	$5.49670 - 8.13758I$	0
$u = \ \ 0.27503 + 1.41433I$	$1.63219 - 10.49430I$	0
$u = \ \ 0.27503 - 1.41433I$	$1.63219 + 10.49430I$	0
$u = -0.12638 + 1.44027I$	$10.26750 - 1.23375I$	0
$u = -0.12638 - 1.44027I$	$10.26750 + 1.23375I$	0
$u = \ \ 0.12126 + 1.44108I$	$9.40156 + 7.03291I$	0
$u = \ \ 0.12126 - 1.44108I$	$9.40156 - 7.03291I$	0
$u = \ \ 0.24469 + 1.42692I$	$9.59469 - 1.56240I$	0
$u = \ \ 0.24469 - 1.42692I$	$9.59469 + 1.56240I$	0
$u = -0.16537 + 1.43882I$	$11.22680 + 1.83058I$	0
$u = -0.16537 - 1.43882I$	$11.22680 - 1.83058I$	0
$u = -0.24986 + 1.42658I$	$10.02060 + 7.36006I$	0
$u = -0.24986 - 1.42658I$	$10.02060 - 7.36006I$	0
$u = \ \ 0.17139 + 1.43884I$	$10.64090 - 7.63501I$	0
$u = \ \ 0.17139 - 1.43884I$	$10.64090 + 7.63501I$	0
$u = -0.27478 + 1.42281I$	$8.16280 + 10.37730I$	0
$u = -0.27478 - 1.42281I$	$8.16280 - 10.37730I$	0
$u = \ \ 0.27732 + 1.42248I$	$7.1924 - 16.1793I$	0
$u = \ \ 0.27732 - 1.42248I$	$7.1924 + 16.1793I$	0
$u = \ \ 0.431223 + 0.324576I$	$-0.62645 - 1.33595I$	$-2.95240 + 5.88577I$
$u = \ \ 0.431223 - 0.324576I$	$-0.62645 + 1.33595I$	$-2.95240 - 5.88577I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{90} + 29u^{89} + \cdots + u + 1$
c_2, c_7	$u^{90} + u^{89} + \cdots - u + 1$
c_3	$u^{90} + u^{89} + \cdots + 5329u + 2941$
c_4	$u^{90} - u^{89} + \cdots + 11u + 1$
c_5, c_{10}, c_{11}	$u^{90} + u^{89} + \cdots + 3u + 1$
c_8	$u^{90} - 5u^{89} + \cdots - u + 1$
c_9	$u^{90} - 19u^{89} + \cdots - 88451u + 4523$
c_{12}	$u^{90} + 7u^{89} + \cdots + 941u + 55$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{90} + 65y^{89} + \cdots + 5y + 1$
c_2, c_7	$y^{90} + 29y^{89} + \cdots + y + 1$
c_3	$y^{90} - 27y^{89} + \cdots - 251343687y + 8649481$
c_4	$y^{90} + 5y^{89} + \cdots - 47y + 1$
c_5, c_{10}, c_{11}	$y^{90} + 81y^{89} + \cdots + y + 1$
c_8	$y^{90} + y^{89} + \cdots + 29y + 1$
c_9	$y^{90} + 29y^{89} + \cdots + 330837793y + 20457529$
c_{12}	$y^{90} + 13y^{89} + \cdots + 155009y + 3025$