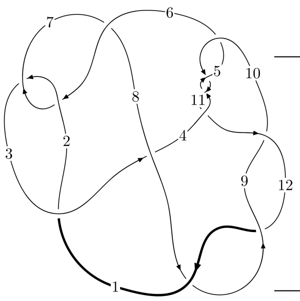
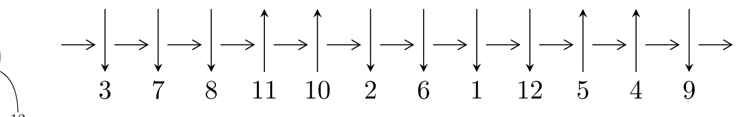
$12a_{0549}$ ($K12a_{0549}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{55} + u^{54} + \cdots - 2u^2 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 55 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. $I_1^u = \langle u^{55} + u^{54} + \cdots - 2u^2 - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^8 + u^6 - u^4 + 1 \\ -u^8 + 2u^6 - 2u^4 + 2u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9 + 2u^7 - 3u^5 + 2u^3 - u \\ -u^{11} + u^9 - 2u^7 + u^5 - u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{16} + 3u^{14} - 7u^{12} + 10u^{10} - 11u^8 + 8u^6 - 4u^4 + 1 \\ -u^{18} + 2u^{16} - 5u^{14} + 6u^{12} - 7u^{10} + 6u^8 - 4u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{23} + 4u^{21} + \cdots + 4u^3 - 2u \\ -u^{25} + 3u^{23} + \cdots - 3u^5 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{49} - 8u^{47} + \cdots - 6u^3 + u \\ u^{51} - 7u^{49} + \cdots + 3u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^{34} - 5u^{32} + \cdots + 3u^2 + 1 \\ u^{34} - 6u^{32} + \cdots + 8u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{53} + 32u^{51} + \cdots + 8u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{55} + 17u^{54} + \cdots - 4u + 1$
c_2, c_6	$u^{55} - u^{54} + \cdots + 2u^2 + 1$
c_3	$u^{55} + u^{54} + \cdots + 1762u + 481$
c_4, c_5, c_{10} c_{11}	$u^{55} - u^{54} + \cdots + 2u^2 + 1$
c_8, c_9, c_{12}	$u^{55} - 7u^{54} + \cdots + 16u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{55} + 43y^{54} + \cdots - 36y - 1$
c_2, c_6	$y^{55} - 17y^{54} + \cdots - 4y - 1$
c_3	$y^{55} + 19y^{54} + \cdots - 1037728y - 231361$
c_4, c_5, c_{10} c_{11}	$y^{55} + 59y^{54} + \cdots - 4y - 1$
c_8, c_9, c_{12}	$y^{55} + 55y^{54} + \cdots - 164y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.684404 + 0.722826I$	$-5.13814 - 3.11006I$	$-5.81726 + 2.62133I$
$u = -0.684404 - 0.722826I$	$-5.13814 + 3.11006I$	$-5.81726 - 2.62133I$
$u = \quad 1.009300 + 0.073798I$	$-10.64290 - 3.13922I$	$-13.9620 + 3.8860I$
$u = \quad 1.009300 - 0.073798I$	$-10.64290 + 3.13922I$	$-13.9620 - 3.8860I$
$u = -0.983021 + 0.286921I$	$-3.79770 - 1.90653I$	$-7.83144 - 0.75410I$
$u = -0.983021 - 0.286921I$	$-3.79770 + 1.90653I$	$-7.83144 + 0.75410I$
$u = \quad 0.999075 + 0.254898I$	$2.64629 - 0.91628I$	$-4.31373 + 0.57035I$
$u = \quad 0.999075 - 0.254898I$	$2.64629 + 0.91628I$	$-4.31373 - 0.57035I$
$u = \quad 0.739817 + 0.722754I$	$1.96614 + 1.46324I$	$-2.76292 - 4.72881I$
$u = \quad 0.739817 - 0.722754I$	$1.96614 - 1.46324I$	$-2.76292 + 4.72881I$
$u = -0.954223 + 0.074852I$	$-3.31630 + 2.07955I$	$-12.7480 - 6.4347I$
$u = -0.954223 - 0.074852I$	$-3.31630 - 2.07955I$	$-12.7480 + 6.4347I$
$u = -1.016950 + 0.234947I$	$2.48031 + 5.10996I$	$-4.99601 - 6.99986I$
$u = -1.016950 - 0.234947I$	$2.48031 - 5.10996I$	$-4.99601 + 6.99986I$
$u = \quad 1.033440 + 0.219903I$	$-4.29762 - 8.00514I$	$-8.76672 + 6.36477I$
$u = \quad 1.033440 - 0.219903I$	$-4.29762 + 8.00514I$	$-8.76672 - 6.36477I$
$u = -0.801281 + 0.723501I$	$3.03409 + 1.48960I$	$1.90395 - 3.20693I$
$u = -0.801281 - 0.723501I$	$3.03409 - 1.48960I$	$1.90395 + 3.20693I$
$u = -0.917815 + 0.588074I$	$-7.81316 + 2.22017I$	$-10.28022 - 2.96610I$
$u = -0.917815 - 0.588074I$	$-7.81316 - 2.22017I$	$-10.28022 + 2.96610I$
$u = \quad 0.882338 + 0.642245I$	$-0.37050 - 2.49264I$	$-9.18106 + 2.41749I$
$u = \quad 0.882338 - 0.642245I$	$-0.37050 + 2.49264I$	$-9.18106 - 2.41749I$
$u = -0.728948 + 0.842191I$	$2.71025 - 7.42439I$	$-2.34426 + 3.09843I$
$u = -0.728948 - 0.842191I$	$2.71025 + 7.42439I$	$-2.34426 - 3.09843I$
$u = \quad 0.739346 + 0.840551I$	$9.51060 + 4.33514I$	$1.19741 - 3.41520I$
$u = \quad 0.739346 - 0.840551I$	$9.51060 - 4.33514I$	$1.19741 + 3.41520I$
$u = -0.749884 + 0.838519I$	$9.70470 + 0.07498I$	$1.76041 - 2.66320I$
$u = -0.749884 - 0.838519I$	$9.70470 - 0.07498I$	$1.76041 + 2.66320I$
$u = \quad 0.762609 + 0.836176I$	$3.32526 - 3.17260I$	$-1.67375 + 2.71266I$
$u = \quad 0.762609 - 0.836176I$	$3.32526 + 3.17260I$	$-1.67375 - 2.71266I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.862743$	-1.53248	-4.68320
$u = \quad 0.869677 + 0.749943I$	$-1.90030 - 2.83935I$	$-4.00000 + 2.97844I$
$u = \quad 0.869677 - 0.749943I$	$-1.90030 + 2.83935I$	$-4.00000 - 2.97844I$
$u = -0.925150 + 0.708021I$	$2.65530 + 3.98543I$	0
$u = -0.925150 - 0.708021I$	$2.65530 - 3.98543I$	0
$u = \quad 0.960379 + 0.699146I$	$1.30494 - 6.91372I$	$0. + 9.95647I$
$u = \quad 0.960379 - 0.699146I$	$1.30494 + 6.91372I$	$0. - 9.95647I$
$u = -0.982922 + 0.687300I$	$-6.01523 + 8.51848I$	0
$u = -0.982922 - 0.687300I$	$-6.01523 - 8.51848I$	0
$u = \quad 0.984888 + 0.763099I$	$2.63960 - 2.80293I$	0
$u = \quad 0.984888 - 0.763099I$	$2.63960 + 2.80293I$	0
$u = -0.993364 + 0.758698I$	$8.95425 + 5.89271I$	0
$u = -0.993364 - 0.758698I$	$8.95425 - 5.89271I$	0
$u = \quad 0.999972 + 0.755227I$	$8.70798 - 10.29670I$	0
$u = \quad 0.999972 - 0.755227I$	$8.70798 + 10.29670I$	0
$u = -1.005970 + 0.751628I$	$1.85795 + 13.37800I$	0
$u = -1.005970 - 0.751628I$	$1.85795 - 13.37800I$	0
$u = -0.045198 + 0.671804I$	$-0.81085 + 5.10342I$	$-1.92119 - 3.21301I$
$u = -0.045198 - 0.671804I$	$-0.81085 - 5.10342I$	$-1.92119 + 3.21301I$
$u = \quad 0.014665 + 0.668100I$	$5.79986 - 2.14204I$	$1.76494 + 3.28212I$
$u = \quad 0.014665 - 0.668100I$	$5.79986 + 2.14204I$	$1.76494 - 3.28212I$
$u = -0.311643 + 0.483803I$	$-6.70011 + 1.72964I$	$-5.80955 - 3.62114I$
$u = -0.311643 - 0.483803I$	$-6.70011 - 1.72964I$	$-5.80955 + 3.62114I$
$u = \quad 0.173894 + 0.333363I$	$-0.101545 - 0.883584I$	$-2.35912 + 7.80336I$
$u = \quad 0.173894 - 0.333363I$	$-0.101545 + 0.883584I$	$-2.35912 - 7.80336I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{55} + 17u^{54} + \cdots - 4u + 1$
c_2, c_6	$u^{55} - u^{54} + \cdots + 2u^2 + 1$
c_3	$u^{55} + u^{54} + \cdots + 1762u + 481$
c_4, c_5, c_{10} c_{11}	$u^{55} - u^{54} + \cdots + 2u^2 + 1$
c_8, c_9, c_{12}	$u^{55} - 7u^{54} + \cdots + 16u - 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{55} + 43y^{54} + \cdots - 36y - 1$
c_2, c_6	$y^{55} - 17y^{54} + \cdots - 4y - 1$
c_3	$y^{55} + 19y^{54} + \cdots - 1037728y - 231361$
c_4, c_5, c_{10} c_{11}	$y^{55} + 59y^{54} + \cdots - 4y - 1$
c_8, c_9, c_{12}	$y^{55} + 55y^{54} + \cdots - 164y - 1$