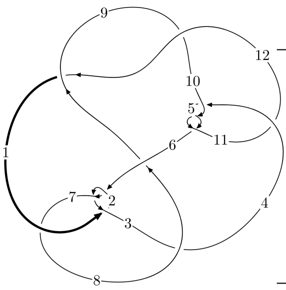
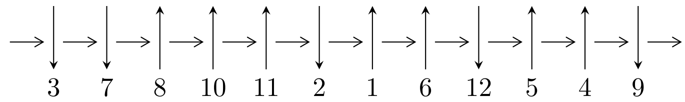
$12a_{0535}$ ($K12a_{0535}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{87} - u^{86} + \cdots + 2u^3 + 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 87 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. $\boldsymbol{I_1^u = \langle u^{87} - u^{86} + \cdots + 2u^3 + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{11} + 6u^9 - 12u^7 + 8u^5 - u^3 + 2u \\ -u^{11} + 5u^9 - 8u^7 + 3u^5 + u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{13} + 6u^{11} - 13u^9 + 12u^7 - 6u^5 + 4u^3 - u \\ u^{15} - 7u^{13} + 18u^{11} - 19u^9 + 6u^7 - 2u^5 + 4u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{28} + 13u^{26} + \cdots - u^2 + 1 \\ u^{30} - 14u^{28} + \cdots + 8u^4 + u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{69} - 32u^{67} + \cdots + 2u^3 + u \\ -u^{71} + 33u^{69} + \cdots - 3u^5 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{37} + 18u^{35} + \cdots - 2u^3 - u \\ -u^{37} + 17u^{35} + \cdots + u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{85} + 160u^{83} + \cdots + 4u^2 + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{87} + 41u^{86} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{87} - u^{86} + \cdots + 2u - 1$
c_3	$u^{87} + u^{86} + \cdots + 200u - 676$
c_4, c_5, c_{10}	$u^{87} + u^{86} + \cdots + 2u^3 - 1$
c_7	$u^{87} - 3u^{86} + \cdots + 1868u - 369$
c_8	$u^{87} + 11u^{86} + \cdots - 4u + 1$
c_9, c_{12}	$u^{87} - 13u^{86} + \cdots + 672u - 23$
c_{11}	$u^{87} - 3u^{86} + \cdots - 760u + 1491$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{87} + 11y^{86} + \cdots - 4y - 1$
c_2, c_6	$y^{87} - 41y^{86} + \cdots - 2y^2 - 1$
c_3	$y^{87} - 25y^{86} + \cdots + 2553368y - 456976$
c_4, c_5, c_{10}	$y^{87} - 81y^{86} + \cdots + 6y^2 - 1$
c_7	$y^{87} + 19y^{86} + \cdots - 3993896y - 136161$
c_8	$y^{87} - y^{86} + \cdots + 276y - 1$
c_9, c_{12}	$y^{87} + 71y^{86} + \cdots - 2068y - 529$
c_{11}	$y^{87} - 29y^{86} + \cdots + 72372232y - 2223081$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.156780 + 0.129439I$	$-0.70238 - 4.44670I$	0
$u = 1.156780 - 0.129439I$	$-0.70238 + 4.44670I$	0
$u = -1.190410 + 0.114228I$	$1.68051 - 0.08481I$	0
$u = -1.190410 - 0.114228I$	$1.68051 + 0.08481I$	0
$u = 1.197740 + 0.161716I$	$-2.06048 + 3.05466I$	0
$u = 1.197740 - 0.161716I$	$-2.06048 - 3.05466I$	0
$u = -0.394345 + 0.684266I$	$1.51716 - 12.42810I$	$2.28821 + 10.31032I$
$u = -0.394345 - 0.684266I$	$1.51716 + 12.42810I$	$2.28821 - 10.31032I$
$u = 0.397280 + 0.677777I$	$3.75424 + 7.36938I$	$5.55912 - 6.47433I$
$u = 0.397280 - 0.677777I$	$3.75424 - 7.36938I$	$5.55912 + 6.47433I$
$u = 0.411947 + 0.661442I$	$4.96694 + 5.07089I$	$7.17620 - 6.66777I$
$u = 0.411947 - 0.661442I$	$4.96694 - 5.07089I$	$7.17620 + 6.66777I$
$u = -0.422450 + 0.650766I$	$3.87197 - 0.21546I$	$5.49137 + 0.72436I$
$u = -0.422450 - 0.650766I$	$3.87197 + 0.21546I$	$5.49137 - 0.72436I$
$u = -0.383227 + 0.669870I$	$-0.89151 - 4.80723I$	$-0.97957 + 5.10975I$
$u = -0.383227 - 0.669870I$	$-0.89151 + 4.80723I$	$-0.97957 - 5.10975I$
$u = -0.526813 + 0.558841I$	$2.05288 + 8.27457I$	$3.75896 - 4.30912I$
$u = -0.526813 - 0.558841I$	$2.05288 - 8.27457I$	$3.75896 + 4.30912I$
$u = -0.477712 + 0.597005I$	$4.10203 - 3.89674I$	$6.13861 + 5.88274I$
$u = -0.477712 - 0.597005I$	$4.10203 + 3.89674I$	$6.13861 - 5.88274I$
$u = 0.515570 + 0.562335I$	$4.24183 - 3.23972I$	$7.01693 + 0.29788I$
$u = 0.515570 - 0.562335I$	$4.24183 + 3.23972I$	$7.01693 - 0.29788I$
$u = 0.490448 + 0.582937I$	$5.29751 - 0.95847I$	$8.28381 + 0.09263I$
$u = 0.490448 - 0.582937I$	$5.29751 + 0.95847I$	$8.28381 - 0.09263I$
$u = -0.503329 + 0.535550I$	$-0.358919 + 0.797404I$	$0.536680 + 1.151908I$
$u = -0.503329 - 0.535550I$	$-0.358919 - 0.797404I$	$0.536680 - 1.151908I$
$u = -1.255210 + 0.203993I$	$-1.51650 - 2.92945I$	0
$u = -1.255210 - 0.203993I$	$-1.51650 + 2.92945I$	0
$u = 0.332557 + 0.627242I$	$-2.65475 + 5.15343I$	$-2.54076 - 7.53067I$
$u = 0.332557 - 0.627242I$	$-2.65475 - 5.15343I$	$-2.54076 + 7.53067I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.29153$	2.70892	0
$u=-1.275740+0.221412I$	$0.38686-10.53480I$	0
$u=-1.275740-0.221412I$	$0.38686+10.53480I$	0
$u=1.279400+0.209305I$	$2.71537+5.68459I$	0
$u=1.279400-0.209305I$	$2.71537-5.68459I$	0
$u=1.306270+0.174474I$	$4.06397+4.13533I$	0
$u=1.306270-0.174474I$	$4.06397-4.13533I$	0
$u=-0.354989+0.578954I$	$0.51266-1.71188I$	$2.60562+3.92232I$
$u=-0.354989-0.578954I$	$0.51266+1.71188I$	$2.60562-3.92232I$
$u=-1.332530+0.123240I$	$3.22730+0.03439I$	0
$u=-1.332530-0.123240I$	$3.22730-0.03439I$	0
$u=0.079050+0.640246I$	$-3.79331+7.39706I$	$-4.18948-7.63957I$
$u=0.079050-0.640246I$	$-3.79331-7.39706I$	$-4.18948+7.63957I$
$u=0.269882+0.583125I$	$-2.06224-2.16472I$	$-1.83071-0.20236I$
$u=0.269882-0.583125I$	$-2.06224+2.16472I$	$-1.83071+0.20236I$
$u=0.040574+0.629744I$	$-5.47859-0.11339I$	$-7.64972-0.43755I$
$u=0.040574-0.629744I$	$-5.47859+0.11339I$	$-7.64972+0.43755I$
$u=-0.078398+0.618585I$	$-1.47306-2.66672I$	$-1.11507+4.12840I$
$u=-0.078398-0.618585I$	$-1.47306+2.66672I$	$-1.11507-4.12840I$
$u=1.389750+0.020023I$	$6.81321+0.99479I$	0
$u=1.389750-0.020023I$	$6.81321-0.99479I$	0
$u=-1.397660+0.038212I$	$5.01700-5.77605I$	0
$u=-1.397660-0.038212I$	$5.01700+5.77605I$	0
$u=-1.42214+0.21746I$	$3.41028-0.73286I$	0
$u=-1.42214-0.21746I$	$3.41028+0.73286I$	0
$u=0.522256+0.193380I$	$-0.79956+5.07877I$	$3.26255-6.36328I$
$u=0.522256-0.193380I$	$-0.79956-5.07877I$	$3.26255+6.36328I$
$u=0.425921+0.358005I$	$-1.94719-1.77409I$	$0.090741+0.339279I$
$u=0.425921-0.358005I$	$-1.94719+1.77409I$	$0.090741-0.339279I$
$u=-1.43304+0.23763I$	$3.01862-8.32049I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43304-0.23763I$	$3.01862+8.32049I$	0
$u=-0.121744+0.530430I$	$-0.35102-1.54409I$	$0.33199+6.05743I$
$u=-0.121744-0.530430I$	$-0.35102+1.54409I$	$0.33199-6.05743I$
$u=\ \ 1.43839+0.22451I$	$6.28029+4.69366I$	0
$u=\ \ 1.43839-0.22451I$	$6.28029-4.69366I$	0
$u=\ \ 1.45419+0.25130I$	$5.02090+8.17446I$	0
$u=\ \ 1.45419-0.25130I$	$5.02090-8.17446I$	0
$u=\ \ 1.46400+0.18941I$	$5.93361+1.83428I$	0
$u=\ \ 1.46400-0.18941I$	$5.93361-1.83428I$	0
$u=-1.46040+0.25270I$	$9.7370-10.7689I$	0
$u=-1.46040-0.25270I$	$9.7370+10.7689I$	0
$u=\ \ 1.46013+0.25560I$	$7.4888+15.8607I$	0
$u=\ \ 1.46013-0.25560I$	$7.4888-15.8607I$	0
$u=-1.46342+0.24445I$	$11.01010-8.38279I$	0
$u=-1.46342-0.24445I$	$11.01010+8.38279I$	0
$u=\ \ 1.46517+0.23900I$	$9.95560+3.46864I$	0
$u=\ \ 1.46517-0.23900I$	$9.95560-3.46864I$	0
$u=-1.47478+0.19157I$	$10.64660+0.51731I$	0
$u=-1.47478-0.19157I$	$10.64660-0.51731I$	0
$u=-1.47348+0.20336I$	$11.62440-1.89999I$	0
$u=-1.47348-0.20336I$	$11.62440+1.89999I$	0
$u=\ \ 1.47312+0.20995I$	$10.39210+6.83566I$	0
$u=\ \ 1.47312-0.20995I$	$10.39210-6.83566I$	0
$u=\ \ 1.47653+0.18742I$	$8.50190-5.59085I$	0
$u=\ \ 1.47653-0.18742I$	$8.50190+5.59085I$	0
$u=-0.459395+0.110558I$	$1.200510-0.610350I$	$7.99355+1.68998I$
$u=-0.459395-0.110558I$	$1.200510+0.610350I$	$7.99355-1.68998I$

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{87} + 41u^{86} + \cdots + 2u^2 + 1$
c_2, c_6	$u^{87} - u^{86} + \cdots + 2u - 1$
c_3	$u^{87} + u^{86} + \cdots + 200u - 676$
c_4, c_5, c_{10}	$u^{87} + u^{86} + \cdots + 2u^3 - 1$
c_7	$u^{87} - 3u^{86} + \cdots + 1868u - 369$
c_8	$u^{87} + 11u^{86} + \cdots - 4u + 1$
c_9, c_{12}	$u^{87} - 13u^{86} + \cdots + 672u - 23$
c_{11}	$u^{87} - 3u^{86} + \cdots - 760u + 1491$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{87} + 11y^{86} + \cdots - 4y - 1$
c_2, c_6	$y^{87} - 41y^{86} + \cdots - 2y^2 - 1$
c_3	$y^{87} - 25y^{86} + \cdots + 2553368y - 456976$
c_4, c_5, c_{10}	$y^{87} - 81y^{86} + \cdots + 6y^2 - 1$
c_7	$y^{87} + 19y^{86} + \cdots - 3993896y - 136161$
c_8	$y^{87} - y^{86} + \cdots + 276y - 1$
c_9, c_{12}	$y^{87} + 71y^{86} + \cdots - 2068y - 529$
c_{11}	$y^{87} - 29y^{86} + \cdots + 72372232y - 2223081$