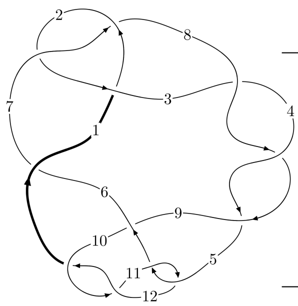
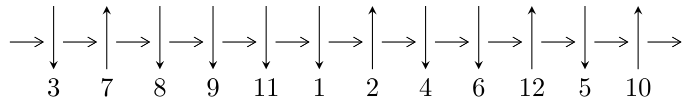
$12a_{0521}$ ($K12a_{0521}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{56} - u^{55} + \cdots + 2u^3 - 1 \rangle$$

* 1 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 56 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. $I_1^u = \langle u^{56} - u^{55} + \cdots + 2u^3 - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} u^9 + 2u^7 + u^5 - 2u^3 - u \\ -u^9 - 3u^7 - 3u^5 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^6 - u^4 + 1 \\ -u^8 - 2u^6 - 2u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{20} - 5u^{18} - 11u^{16} - 10u^{14} + 2u^{12} + 13u^{10} + 9u^8 - 2u^6 - 5u^4 - u^2 + 1 \\ -u^{22} - 6u^{20} - 17u^{18} - 26u^{16} - 20u^{14} + 13u^{10} + 10u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{37} + 10u^{35} + \cdots + 2u^3 - u \\ u^{39} + 11u^{37} + \cdots - u^5 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{54} - 15u^{52} + \cdots - 7u^4 + 1 \\ -u^{55} + u^{54} + \cdots + 2u^3 - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{54} - 4u^{53} + \cdots - 4u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{56}+33u^{55}+\cdots-10u^2+1$
c_2, c_7	$u^{56}+u^{55}+\cdots-2u^3-1$
c_3, c_4, c_6 c_8	$u^{56}-u^{55}+\cdots-14u-1$
c_5, c_{11}	$u^{56}-u^{55}+\cdots-2u-1$
c_9	$u^{56}+5u^{55}+\cdots-4088u-1767$
c_{10}, c_{12}	$u^{56}-17u^{55}+\cdots+10u^2+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{56} - 19y^{55} + \cdots - 20y + 1$
c_2, c_7	$y^{56} + 33y^{55} + \cdots - 10y^2 + 1$
c_3, c_4, c_6 c_8	$y^{56} - 71y^{55} + \cdots + 96y + 1$
c_5, c_{11}	$y^{56} + 17y^{55} + \cdots + 10y^2 + 1$
c_9	$y^{56} - 27y^{55} + \cdots - 19630828y + 3122289$
c_{10}, c_{12}	$y^{56} + 45y^{55} + \cdots + 20y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.405867 + 0.888923I$	$-1.83499 - 1.34944I$	$-6.35701 + 4.05456I$
$u = -0.405867 - 0.888923I$	$-1.83499 + 1.34944I$	$-6.35701 - 4.05456I$
$u = -0.021918 + 1.036680I$	$-4.65561 - 2.80215I$	$-13.44960 + 3.08888I$
$u = -0.021918 - 1.036680I$	$-4.65561 + 2.80215I$	$-13.44960 - 3.08888I$
$u = 0.437414 + 0.848600I$	$-1.27504 + 6.58005I$	$-4.46879 - 9.66669I$
$u = 0.437414 - 0.848600I$	$-1.27504 - 6.58005I$	$-4.46879 + 9.66669I$
$u = -0.917081 + 0.022864I$	$-13.20330 + 2.37614I$	$-9.77936 - 0.20355I$
$u = -0.917081 - 0.022864I$	$-13.20330 - 2.37614I$	$-9.77936 + 0.20355I$
$u = 0.915655 + 0.028828I$	$-12.4108 - 8.4052I$	$-8.44929 + 5.11391I$
$u = 0.915655 - 0.028828I$	$-12.4108 + 8.4052I$	$-8.44929 - 5.11391I$
$u = -0.307186 + 1.049610I$	$-1.50462 - 0.72055I$	$-7.04900 + 0.I$
$u = -0.307186 - 1.049610I$	$-1.50462 + 0.72055I$	$-7.04900 + 0.I$
$u = -0.904607$	-9.25956	-9.91870
$u = 0.894317 + 0.015919I$	$-5.91089 - 3.18842I$	$-3.80019 + 3.52000I$
$u = 0.894317 - 0.015919I$	$-5.91089 + 3.18842I$	$-3.80019 - 3.52000I$
$u = -0.435609 + 1.059800I$	$-0.58121 - 5.72992I$	$-4.00000 + 8.34586I$
$u = -0.435609 - 1.059800I$	$-0.58121 + 5.72992I$	$-4.00000 - 8.34586I$
$u = 0.386574 + 1.089770I$	$-3.86140 + 3.45773I$	$-12.70884 - 4.98853I$
$u = 0.386574 - 1.089770I$	$-3.86140 - 3.45773I$	$-12.70884 + 4.98853I$
$u = 0.398205 + 0.739047I$	$2.87979 + 1.78352I$	$2.98966 - 4.90547I$
$u = 0.398205 - 0.739047I$	$2.87979 - 1.78352I$	$2.98966 + 4.90547I$
$u = -0.196934 + 0.792679I$	$-0.547592 - 1.072840I$	$-7.44811 + 6.01442I$
$u = -0.196934 - 0.792679I$	$-0.547592 + 1.072840I$	$-7.44811 - 6.01442I$
$u = -0.305708 + 1.152470I$	$-7.27525 + 3.27832I$	0
$u = -0.305708 - 1.152470I$	$-7.27525 - 3.27832I$	0
$u = 0.325359 + 1.152680I$	$-7.79706 + 2.53101I$	0
$u = 0.325359 - 1.152680I$	$-7.79706 - 2.53101I$	0
$u = -0.466232 + 1.103460I$	$-6.06698 - 10.74040I$	0
$u = -0.466232 - 1.103460I$	$-6.06698 + 10.74040I$	0
$u = 0.453460 + 1.112820I$	$-6.83086 + 5.00850I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.453460 - 1.112820I$	$-6.83086 - 5.00850I$	0
$u = 0.421866 + 0.566053I$	$-0.52914 - 2.83643I$	$-2.00972 + 2.39215I$
$u = 0.421866 - 0.566053I$	$-0.52914 + 2.83643I$	$-2.00972 - 2.39215I$
$u = -0.661353 + 0.178127I$	$-3.45247 + 6.47746I$	$-6.46031 - 6.34159I$
$u = -0.661353 - 0.178127I$	$-3.45247 - 6.47746I$	$-6.46031 + 6.34159I$
$u = 0.662306 + 0.142602I$	$-4.09011 - 0.81649I$	$-8.10360 + 0.92141I$
$u = 0.662306 - 0.142602I$	$-4.09011 + 0.81649I$	$-8.10360 - 0.92141I$
$u = 0.460898 + 1.264040I$	$-9.81343 + 1.61572I$	0
$u = 0.460898 - 1.264040I$	$-9.81343 - 1.61572I$	0
$u = 0.477987 + 1.259180I$	$-9.68771 + 8.08384I$	0
$u = 0.477987 - 1.259180I$	$-9.68771 - 8.08384I$	0
$u = -0.471428 + 1.267380I$	$-13.12820 - 4.89278I$	0
$u = -0.471428 - 1.267380I$	$-13.12820 + 4.89278I$	0
$u = 0.456440 + 1.279200I$	$-16.4343 - 3.5507I$	0
$u = 0.456440 - 1.279200I$	$-16.4343 + 3.5507I$	0
$u = 0.489034 + 1.267150I$	$-16.1895 + 13.4198I$	0
$u = 0.489034 - 1.267150I$	$-16.1895 - 13.4198I$	0
$u = -0.486244 + 1.269270I$	$-17.0105 - 7.3815I$	0
$u = -0.486244 - 1.269270I$	$-17.0105 + 7.3815I$	0
$u = -0.460358 + 1.278950I$	$-17.2053 - 2.5025I$	0
$u = -0.460358 - 1.278950I$	$-17.2053 + 2.5025I$	0
$u = -0.418964 + 0.467128I$	$-0.73474 - 2.24620I$	$-2.43482 + 3.10244I$
$u = -0.418964 - 0.467128I$	$-0.73474 + 2.24620I$	$-2.43482 - 3.10244I$
$u = -0.530935 + 0.216533I$	$1.71161 + 1.86206I$	$0.40956 - 4.60344I$
$u = -0.530935 - 0.216533I$	$1.71161 - 1.86206I$	$0.40956 + 4.60344I$
$u = 0.517215$	-1.03672	-9.70580

II. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^{56} + 33u^{55} + \cdots - 10u^2 + 1$
c_2, c_7	$u^{56} + u^{55} + \cdots - 2u^3 - 1$
c_3, c_4, c_6 c_8	$u^{56} - u^{55} + \cdots - 14u - 1$
c_5, c_{11}	$u^{56} - u^{55} + \cdots - 2u - 1$
c_9	$u^{56} + 5u^{55} + \cdots - 4088u - 1767$
c_{10}, c_{12}	$u^{56} - 17u^{55} + \cdots + 10u^2 + 1$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^{56} - 19y^{55} + \cdots - 20y + 1$
c_2, c_7	$y^{56} + 33y^{55} + \cdots - 10y^2 + 1$
c_3, c_4, c_6 c_8	$y^{56} - 71y^{55} + \cdots + 96y + 1$
c_5, c_{11}	$y^{56} + 17y^{55} + \cdots + 10y^2 + 1$
c_9	$y^{56} - 27y^{55} + \cdots - 19630828y + 3122289$
c_{10}, c_{12}	$y^{56} + 45y^{55} + \cdots + 20y + 1$