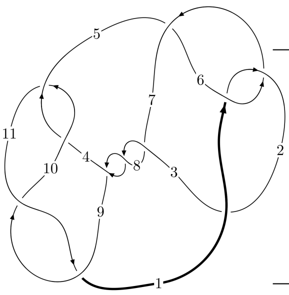
$11a_{186}$ ($K11a_{186}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow \downarrow_{6} \rightarrow \downarrow_{1} \rightarrow \downarrow_{8} \rightarrow \downarrow_{10} \rightarrow \downarrow_{7} \rightarrow \downarrow_{2} \rightarrow \downarrow_{3} \rightarrow \downarrow_{4} \rightarrow \downarrow_{11} \rightarrow \downarrow_{5} \rightarrow \downarrow_{9} \rightarrow$$

Solving Sequence

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

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

$$I_1^u = \langle u^{11} - 2u^9 + 4u^7 - u^6 - 4u^5 + u^4 + 3u^3 - 2u^2 - 2u + 1\rangle$$
$$I_2^u = \langle u^{36} + u^{35} + \cdots + u^3 + 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 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. $\boldsymbol{I_1^u = \langle u^{11} - 2u^9 + 4u^7 - u^6 - 4u^5 + u^4 + 3u^3 - 2u^2 - 2u + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^5 - u \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{10} + u^8 - 2u^6 + u^4 - u^2 + 1 \\ -u^{10} + 2u^8 - 3u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{10} + u^8 + u^7 - 2u^6 + u^4 + u^3 - u^2 + 1 \\ -u^{10} + u^9 + 2u^8 - u^7 - 3u^6 + 2u^5 + 2u^4 - u^3 - u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{10} + u^8 - u^7 - 2u^6 + 2u^5 + u^4 - 2u^3 + 2u \\ -u^{10} - u^9 + 2u^8 + u^7 - 3u^6 - u^5 + 3u^4 - u^2 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{10} - u^9 + 2u^8 + u^7 - 3u^6 - u^5 + 3u^4 - 2u^2 + u + 1 \\ -u^9 + u^8 + 2u^7 - 2u^6 - 3u^5 + 3u^4 + 2u^3 - 3u^2 - u + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{10} - u^9 + 2u^8 + u^7 - 3u^6 - u^5 + 3u^4 - 2u^2 + u + 1 \\ -u^9 + u^8 + 2u^7 - 2u^6 - 3u^5 + 3u^4 + 2u^3 - 3u^2 - u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^9 - 4u^8 - 8u^7 + 4u^6 + 12u^5 - 12u^4 - 8u^3 + 8u^2 + 4u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$u^{11} - 2u^9 + 4u^7 + u^6 - 4u^5 - u^4 + 3u^3 + 2u^2 - 2u - 1$
c_2, c_5, c_9 c_{11}	$u^{11} + 4u^{10} + \cdots + 8u + 1$
c_3, c_7, c_8	$u^{11} + 5u^{10} + 8u^9 + 5u^8 + 9u^7 + 19u^6 + 8u^5 - 2u^4 + 9u^3 + u^2 - 12u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$y^{11} - 4y^{10} + \cdots + 8y - 1$
c_2, c_5, c_9 c_{11}	$y^{11} + 8y^{10} + \cdots + 28y - 1$
c_3, c_7, c_8	$y^{11} - 9y^{10} + \cdots + 152y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.574057 + 0.778762I$	$-0.32700 + 2.62828I$	$-9.00950 - 0.39606I$
$u = 0.574057 - 0.778762I$	$-0.32700 - 2.62828I$	$-9.00950 + 0.39606I$
$u = -0.786275 + 0.725485I$	$5.13423 + 2.26440I$	$-5.35075 - 2.78673I$
$u = -0.786275 - 0.725485I$	$5.13423 - 2.26440I$	$-5.35075 + 2.78673I$
$u = -0.903688$	-4.12325	-21.6840
$u = 1.13447$	-11.8669	-21.5190
$u = 0.937682 + 0.702007I$	$4.20048 - 8.65870I$	$-8.03545 + 9.01618I$
$u = 0.937682 - 0.702007I$	$4.20048 + 8.65870I$	$-8.03545 - 9.01618I$
$u = -1.053250 + 0.672906I$	$-3.16344 + 13.64350I$	$-13.1560 - 9.4873I$
$u = -1.053250 - 0.672906I$	$-3.16344 - 13.64350I$	$-13.1560 + 9.4873I$
$u = 0.424792$	-0.633212	-15.6940

II. $I_2^u = \langle u^{36} + u^{35} + \cdots + u^3 + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^5 - u \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{10} + u^8 - 2u^6 + u^4 - u^2 + 1 \\ -u^{10} + 2u^8 - 3u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{22} - 3u^{20} + \cdots - 3u^4 + 1 \\ u^{24} - 4u^{22} + \cdots + 8u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^{15} + 2u^{13} - 4u^{11} + 4u^9 - 4u^7 + 4u^5 - 2u^3 + 2u \\ -u^{15} + 3u^{13} - 6u^{11} + 7u^9 - 6u^7 + 4u^5 - 2u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{32} + 5u^{30} + \cdots + 2u^2 + 1 \\ -u^{32} + 6u^{30} + \cdots - 6u^4 + 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^{32} + 5u^{30} + \cdots + 2u^2 + 1 \\ -u^{32} + 6u^{30} + \cdots - 6u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{32} - 24u^{30} + 88u^{28} - 224u^{26} + 440u^{24} - 700u^{22} + 928u^{20} - 1060u^{18} + 4u^{17} + 1048u^{16} - 16u^{15} - 912u^{14} + 36u^{13} + 692u^{12} - 52u^{11} - 452u^{10} + 52u^9 + 256u^8 - 44u^7 - 116u^6 + 32u^5 + 44u^4 - 20u^3 - 8u^2 + 8u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$u^{36} - u^{35} + \cdots - u^3 + 1$
c_2, c_5, c_9 c_{11}	$u^{36} + 13u^{35} + \cdots - 10u^2 + 1$
c_3, c_7, c_8	$(u^{18} - 2u^{17} + \cdots + 2u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$y^{36} - 13y^{35} + \cdots - 10y^2 + 1$
c_2, c_5, c_9 c_{11}	$y^{36} + 19y^{35} + \cdots - 20y + 1$
c_3, c_7, c_8	$(y^{18} - 18y^{17} + \cdots - 10y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.568398 + 0.797612I$	$-1.72161 - 8.10595I$	$-11.08535 + 5.00657I$
$u = -0.568398 - 0.797612I$	$-1.72161 + 8.10595I$	$-11.08535 - 5.00657I$
$u = \ \ 0.759891 + 0.733182I$	$4.73704 + 3.18642I$	$-6.45994 - 3.31717I$
$u = \ \ 0.759891 - 0.733182I$	$4.73704 - 3.18642I$	$-6.45994 + 3.31717I$
$u = -0.527375 + 0.775874I$	$-6.14948 - 1.48503I$	$-15.5689 + 0.3788I$
$u = -0.527375 - 0.775874I$	$-6.14948 + 1.48503I$	$-15.5689 - 0.3788I$
$u = -0.853258 + 0.641261I$	$1.83259 + 2.50180I$	$-6.41929 - 3.81694I$
$u = -0.853258 - 0.641261I$	$1.83259 - 2.50180I$	$-6.41929 + 3.81694I$
$u = -0.898798 + 0.229050I$	$-0.88834 + 4.72205I$	$-15.5195 - 7.2621I$
$u = -0.898798 - 0.229050I$	$-0.88834 - 4.72205I$	$-15.5195 + 7.2621I$
$u = \ \ 0.720307 + 0.524101I$	$-0.218096 + 0.036628I$	$-13.43748 - 0.95651I$
$u = \ \ 0.720307 - 0.524101I$	$-0.218096 - 0.036628I$	$-13.43748 + 0.95651I$
$u = -1.115130 + 0.024468I$	$-6.14948 + 1.48503I$	$-15.5689 - 0.3788I$
$u = -1.115130 - 0.024468I$	$-6.14948 - 1.48503I$	$-15.5689 + 0.3788I$
$u = \ \ 0.936753 + 0.611605I$	$-0.88834 - 4.72205I$	$-15.5195 + 7.2621I$
$u = \ \ 0.936753 - 0.611605I$	$-0.88834 + 4.72205I$	$-15.5195 - 7.2621I$
$u = -0.475172 + 0.740129I$	$-2.30993 + 5.17624I$	$-11.82231 - 5.02355I$
$u = -0.475172 - 0.740129I$	$-2.30993 - 5.17624I$	$-11.82231 + 5.02355I$
$u = \ \ 0.510565 + 0.712216I$	-0.822851	$-9.60076 + 0.I$
$u = \ \ 0.510565 - 0.712216I$	-0.822851	$-9.60076 + 0.I$
$u = \ \ 1.129810 + 0.032613I$	$-7.69896 - 6.87816I$	$-17.6593 + 5.1131I$
$u = \ \ 1.129810 - 0.032613I$	$-7.69896 + 6.87816I$	$-17.6593 - 5.1131I$
$u = -0.917289 + 0.702643I$	$4.73704 + 3.18642I$	$-6.45994 - 3.31717I$
$u = -0.917289 - 0.702643I$	$4.73704 - 3.18642I$	$-6.45994 + 3.31717I$
$u = \ \ 0.772239 + 0.333861I$	$-0.218096 - 0.036628I$	$-13.43748 + 0.95651I$
$u = \ \ 0.772239 - 0.333861I$	$-0.218096 + 0.036628I$	$-13.43748 - 0.95651I$
$u = \ \ 1.038670 + 0.636561I$	$-2.30993 - 5.17624I$	$-11.82231 + 5.02355I$
$u = \ \ 1.038670 - 0.636561I$	$-2.30993 + 5.17624I$	$-11.82231 - 5.02355I$
$u = -1.051520 + 0.626704I$	-3.95239	$-14.4550 + 0.I$
$u = -1.051520 - 0.626704I$	-3.95239	$-14.4550 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.045370 + 0.669009I$	$-1.72161 - 8.10595I$	$-11.08535 + 5.00657I$
$u = 1.045370 - 0.669009I$	$-1.72161 + 8.10595I$	$-11.08535 - 5.00657I$
$u = -1.056180 + 0.652350I$	$-7.69896 + 6.87816I$	$-17.6593 - 5.1131I$
$u = -1.056180 - 0.652350I$	$-7.69896 - 6.87816I$	$-17.6593 + 5.1131I$
$u = 0.049508 + 0.478803I$	$1.83259 - 2.50180I$	$-6.41929 + 3.81694I$
$u = 0.049508 - 0.478803I$	$1.83259 + 2.50180I$	$-6.41929 - 3.81694I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$(u^{11} - 2u^9 + 4u^7 + u^6 - 4u^5 - u^4 + 3u^3 + 2u^2 - 2u - 1)$ $\cdot (u^{36} - u^{35} + \cdots - u^3 + 1)$
c_2, c_5, c_9 c_{11}	$(u^{11} + 4u^{10} + \cdots + 8u + 1)(u^{36} + 13u^{35} + \cdots - 10u^2 + 1)$
c_3, c_7, c_8	$(u^{11} + 5u^{10} + 8u^9 + 5u^8 + 9u^7 + 19u^6 + 8u^5 - 2u^4 + 9u^3 + u^2 - 12u - 4)$ $\cdot (u^{18} - 2u^{17} + \cdots + 2u + 1)^2$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$(y^{11} - 4y^{10} + \cdots + 8y - 1)(y^{36} - 13y^{35} + \cdots - 10y^2 + 1)$
c_2, c_5, c_9 c_{11}	$(y^{11} + 8y^{10} + \cdots + 28y - 1)(y^{36} + 19y^{35} + \cdots - 20y + 1)$
c_3, c_7, c_8	$(y^{11} - 9y^{10} + \cdots + 152y - 16)(y^{18} - 18y^{17} + \cdots - 10y + 1)^2$