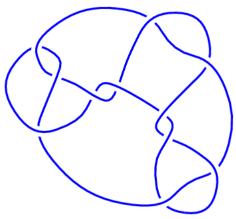
$11a_{159}$ ($K11a_{159}$)



[1]

Arc Sequences

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

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{55} + u^{54} + \cdots + 2u^3 + 1 \rangle$$

There are 1 irreducible components with 55 representations.

[1]The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u = \langle u^{55} + u^{54} + \cdots + 2u^3 + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2+1 \\ u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^4-u^2+1 \\ -u^4 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^7+2u^5-2u^3 \\ u^7-u^5+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{15}-4u^{13}+8u^{11}-8u^9+4u^7 \\ -u^{15}+3u^{13}-4u^{11}+u^9+2u^7-2u^5+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^{23}+6u^{21}-18u^{19}+32u^{17}-36u^{15}+24u^{13}-8u^{11}-u^7+2u^5-2u^3 \\ u^{23}-5u^{21}+12u^{19}-15u^{17}+8u^{15}+4u^{13}-8u^{11}+3u^9+3u^7-3u^5+u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{42}-11u^{40}+\cdots-u^2+1 \\ -u^{42}+10u^{40}+\cdots-2u^4+u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{48}-13u^{46}+\cdots-6u^4+1 \\ -u^{50}+12u^{48}+\cdots-2u^4+u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{48}-13u^{46}+\cdots-6u^4+1 \\ -u^{50}+12u^{48}+\cdots-2u^4+u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.198143-0.444267I$	$-8.97089-1.53080I$	$-10.56468+0.59783I$
$u=-1.198143+0.444267I$	$-8.97089+1.53080I$	$-10.56468-0.59783I$
$u=-1.192544-0.363416I$	$-5.96663+0.17301I$	$-9.26357+0.91884I$
$u=-1.192544+0.363416I$	$-5.96663-0.17301I$	$-9.26357-0.91884I$
$u=-1.180556-0.523653I$	$-3.6961-14.4089I$	$-5.44100+9.98572I$
$u=-1.180556+0.523653I$	$-3.6961+14.4089I$	$-5.44100-9.98572I$
$u=-1.161742-0.521230I$	$1.25671-8.17694I$	$-0.32936+6.49947I$
$u=-1.161742+0.521230I$	$1.25671+8.17694I$	$-0.32936-6.49947I$
$u=-1.154343-0.398075I$	$-4.05721-1.86906I$	$-9.08122+0.59288I$
$u=-1.154343+0.398075I$	$-4.05721+1.86906I$	$-9.08122-0.59288I$
$u=-1.132834-0.507493I$	$-1.71452-1.81047I$	$-3.31619+0.85322I$
$u=-1.132834+0.507493I$	$-1.71452+1.81047I$	$-3.31619-0.85322I$
$u=-0.989431-0.152646I$	$-3.52521-0.06578I$	$-10.04150+0.64430I$
$u=-0.989431+0.152646I$	$-3.52521+0.06578I$	$-10.04150-0.64430I$
$u=-0.821912-0.574546I$	$2.29946-8.58321I$	$-0.26840+8.74761I$
$u=-0.821912+0.574546I$	$2.29946+8.58321I$	$-0.26840-8.74761I$
$u=-0.770144-0.578763I$	$6.52620-2.29211I$	$4.76004+3.60647I$
$u=-0.770144+0.578763I$	$6.52620+2.29211I$	$4.76004-3.60647I$
$u=-0.769461$	-1.02390	-10.8305
$u=-0.710164-0.582211I$	$2.61827+4.00138I$	$0.81073-2.09093I$
$u=-0.710164+0.582211I$	$2.61827-4.00138I$	$0.81073+2.09093I$
$u=-0.252097-0.684359I$	$0.84076-2.75512I$	$0.02989+2.86362I$
$u=-0.252097+0.684359I$	$0.84076+2.75512I$	$0.02989-2.86362I$
$u=-0.205680-0.754383I$	$4.04900+3.40061I$	$3.11315-3.08609I$
$u=-0.205680+0.754383I$	$4.04900-3.40061I$	$3.11315+3.08609I$
$u=-0.179481-0.793499I$	$-0.74984+9.53517I$	$-2.28321-6.87514I$
$u=-0.179481+0.793499I$	$-0.74984-9.53517I$	$-2.28321+6.87514I$
$u=\quad 0.013169-0.773005I$	$-5.44101-2.81013I$	$-7.05601+3.05455I$
$u=\quad 0.013169+0.773005I$	$-5.44101+2.81013I$	$-7.05601-3.05455I$
$u=\quad 0.153879-0.692616I$	$-0.48181-1.78744I$	$-3.72385+3.38377I$

	Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.153879+0.692616I$	$-0.48181+1.78744I$	$-3.72385-3.38377I$
$u=$	$0.166524-0.782944I$	$-1.91993-3.95621I$	$-4.32723+2.21514I$
$u=$	$0.166524+0.782944I$	$-1.91993+3.95621I$	$-4.32723-2.21514I$
$u=$	$0.255316-0.531343I$	$-0.11478-1.78039I$	$-0.55066+3.60054I$
$u=$	$0.255316+0.531343I$	$-0.11478+1.78039I$	$-0.55066-3.60054I$
$u=$	$0.709453-0.352697I$	$0.95831+1.60933I$	$1.49417-5.74918I$
$u=$	$0.709453+0.352697I$	$0.95831-1.60933I$	$1.49417+5.74918I$
$u=$	$0.711973-0.542332I$	$1.33027+1.15553I$	$-1.16546-3.23863I$
$u=$	$0.711973+0.542332I$	$1.33027-1.15553I$	$-1.16546+3.23863I$
$u=$	$0.817654-0.549346I$	$1.02771+3.24584I$	$-2.27897-4.07779I$
$u=$	$0.817654+0.549346I$	$1.02771-3.24584I$	$-2.27897+4.07779I$
$u=$	$1.022777-0.213142I$	$-2.91576+5.31435I$	$-7.80390-6.55381I$
$u=$	$1.022777+0.213142I$	$-2.91576-5.31435I$	$-7.80390+6.55381I$
$u=$	$1.096361-0.436034I$	$-2.45106+5.66045I$	$-4.09002-7.28827I$
$u=$	$1.096361+0.436034I$	$-2.45106-5.66045I$	$-4.09002+7.28827I$
$u=$	$1.154880-0.344796I$	$0.0418156+0.0593950I$	$-1.97321+0.28127I$
$u=$	$1.154880+0.344796I$	$0.0418156-0.0593950I$	$-1.97321-0.28127I$
$u=$	$1.158029-0.497232I$	$-3.34533+6.30811I$	$-7.15638-6.23846I$
$u=$	$1.158029+0.497232I$	$-3.34533-6.30811I$	$-7.15638+6.23846I$
$u=$	$1.180004-0.516980I$	$-4.89200+8.77056I$	$-7.47137-5.34591I$
$u=$	$1.180004+0.516980I$	$-4.89200-8.77056I$	$-7.47137+5.34591I$
$u=$	$1.196470-0.351829I$	$-4.89384-5.78358I$	$-7.35010+3.96782I$
$u=$	$1.196470+0.351829I$	$-4.89384+5.78358I$	$-7.35010-3.96782I$
$u=$	$1.197311-0.455517I$	$-8.89140+7.22930I$	$-10.25643-6.47034I$
$u=$	$1.197311+0.455517I$	$-8.89140-7.22930I$	$-10.25643+6.47034I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{55} + u^{54} + \cdots + 2u^3 + 1)$
c_2	$(u^{55} + 29u^{54} + \cdots - 6u^2 + 1)$
c_3, c_9	$(u^{55} + u^{54} + \cdots + 2u + 1)$
c_4, c_7	$(u^{55} + 5u^{54} + \cdots - 4u - 1)$
c_6, c_{11}	$(u^{55} + 3u^{54} + \cdots + 35u + 16)$
c_8, c_{10}	$(u^{55} + 19u^{54} + \cdots + 18u^2 - 1)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{55} - 29y^{54} + \cdots + 6y^2 - 1)$
c_2	$(y^{55} - 5y^{54} + \cdots + 12y - 1)$
c_3, c_9	$(y^{55} + 19y^{54} + \cdots + 18y^2 - 1)$
c_4, c_7	$(y^{55} + 31y^{54} + \cdots - 92y - 1)$
c_6, c_{11}	$(y^{55} + 39y^{54} + \cdots - 6167y - 256)$
c_8, c_{10}	$(y^{55} + 35y^{54} + \cdots + 36y - 1)$