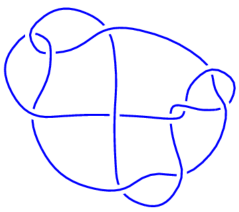
$11a_{120}$ ($K11a_{120}$)



[1]

Arc Sequences

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

Solving Sequence

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

Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{54} - u^{53} + \cdots + 3u - 1 \rangle$$

There are 1 irreducible components with 54 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. $I_1^u = \langle u^{54} - u^{53} + \cdots + 3u - 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 \\ u^5+u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^9+2u^7+3u^5+2u^3+u \\ -u^9-u^7-u^5+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{16}-3u^{14}-7u^{12}-10u^{10}-11u^8-8u^6-4u^4+1 \\ u^{16}+2u^{14}+4u^{12}+4u^{10}+2u^8-2u^4-2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^8-u^6-u^4+1 \\ u^{10}+2u^8+3u^6+2u^4+u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{27}+4u^{25}+\cdots+u^3+2u \\ -u^{29}-5u^{27}+\cdots+u^3+u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{46}-7u^{44}+\cdots+2u^2+1 \\ u^{48}+8u^{46}+\cdots+2u^4+2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{46}-7u^{44}+\cdots+2u^2+1 \\ u^{48}+8u^{46}+\cdots+2u^4+2u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.818638 - 0.718254I$	$3.52513 - 2.90265I$	$8.89044 + 0.48035I$
$u = -0.818638 + 0.718254I$	$3.52513 + 2.90265I$	$8.89044 - 0.48035I$
$u = -0.799923 - 0.758789I$	$4.31402 - 0.26912I$	$9.66102 + 0.35441I$
$u = -0.799923 + 0.758789I$	$4.31402 + 0.26912I$	$9.66102 - 0.35441I$
$u = -0.738963 - 0.973368I$	$3.65451 + 6.06207I$	$8.19396 - 5.74637I$
$u = -0.738963 + 0.973368I$	$3.65451 - 6.06207I$	$8.19396 + 5.74637I$
$u = -0.735797 - 1.001919I$	$2.65813 + 8.73650I$	$7.23039 - 5.43178I$
$u = -0.735797 + 1.001919I$	$2.65813 - 8.73650I$	$7.23039 + 5.43178I$
$u = -0.719799 - 0.809822I$	$3.52747 + 0.23244I$	$13.19154 + 1.36658I$
$u = -0.719799 + 0.809822I$	$3.52747 - 0.23244I$	$13.19154 - 1.36658I$
$u = -0.713272 - 0.912768I$	$3.21684 + 5.24753I$	$12.07775 - 7.28540I$
$u = -0.713272 + 0.912768I$	$3.21684 - 5.24753I$	$12.07775 + 7.28540I$
$u = -0.652949 - 0.976409I$	$-2.30035 + 8.30381I$	$4.31258 - 8.62112I$
$u = -0.652949 + 0.976409I$	$-2.30035 - 8.30381I$	$4.31258 + 8.62112I$
$u = -0.638480 - 0.083682I$	$1.68643 + 6.22008I$	$11.41350 - 5.62288I$
$u = -0.638480 + 0.083682I$	$1.68643 - 6.22008I$	$11.41350 + 5.62288I$
$u = -0.633762$	5.79098	16.1980
$u = -0.631705 - 0.643354I$	$-1.36873 - 3.22618I$	$6.44583 + 3.29326I$
$u = -0.631705 + 0.643354I$	$-1.36873 + 3.22618I$	$6.44583 - 3.29326I$
$u = -0.322299 - 0.910896I$	$-0.90934 - 3.04310I$	$5.53731 + 1.39630I$
$u = -0.322299 + 0.910896I$	$-0.90934 + 3.04310I$	$5.53731 - 1.39630I$
$u = -0.225158 - 0.985509I$	$2.66174 + 2.82423I$	$9.41850 - 4.26927I$
$u = -0.225158 + 0.985509I$	$2.66174 - 2.82423I$	$9.41850 + 4.26927I$
$u = -0.188352 - 1.032555I$	$-1.89570 + 8.85965I$	$3.95399 - 8.19419I$
$u = -0.188352 + 1.032555I$	$-1.89570 - 8.85965I$	$3.95399 + 8.19419I$
$u = 0.013188 - 1.020431I$	$-6.28584 - 2.76345I$	$-1.40260 + 3.24602I$
$u = 0.013188 + 1.020431I$	$-6.28584 + 2.76345I$	$-1.40260 - 3.24602I$
$u = 0.130465 - 0.911615I$	$-1.74890 - 1.55584I$	$1.72859 + 4.90109I$
$u = 0.130465 + 0.911615I$	$-1.74890 + 1.55584I$	$1.72859 - 4.90109I$
$u = 0.172024 - 1.019406I$	$-3.04751 - 3.37129I$	$1.74364 + 3.43225I$

	Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.172024+1.019406I$	$-3.04751+3.37129I$	$1.74364-3.43225I$
$u=$	0.334907	0.694593	14.5894
$u=$	$0.413630-0.782655I$	$-1.72347-2.04419I$	$4.15028+4.01557I$
$u=$	$0.413630+0.782655I$	$-1.72347+2.04419I$	$4.15028-4.01557I$
$u=$	$0.501769-0.617981I$	$-1.73704-2.07051I$	$5.30183+3.63568I$
$u=$	$0.501769+0.617981I$	$-1.73704+2.07051I$	$5.30183-3.63568I$
$u=$	$0.593562-0.088163I$	$0.459602-0.933389I$	$9.53888+0.84977I$
$u=$	$0.593562+0.088163I$	$0.459602+0.933389I$	$9.53888-0.84977I$
$u=$	$0.637029-0.965427I$	$-2.61478-2.76089I$	$3.34853+2.80814I$
$u=$	$0.637029+0.965427I$	$-2.61478+2.76089I$	$3.34853-2.80814I$
$u=$	$0.654895-0.871773I$	$0.94675-2.54301I$	$4.57303+2.79240I$
$u=$	$0.654895+0.871773I$	$0.94675+2.54301I$	$4.57303-2.79240I$
$u=$	$0.740821-1.006803I$	$3.9780-14.3126I$	$9.23972+9.95009I$
$u=$	$0.740821+1.006803I$	$3.9780+14.3126I$	$9.23972-9.95009I$
$u=$	$0.749443-0.991696I$	$8.69493-7.80028I$	$14.1488+5.8173I$
$u=$	$0.749443+0.991696I$	$8.69493+7.80028I$	$14.1488-5.8173I$
$u=$	$0.755217-0.969347I$	$5.27505-1.13830I$	$11.17135+0.31135I$
$u=$	$0.755217+0.969347I$	$5.27505+1.13830I$	$11.17135-0.31135I$
$u=$	$0.816023-0.773035I$	$5.87973-4.75272I$	$12.23699+4.92141I$
$u=$	$0.816023+0.773035I$	$5.87973+4.75272I$	$12.23699-4.92141I$
$u=$	$0.826542-0.743334I$	$9.45805+1.89794I$	$15.5987-0.6590I$
$u=$	$0.826542+0.743334I$	$9.45805-1.89794I$	$15.5987+0.6590I$
$u=$	$0.830157-0.717041I$	$4.86571+8.43016I$	$10.90175-5.08103I$
$u=$	$0.830157+0.717041I$	$4.86571-8.43016I$	$10.90175+5.08103I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_5	$(u^{54} + u^{53} + \cdots - 3u - 1)$
c_2, c_6	$(u^{54} + 17u^{53} + \cdots - 5u + 1)$
c_3, c_7	$(u^{54} + u^{53} + \cdots - 5u - 25)$
c_4	$(u^{54} + u^{53} + \cdots - u - 1)$
c_8, c_{10}	$(u^{54} + 19u^{53} + \cdots + 5u + 1)$
c_9	$(u^{54} + u^{53} + \cdots - u - 1)$
c_{11}	$(u^{54} + 5u^{53} + \cdots - 5u - 21)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^{54} + 17y^{53} + \cdots - 5y + 1)$
c_2, c_6	$(y^{54} + 41y^{53} + \cdots - 93y + 1)$
c_3, c_7	$(y^{54} - 39y^{53} + \cdots - 9225y + 625)$
c_4	$(y^{54} - 19y^{53} + \cdots - 5y + 1)$
c_8, c_{10}	$(y^{54} + 33y^{53} + \cdots - 13y + 1)$
c_9	$(y^{54} - 19y^{53} + \cdots - 5y + 1)$
c_{11}	$(y^{54} - 11y^{53} + \cdots + 7283y + 441)$