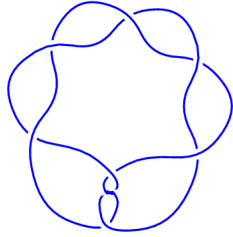
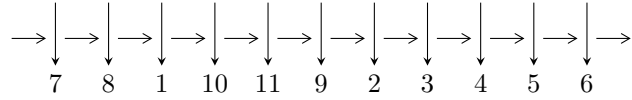


11a₃₃₄ (K11a₃₃₄)

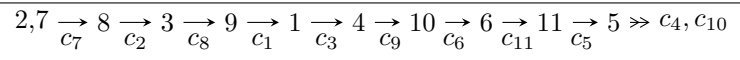


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{24} - u^{23} + \dots - 2u + 1 \rangle$$

There are 1 irreducible components with 24 representations.

¹The knot diagram image is adapter from “C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, <http://www.indiana.edu/~knotinfo>”

$$\text{I. } I_1^u = \langle u^{24} - u^{23} + \dots - 2u + 1 \rangle$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^4 - 3u^2 + 1 \\ -u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{13} + 8u^{11} - 23u^9 + 28u^7 - 14u^5 + 6u^3 - 3u \\ u^{15} - 7u^{13} + 16u^{11} - 11u^9 - 2u^7 - 2u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^7 - 4u^5 + 4u^3 \\ -u^7 + 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{16} + 9u^{14} - 31u^{12} + 50u^{10} - 37u^8 + 12u^6 - 4u^4 + 1 \\ u^{16} - 8u^{14} + 24u^{12} - 34u^{10} + 26u^8 - 14u^6 + 4u^4 - 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{22} + 13u^{20} + \dots - 6u^2 + 1 \\ u^{23} + u^{22} + \dots + 2u - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{22} + 13u^{20} + \dots - 6u^2 + 1 \\ u^{23} + u^{22} + \dots + 2u - 1 \end{pmatrix}$$

(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 |
|-----------------------------|---------------------------------------|------------------------|
| $u = -1.62336$ | 17.4406 | -21.9943 |
| $u = -1.56119 - 0.14962I$ | $-8.25724 - 7.03301I$ | $-18.3094 + 5.9376I$ |
| $u = -1.56119 + 0.14962I$ | $-8.25724 + 7.03301I$ | $-18.3094 - 5.9376I$ |
| $u = -1.50422 - 0.08202I$ | $-6.35060 - 0.70363I$ | $-16.4740 - 1.9101I$ |
| $u = -1.50422 + 0.08202I$ | $-6.35060 + 0.70363I$ | $-16.4740 + 1.9101I$ |
| $u = -0.736723$ | -4.16199 | -21.6476 |
| $u = -0.646192 - 0.548819I$ | $-10.10976 - 6.14857I$ | $-16.6878 + 5.7012I$ |
| $u = -0.646192 + 0.548819I$ | $-10.10976 + 6.14857I$ | $-16.6878 - 5.7012I$ |
| $u = -0.486113 - 0.496908I$ | $1.82022 - 1.73926I$ | $-8.19189 + 4.76160I$ |
| $u = -0.486113 + 0.496908I$ | $1.82022 + 1.73926I$ | $-8.19189 - 4.76160I$ |
| $u = -0.279108 - 0.608884I$ | $-9.03688 + 2.20767I$ | $-14.13375 + 0.08900I$ |
| $u = -0.279108 + 0.608884I$ | $-9.03688 - 2.20767I$ | $-14.13375 - 0.08900I$ |
| $u = 0.340469 - 0.515161I$ | $-0.346278 - 1.020998I$ | $-12.74843 + 0.89701I$ |
| $u = 0.340469 + 0.515161I$ | $-0.346278 + 1.020998I$ | $-12.74843 - 0.89701I$ |
| $u = 0.341214$ | -0.498247 | -19.9340 |
| $u = 0.587184 - 0.515379I$ | $-1.05294 + 4.61822I$ | $-15.0731 - 7.6448I$ |
| $u = 0.587184 + 0.515379I$ | $-1.05294 - 4.61822I$ | $-15.0731 + 7.6448I$ |
| $u = 0.926816$ | -13.4393 | -20.4546 |
| $u = 1.38308$ | -13.8397 | -18.0492 |
| $u = 1.53091 - 0.12902I$ | $-4.91541 + 3.91207I$ | $-12.94617 - 4.09440I$ |
| $u = 1.53091 + 0.12902I$ | $-4.91541 - 3.91207I$ | $-12.94617 + 4.09440I$ |
| $u = 1.58123$ | -11.9871 | -21.6383 |
| $u = 1.58213 - 0.16414I$ | $-17.5954 + 8.7809I$ | $-19.5765 - 4.4157I$ |
| $u = 1.58213 + 0.16414I$ | $-17.5954 - 8.7809I$ | $-19.5765 + 4.4157I$ |

II. u-Polynomials

| Crossings | u-Polynomials at each crossings |
|-------------------------------------|---------------------------------------|
| c_1, c_2, c_7 c_8 | $(u^{24} + u^{23} + \dots + 2u + 1)$ |
| c_3, c_6 | $(u^{24} + 5u^{23} + \dots - 8u + 1)$ |
| c_4, c_5, c_9 c_{10}, c_{11} | $(u^{24} + u^{23} + \dots - 2u + 1)$ |

III. Riley Polynomials

| Crossings | Riley Polynomials at each crossings |
|-------------------------------------|---|
| c_1, c_2, c_7 c_8 | $(y^{24} - 27y^{23} + \dots - 12y + 1)$ |
| c_3, c_6 | $(y^{24} + 9y^{23} + \dots - 52y + 1)$ |
| c_4, c_5, c_9 c_{10}, c_{11} | $(y^{24} - 31y^{23} + \dots - 12y + 1)$ |