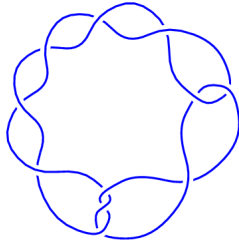
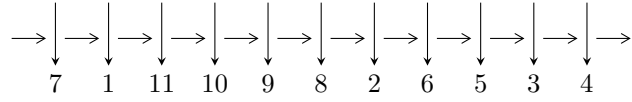


11a₂₄₆ (K11a₂₄₆)

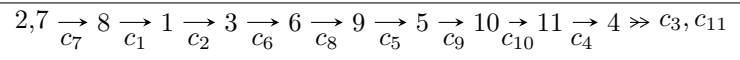


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{20} - u^{19} + \dots + 2u - 1 \rangle$$

There are 1 irreducible components with 20 representations.

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

$$\mathbf{I. } I_1^u = \langle u^{20} - u^{19} - u^{18} + 2u^{17} + 7u^{16} - 8u^{15} - 6u^{14} + 12u^{13} + 16u^{12} - 21u^{11} - 11u^{10} + 22u^9 + 13u^8 - 20u^7 - 6u^6 + 14u^5 + u^4 - 5u^3 + u^2 + 2u - 1 \rangle$$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^5 - u \\ u^5 - u^3 + u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -u^9 - 3u^5 - u \\ u^9 - u^7 + 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{15} - 2u^{13} + 6u^{11} - 10u^9 + 10u^7 - 12u^5 + 4u^3 - 2u \\ -u^{17} + u^{15} - 5u^{13} + 4u^{11} - 5u^9 + 2u^7 + 2u^5 - 2u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{11} + 4u^7 + 3u^3 \\ -u^{11} + u^9 - 4u^7 + 3u^5 - 3u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{11} + 4u^7 + 3u^3 \\ -u^{11} + u^9 - 4u^7 + 3u^5 - 3u^3 + u \end{pmatrix}$$

(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 |
|-----------------------------|---------------------------------------|-----------------------|
| $u = -0.957669 - 0.942838I$ | $18.4290 - 3.4609I$ | $-3.93136 + 2.23046I$ |
| $u = -0.957669 + 0.942838I$ | $18.4290 + 3.4609I$ | $-3.93136 - 2.23046I$ |
| $u = -0.891532 - 0.720974I$ | $3.03541 - 6.91001I$ | $-8.48791 + 6.50357I$ |
| $u = -0.891532 + 0.720974I$ | $3.03541 + 6.91001I$ | $-8.48791 - 6.50357I$ |
| $u = -0.825459$ | -5.00568 | -19.1736 |
| $u = -0.755716 - 0.786723I$ | $3.49001 + 1.34947I$ | $-7.27011 - 0.63614I$ |
| $u = -0.755716 + 0.786723I$ | $3.49001 - 1.34947I$ | $-7.27011 + 0.63614I$ |
| $u = -0.646522 - 0.440208I$ | $0.98038 - 1.64938I$ | $-5.14084 + 6.42836I$ |
| $u = -0.646522 + 0.440208I$ | $0.98038 + 1.64938I$ | $-5.14084 - 6.42836I$ |
| $u = 0.325255 - 0.531082I$ | $-1.54609 - 0.69516I$ | $-7.68521 + 0.30999I$ |
| $u = 0.325255 + 0.531082I$ | $-1.54609 + 0.69516I$ | $-7.68521 - 0.30999I$ |
| $u = 0.522116$ | -0.645282 | -16.2792 |
| $u = 0.833131 - 0.764900I$ | $7.04605 + 2.82035I$ | $-3.80057 - 3.20704I$ |
| $u = 0.833131 + 0.764900I$ | $7.04605 - 2.82035I$ | $-3.80057 + 3.20704I$ |
| $u = 0.833245 - 0.378299I$ | $-3.11470 + 3.99252I$ | $-13.6755 - 7.5015I$ |
| $u = 0.833245 + 0.378299I$ | $-3.11470 - 3.99252I$ | $-13.6755 + 7.5015I$ |
| $u = 0.942516 - 0.948121I$ | $14.4385 - 1.5977I$ | $-7.05732 + 0.65036I$ |
| $u = 0.942516 + 0.948121I$ | $14.4385 + 1.5977I$ | $-7.05732 - 0.65036I$ |
| $u = 0.968963 - 0.932119I$ | $14.3498 + 8.5006I$ | $-7.22483 - 5.05516I$ |
| $u = 0.968963 + 0.932119I$ | $14.3498 - 8.5006I$ | $-7.22483 + 5.05516I$ |

II. u-Polynomials

| Crossings | u-Polynomials at each crossings |
|------------------------------------|---------------------------------------|
| c_1, c_7 | $(u^{20} + u^{19} + \dots - 2u - 1)$ |
| c_2, c_4, c_5 c_6, c_8, c_9 | $(u^{20} + 3u^{19} + \dots + 6u + 1)$ |
| c_3, c_{10}, c_{11} | $(u^{20} + u^{19} + \dots + 4u - 1)$ |

III. Riley Polynomials

| Crossings | Riley Polynomials at each crossings |
|------------------------------------|--|
| c_1, c_7 | $(y^{20} - 3y^{19} + \dots - 6y + 1)$ |
| c_2, c_4, c_5 c_6, c_8, c_9 | $(y^{20} + 29y^{19} + \dots + 2y + 1)$ |
| c_3, c_{10}, c_{11} | $(y^{20} - 15y^{19} + \dots - 6y + 1)$ |