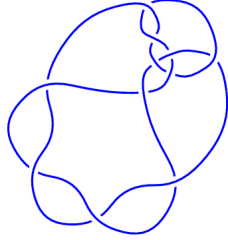
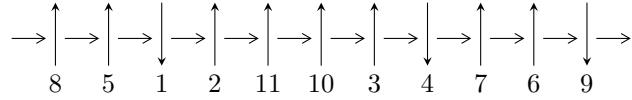


11a₂₆₂ (K11a₂₆₂)

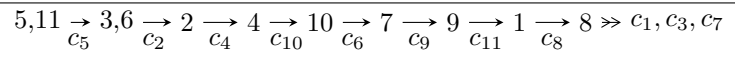


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = I_1^u$$

$$I_1^u = \langle u^{53} - u^{52} + \dots + 9u + 1, -3.07507 \times 10^{69}u^{52} + 3.86826 \times 10^{69}u^{51} + \dots + 1.66283 \times 10^{69}b - 1.12419 \times 10^{70} \\ - 1.91019 \times 10^{70}a^{52} + 2.44245 \times 10^{70}a^{51} + \dots + 1.66283 \times 10^{69}a - 6.16106 \times 10^{70} \rangle$$

There are 1 irreducible components with 53 representations.

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

$$\begin{aligned} & \mathbf{I. } I_1^u = \\ & \langle u^{53} - u^{52} + \dots + 9u + 1, -3.08 \times 10^{69} u^{52} + 3.87 \times 10^{69} u^{51} + \dots + 1.66 \times 10^{69} b - \\ & 1.12 \times 10^{70}, -1.91 \times 10^{70} u^{52} + 2.44 \times 10^{70} u^{51} + \dots + 1.66 \times 10^{69} a - 6.16 \times 10^{70} \rangle \end{aligned}$$

(i) Arc colorings

$$\begin{aligned} a_5 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_{11} &= \begin{pmatrix} 11.4876u^{52} - 14.6885u^{51} + \dots + 216.395u + 37.0517 \\ 1.84930u^{52} - 2.32632u^{51} + \dots + 38.0530u + 6.76069 \end{pmatrix} \\ a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 9.67338u^{52} - 11.9567u^{51} + \dots + 183.640u + 32.0368 \\ 2.27137u^{52} - 2.91824u^{51} + \dots + 47.8752u + 8.63455 \end{pmatrix} \\ a_2 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 16.4508u^{52} - 20.6836u^{51} + \dots + 296.171u + 51.5827 \\ 3.58360u^{52} - 5.67911u^{51} + \dots + 92.1711u + 16.0790 \end{pmatrix} \\ a_7 &= \begin{pmatrix} 19.5319u^{52} - 25.0782u^{51} + \dots + 388.279u + 67.3460 \\ 4.85956u^{52} - 7.23004u^{51} + \dots + 124.330u + 22.1567 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 22.9719u^{52} - 29.8967u^{51} + \dots + 464.490u + 80.9555 \\ 7.25469u^{52} - 10.2658u^{51} + \dots + 164.942u + 29.7119 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 14.6161u^{52} - 16.1157u^{51} + \dots + 220.460u + 42.4563 \\ 5.19010u^{52} - 6.15279u^{51} + \dots + 87.9687u + 16.1157 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 24.3915u^{52} - 32.3082u^{51} + \dots + 512.609u + 89.5027 \\ 4.85956u^{52} - 7.23004u^{51} + \dots + 124.330u + 22.1567 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 24.3915u^{52} - 32.3082u^{51} + \dots + 512.609u + 89.5027 \\ 4.85956u^{52} - 7.23004u^{51} + \dots + 124.330u + 22.1567 \end{pmatrix} \end{aligned}$$

(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
$u = -1.60760 - 0.35805I$ $a = -0.129745 - 0.912844I$ $b = -0.38586 - 1.49424I$	$-2.00563 - 1.98586I$	$8.80886 + 0.48176I$
$u = -1.60760 + 0.35805I$ $a = -0.129745 + 0.912844I$ $b = -0.38586 + 1.49424I$	$-2.00563 + 1.98586I$	$8.80886 - 0.48176I$
$u = -1.47858 - 0.47070I$ $a = 0.226912 - 0.367962I$ $b = -0.645247 - 0.275920I$	$4.45759 + 0.11922I$	$13.02951 + 0.69964I$
$u = -1.47858 + 0.47070I$ $a = 0.226912 + 0.367962I$ $b = -0.645247 + 0.275920I$	$4.45759 - 0.11922I$	$13.02951 - 0.69964I$
$u = -1.41840 - 0.61660I$ $a = 0.438667 + 0.179032I$ $b = -1.62513 + 0.45295I$	$4.20057 + 3.68117I$	$11.59505 - 7.70576I$
$u = -1.41840 + 0.61660I$ $a = 0.438667 - 0.179032I$ $b = -1.62513 - 0.45295I$	$4.20057 - 3.68117I$	$11.59505 + 7.70576I$
$u = -1.40052 - 0.74759I$ $a = 0.534626 + 0.814315I$ $b = -3.31284 + 0.87386I$	$-2.69459 + 5.99005I$	$7.34268 - 6.52584I$
$u = -1.40052 + 0.74759I$ $a = 0.534626 - 0.814315I$ $b = -3.31284 - 0.87386I$	$-2.69459 - 5.99005I$	$7.34268 + 6.52584I$
$u = -1.12965$ $a = -0.205610$ $b = -0.441758$	2.24636	1.69409
$u = -1.083365 - 0.105461I$ $a = -0.24446 - 1.40153I$ $b = 3.77495 + 1.79766I$	$-4.76295 + 3.50697I$	$-9.88928 + 9.21254I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.083365 + 0.105461I$ $a = -0.24446 + 1.40153I$ $b = 3.77495 - 1.79766I$	$-4.76295 - 3.50697I$	$-9.88928 - 9.21254I$
$u = -1.061345 - 0.039841I$ $a = -0.431890 - 0.454119I$ $b = 2.98286 + 0.75420I$	$2.13564 + 1.55948I$	$-19.8548 + 10.4353I$
$u = -1.061345 + 0.039841I$ $a = -0.431890 + 0.454119I$ $b = 2.98286 - 0.75420I$	$2.13564 - 1.55948I$	$-19.8548 - 10.4353I$
$u = -0.805306 - 0.215727I$ $a = -0.312526 - 0.483721I$ $b = -0.356372 - 1.210508I$	$0.94420 + 1.17734I$	$5.61906 - 3.35640I$
$u = -0.805306 + 0.215727I$ $a = -0.312526 + 0.483721I$ $b = -0.356372 + 1.210508I$	$0.94420 - 1.17734I$	$5.61906 + 3.35640I$
$u = -0.654944 - 0.209247I$ $a = 0.56733 + 2.16568I$ $b = -2.13752 + 1.89630I$	$-5.71528 - 2.30391I$	$3.26115 + 5.58323I$
$u = -0.654944 + 0.209247I$ $a = 0.56733 - 2.16568I$ $b = -2.13752 - 1.89630I$	$-5.71528 + 2.30391I$	$3.26115 - 5.58323I$
$u = -0.568250 - 0.931393I$ $a = -1.145454 - 0.765401I$ $b = 1.73767 - 1.64465I$	$-5.03695 + 1.09402I$	$3.76275 - 4.18839I$
$u = -0.568250 + 0.931393I$ $a = -1.145454 + 0.765401I$ $b = 1.73767 + 1.64465I$	$-5.03695 - 1.09402I$	$3.76275 + 4.18839I$
$u = -0.287768 - 0.005394I$ $a = -1.38646 - 1.19715I$ $b = -0.519523 - 0.221947I$	$0.839103 + 0.963368I$	$7.10556 - 5.20772I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.287768 + 0.005394I$ $a = -1.38646 + 1.19715I$ $b = -0.519523 + 0.221947I$	$0.839103 - 0.963368I$	$7.10556 + 5.20772I$
$u = -0.168809 - 0.980887I$ $a = -0.209839 - 0.564144I$ $b = 0.366885 - 0.261019I$	$0.73495 + 2.61446I$	$6.80748 - 3.27296I$
$u = -0.168809 + 0.980887I$ $a = -0.209839 + 0.564144I$ $b = 0.366885 + 0.261019I$	$0.73495 - 2.61446I$	$6.80748 + 3.27296I$
$u = -0.066562 - 1.132374I$ $a = 0.564778 - 0.416385I$ $b = -1.031359 - 0.264440I$	$-0.15260 + 6.19554I$	$4.01481 - 9.36178I$
$u = -0.066562 + 1.132374I$ $a = 0.564778 + 0.416385I$ $b = -1.031359 + 0.264440I$	$-0.15260 - 6.19554I$	$4.01481 + 9.36178I$
$u = -0.061710 - 0.224296I$ $a = -2.94727 + 1.10519I$ $b = 0.149757 - 0.481568I$	$0.14967 + 2.03204I$	$3.41312 - 3.39800I$
$u = -0.061710 + 0.224296I$ $a = -2.94727 - 1.10519I$ $b = 0.149757 + 0.481568I$	$0.14967 - 2.03204I$	$3.41312 + 3.39800I$
$u = 0.002505 - 1.226548I$ $a = 1.280720 - 0.124168I$ $b = -2.69445 - 0.97429I$	$-7.49343 + 8.60231I$	$0.99797 - 7.41135I$
$u = 0.002505 + 1.226548I$ $a = 1.280720 + 0.124168I$ $b = -2.69445 + 0.97429I$	$-7.49343 - 8.60231I$	$0.99797 + 7.41135I$
$u = 0.037391 - 0.377043I$ $a = -4.10468 + 0.73774I$ $b = 1.160646 - 0.367701I$	$-7.21649 + 4.05118I$	$0.025573 - 0.974871I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.037391 + 0.377043I$ $a = -4.10468 - 0.73774I$ $b = 1.160646 + 0.367701I$	$-7.21649 - 4.05118I$	$0.025573 + 0.974871I$
$u = 0.211342 - 0.692763I$ $a = -1.025877 + 0.184203I$ $b = 1.076605 - 0.393531I$	$-2.80915 + 1.17690I$	$-3.10474 - 1.38405I$
$u = 0.211342 + 0.692763I$ $a = -1.025877 - 0.184203I$ $b = 1.076605 + 0.393531I$	$-2.80915 - 1.17690I$	$-3.10474 + 1.38405I$
$u = 0.434674 - 0.830989I$ $a = -1.52244 + 0.76617I$ $b = 2.65029 - 0.07121I$	$-10.80677 + 0.74411I$	$-3.05627 - 1.07981I$
$u = 0.434674 + 0.830989I$ $a = -1.52244 - 0.76617I$ $b = 2.65029 + 0.07121I$	$-10.80677 - 0.74411I$	$-3.05627 + 1.07981I$
$u = 1.027982 - 0.455273I$ $a = 0.61884 - 1.32570I$ $b = -1.58302 - 1.70146I$	$-8.94151 - 5.46940I$	$-0.01723 + 6.48286I$
$u = 1.027982 + 0.455273I$ $a = 0.61884 + 1.32570I$ $b = -1.58302 + 1.70146I$	$-8.94151 + 5.46940I$	$-0.01723 - 6.48286I$
$u = 1.130743 - 0.236854I$ $a = 0.451929 - 1.304782I$ $b = -1.84400 - 0.62589I$	$-4.20208 - 6.58081I$	$4.95504 + 8.51654I$
$u = 1.130743 + 0.236854I$ $a = 0.451929 + 1.304782I$ $b = -1.84400 + 0.62589I$	$-4.20208 + 6.58081I$	$4.95504 - 8.51654I$
$u = 1.134872 - 0.110271I$ $a = 0.625446 - 0.533391I$ $b = -1.032295 - 0.482009I$	$3.29153 - 3.40743I$	$13.0359 + 10.0924I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.134872 + 0.110271I$ $a = 0.625446 + 0.533391I$ $b = -1.032295 + 0.482009I$	$3.29153 + 3.40743I$	$13.0359 - 10.0924I$
$u = 1.157103 - 0.030135I$ $a = 0.650417 - 0.206298I$ $b = -0.604097 + 0.059371I$	$4.51390 - 1.24711I$	$18.3925 + 3.9738I$
$u = 1.157103 + 0.030135I$ $a = 0.650417 + 0.206298I$ $b = -0.604097 - 0.059371I$	$4.51390 + 1.24711I$	$18.3925 - 3.9738I$
$u = 1.160090 - 0.255953I$ $a = 0.379044 - 0.839855I$ $b = -0.635372 - 0.692551I$	$0.20296 - 4.75561I$	$5.44165 + 8.22126I$
$u = 1.160090 + 0.255953I$ $a = 0.379044 + 0.839855I$ $b = -0.635372 + 0.692551I$	$0.20296 + 4.75561I$	$5.44165 - 8.22126I$
$u = 1.303556 - 0.338629I$ $a = 0.144361 - 0.947693I$ $b = -0.270241 - 0.639621I$	$0.47934 - 4.72102I$	$5.64731 + 4.20752I$
$u = 1.303556 + 0.338629I$ $a = 0.144361 + 0.947693I$ $b = -0.270241 + 0.639621I$	$0.47934 + 4.72102I$	$5.64731 - 4.20752I$
$u = 1.36138 - 0.45603I$ $a = -0.375155 - 0.346466I$ $b = 0.593029 + 0.138240I$	$5.42859 - 7.69645I$	$8.91950 + 3.87764I$
$u = 1.36138 + 0.45603I$ $a = -0.375155 + 0.346466I$ $b = 0.593029 - 0.138240I$	$5.42859 + 7.69645I$	$8.91950 - 3.87764I$
$u = 1.37904 - 0.51660I$ $a = -0.532434 + 0.275105I$ $b = 1.73301 + 0.65668I$	$4.38092 - 11.94557I$	$6.49757 + 9.10409I$

Solution to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.37904 + 0.51660I$ $a = -0.532434 - 0.275105I$ $b = 1.73301 - 0.65668I$	$4.38092 + 11.94557I$	$6.49757 - 9.10409I$
$u = 1.38731 - 0.56687I$ $a = -0.512042 + 0.933320I$ $b = 3.17251 + 0.88693I$	$-3.1210 - 14.8139I$	$3.40221 + 7.99396I$
$u = 1.38731 + 0.56687I$ $a = -0.512042 - 0.933320I$ $b = 3.17251 - 0.88693I$	$-3.1210 + 14.8139I$	$3.40221 - 7.99396I$

II. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{53} + 3u^{52} + \dots - u - 1)$
c_2, c_4	$(u^{53} + u^{52} + \dots + 9u - 1)$
c_3	$(u^{53} + 9u^{52} + \dots + u + 1)$
c_5, c_6, c_9 c_{10}	$(u^{53} + u^{52} + \dots + 3u - 1)$
c_7	$(u^{53} + u^{52} + \dots - 721u - 271)$
c_8	$(u^{53} + u^{52} + \dots + 37u + 89)$
c_{11}	$(u^{53} + 11u^{52} + \dots + 1317u + 163)$

III. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^{53} - 9y^{52} + \dots + 3y - 1)$
c_2, c_4	$(y^{53} - 37y^{52} + \dots - 9y - 1)$
c_3	$(y^{53} + 3y^{52} + \dots - 9y - 1)$
c_5, c_6, c_9 c_{10}	$(y^{53} + 59y^{52} + \dots + 3y - 1)$
c_7	$(y^{53} + 35y^{52} + \dots + 1272679y - 73441)$
c_8	$(y^{53} + 59y^{52} + \dots - 255841y - 7921)$
c_{11}	$(y^{53} + 19y^{52} + \dots + 1976055y - 26569)$