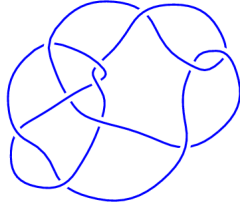
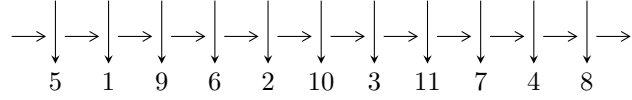


11a₁₂₃ (K11a₁₂₃)

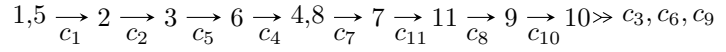


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = \bigcap_{i=1}^4 I_i^u$$

$$I_1^u = \langle b^2 + 1, u - 1, -b + a + 1 \rangle$$

$$I_2^u = \langle u^3 + u^2 - 1, b + 1, 2a + 2u + 1 \rangle$$

$$I_3^u = \langle b^{38} + 7b^{37} + \dots + 19b + 2, \\ - 3.87628 \times 10^{24}b^{37} - 2.32129 \times 10^{25}b^{36} + \dots + 6.25748 \times 10^{24}a + 2.72523 \times 10^{25}, \\ 6.25748 \times 10^{24}u + 3.46920 \times 10^{24}b^{37} + \dots + 1.08438 \times 10^{26}b + 8.56490 \times 10^{24} \rangle$$

$$I_4^u = \langle u^{25} - 2u^{24} + \dots + 17u - 4, \\ 31496267249u^{24} - 1954119851u^{23} + \dots + 353576605306b - 294716823050, \\ - 258242463245u^{24} + 140426199118u^{23} + \dots + 707153210612a + 177949498093 \rangle$$

There are 4 irreducible components with 68 representations.

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

$$\mathbf{I. } I_1^u = \langle b^2 + 1, u - 1, -b + a + 1 \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} b - 1 \\ b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} b - 1 \\ 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} b + 2 \\ 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -b \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -b \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -b \end{pmatrix}$$

(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
$u = 1.00000$ $a = -1.00000 - 1.00000I$ $b = -1.00000I$	1.64493	-8.00000
$u = 1.00000$ $a = -1.00000 + 1.00000I$ $b = 1.00000I$	1.64493	-8.00000

$$\text{II. } I_2^u = \langle u^3 + u^2 - 1, b + 1, 2a + 2u + 1 \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u \\ u^2 + u - 1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -u - \frac{1}{2} \\ -1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{3}{2}u \\ \frac{1}{2}u^2 + \frac{1}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u + \frac{1}{2} \\ -1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u \\ -\frac{1}{2}u^2 - \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u \\ -\frac{1}{2}u^2 - \frac{1}{2}u - \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 - 0.744862I$ $a = 0.377439 + 0.744862I$ $b = -1.00000$	$1.37919 - 2.82812I$	$-13.06503 + 2.38969I$
$u = -0.877439 + 0.744862I$ $a = 0.377439 - 0.744862I$ $b = -1.00000$	$1.37919 + 2.82812I$	$-13.06503 - 2.38969I$
$u = 0.754878$ $a = -1.25488$ $b = -1.00000$	-2.75839	-4.61995

III.

$$I_3^u = \langle b^{38} + 7b^{37} + \dots + 19b + 2, -3.88 \times 10^{24}b^{37} - 2.32 \times 10^{25}b^{36} + \dots + 6.26 \times 10^{24}a + 2.73 \times 10^{25}, 6.26 \times 10^{24}u + 3.47 \times 10^{24}b^{37} + \dots + 1.08 \times 10^{26}b + 8.56 \times 10^{24} \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ -0.554408b^{37} - 3.54083b^{36} + \dots - 17.3294b - 1.36874 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ -0.227736b^{37} - 1.66018b^{36} + \dots - 10.1333b - 0.702067 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.227736b^{37} + 1.66018b^{36} + \dots + 10.1333b + 1.70207 \\ -0.227736b^{37} - 1.66018b^{36} + \dots - 10.1333b - 0.702067 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.554408b^{37} + 3.54083b^{36} + \dots + 17.3294b + 1.36874 \\ 0.0118647b^{37} + 0.0994000b^{36} + \dots + 3.72968b + 0.899144 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.566272b^{37} - 3.64023b^{36} + \dots - 21.0590b - 2.26789 \\ -0.827976b^{37} - 5.35236b^{36} + \dots - 22.0105b - 2.41100 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.619464b^{37} + 3.70962b^{36} + \dots - 26.9083b - 4.35515 \\ b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.697027b^{37} + 4.34130b^{36} + \dots - 8.65905b - 2.11472 \\ -0.159401b^{37} - 1.21306b^{36} + \dots + 2.57938b + 1.23294 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.626621b^{37} + 5.13921b^{36} + \dots + 16.1250b + 2.23893 \\ -b^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.133406b^{37} - 1.12349b^{36} + \dots - 17.2415b - 3.10191 \\ b^3 + b \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.441205b^{37} + 3.72282b^{36} + \dots + 21.9821b + 3.51328 \\ 0.114250b^{37} + 0.642591b^{36} + \dots + 6.20657b + 1.22215 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.441205b^{37} + 3.72282b^{36} + \dots + 21.9821b + 3.51328 \\ 0.114250b^{37} + 0.642591b^{36} + \dots + 6.20657b + 1.22215 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.975971 + 0.799116I$ $a = 0.229088 + 0.972721I$ $b = -1.211894 - 0.090804I$	$7.18622 - 9.88550I$	$-6.86128 + 7.31129I$
$u = 0.975971 - 0.799116I$ $a = 0.229088 - 0.972721I$ $b = -1.211894 + 0.090804I$	$7.18622 + 9.88550I$	$-6.86128 - 7.31129I$
$u = 0.809650 - 0.858173I$ $a = 0.565390 - 0.425293I$ $b = -1.179350 - 0.174669I$	$7.70394 - 3.71612I$	$-5.80100 + 2.45937I$
$u = 0.809650 + 0.858173I$ $a = 0.565390 + 0.425293I$ $b = -1.179350 + 0.174669I$	$7.70394 + 3.71612I$	$-5.80100 - 2.45937I$
$u = -0.978202 + 0.313897I$ $a = -0.849902 - 0.223654I$ $b = -0.852454 - 0.070284I$	$0.16029 + 5.52702I$	$-12.4279 - 7.0025I$
$u = -0.978202 - 0.313897I$ $a = -0.849902 + 0.223654I$ $b = -0.852454 + 0.070284I$	$0.16029 - 5.52702I$	$-12.4279 + 7.0025I$
$u = 0.903405 + 0.838368I$ $a = -0.98440 + 2.02627I$ $b = -0.66723 - 1.46348I$	$11.59749 - 3.11880I$	$-2.41376 + 2.69239I$
$u = 0.903405 - 0.838368I$ $a = -0.98440 - 2.02627I$ $b = -0.66723 + 1.46348I$	$11.59749 + 3.11880I$	$-2.41376 - 2.69239I$
$u = -0.103765 + 0.589022I$ $a = 0.054068 - 0.769378I$ $b = -0.625152 - 0.214266I$	$2.82151 - 2.32534I$	$-6.27174 + 3.09456I$
$u = -0.103765 - 0.589022I$ $a = 0.054068 + 0.769378I$ $b = -0.625152 + 0.214266I$	$2.82151 + 2.32534I$	$-6.27174 - 3.09456I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.903405 - 0.838368I$ $a = 0.86034 + 1.32154I$ $b = -0.60508 - 1.51193I$	$11.59749 + 3.11880I$	$-2.41376 - 2.69239I$
$u = 0.903405 + 0.838368I$ $a = 0.86034 - 1.32154I$ $b = -0.60508 + 1.51193I$	$11.59749 - 3.11880I$	$-2.41376 + 2.69239I$
$u = -0.635698 - 0.450549I$ $a = -1.94079 + 0.02901I$ $b = -0.463625 - 0.999486I$	$4.70093 - 1.72326I$	$-4.18035 + 5.18112I$
$u = -0.635698 + 0.450549I$ $a = -1.94079 - 0.02901I$ $b = -0.463625 + 0.999486I$	$4.70093 + 1.72326I$	$-4.18035 - 5.18112I$
$u = 0.964317 + 0.230449I$ $a = -0.491180 + 0.989591I$ $b = -0.217752 - 0.156279I$	$-0.332249 - 0.168160I$	$-14.1683 + 0.9143I$
$u = 0.964317 - 0.230449I$ $a = -0.491180 - 0.989591I$ $b = -0.217752 + 0.156279I$	$-0.332249 + 0.168160I$	$-14.1683 - 0.9143I$
$u = -0.635698 + 0.450549I$ $a = -0.230067 + 0.608858I$ $b = -0.213170 - 1.280762I$	$4.70093 + 1.72326I$	$-4.18035 - 5.18112I$
$u = -0.635698 - 0.450549I$ $a = -0.230067 - 0.608858I$ $b = -0.213170 + 1.280762I$	$4.70093 - 1.72326I$	$-4.18035 + 5.18112I$
$u = -0.949254 - 0.773576I$ $a = -1.61357 + 1.95000I$ $b = -0.116946 - 1.190011I$	$5.72757 - 4.39903I$	$-8.93348 + 2.80289I$
$u = -0.949254 + 0.773576I$ $a = -1.61357 - 1.95000I$ $b = -0.116946 + 1.190011I$	$5.72757 + 4.39903I$	$-8.93348 - 2.80289I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.820272 + 0.802988I$ $a = -0.09753 + 2.28421I$ $b = -0.052144 - 1.206600I$	$6.12368 + 1.53005I$	$-8.20605 - 2.54963I$
$u = -0.820272 - 0.802988I$ $a = -0.09753 - 2.28421I$ $b = -0.052144 + 1.206600I$	$6.12368 - 1.53005I$	$-8.20605 + 2.54963I$
$u = 0.667698$ $a = 6.45400 + 5.52977I$ $b = 0.072948 - 1.007950I$	2.38250	-15.4722
$u = 0.667698$ $a = 6.45400 - 5.52977I$ $b = 0.072948 + 1.007950I$	2.38250	-15.4722
$u = 0.964317 + 0.230449I$ $a = -0.985016 - 0.274220I$ $b = 0.134173 - 0.930763I$	$-0.332249 - 0.168160I$	$-14.1683 + 0.9143I$
$u = 0.964317 - 0.230449I$ $a = -0.985016 + 0.274220I$ $b = 0.134173 + 0.930763I$	$-0.332249 + 0.168160I$	$-14.1683 - 0.9143I$
$u = -0.103765 - 0.589022I$ $a = -0.56231 + 1.56828I$ $b = 0.223313 - 1.232587I$	$2.82151 + 2.32534I$	$-6.27174 - 3.09456I$
$u = -0.103765 + 0.589022I$ $a = -0.56231 - 1.56828I$ $b = 0.223313 + 1.232587I$	$2.82151 - 2.32534I$	$-6.27174 + 3.09456I$
$u = -0.820272 - 0.802988I$ $a = 0.377406 - 0.541506I$ $b = 0.357882 - 0.461087I$	$6.12368 - 1.53005I$	$-8.20605 + 2.54963I$
$u = -0.820272 + 0.802988I$ $a = 0.377406 + 0.541506I$ $b = 0.357882 + 0.461087I$	$6.12368 + 1.53005I$	$-8.20605 - 2.54963I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.949254 + 0.773576I$		
$a = 0.620189 - 0.094867I$	$5.72757 + 4.39903I$	$-8.93348 - 2.80289I$
$b = 0.423801 - 0.309302I$		
$u = -0.949254 - 0.773576I$		
$a = 0.620189 + 0.094867I$	$5.72757 - 4.39903I$	$-8.93348 + 2.80289I$
$b = 0.423801 + 0.309302I$		
$u = -0.978202 + 0.313897I$		
$a = 1.41152 + 0.19798I$	$0.16029 + 5.52702I$	$-12.4279 - 7.0025I$
$b = 0.462406 - 1.206878I$		
$u = -0.978202 - 0.313897I$		
$a = 1.41152 - 0.19798I$	$0.16029 - 5.52702I$	$-12.4279 + 7.0025I$
$b = 0.462406 + 1.206878I$		
$u = 0.809650 + 0.858173I$		
$a = -0.62274 + 1.72512I$	$7.70394 + 3.71612I$	$-5.80100 - 2.45937I$
$b = 0.48129 - 1.51282I$		
$u = 0.809650 - 0.858173I$		
$a = -0.62274 - 1.72512I$	$7.70394 - 3.71612I$	$-5.80100 + 2.45937I$
$b = 0.48129 + 1.51282I$		
$u = 0.975971 - 0.799116I$		
$a = 1.30550 + 2.02733I$	$7.18622 + 9.88550I$	$-6.86128 - 7.31129I$
$b = 0.54897 - 1.49405I$		
$u = 0.975971 + 0.799116I$		
$a = 1.30550 - 2.02733I$	$7.18622 - 9.88550I$	$-6.86128 + 7.31129I$
$b = 0.54897 + 1.49405I$		

$$\text{IV. } I_4^u = \langle u^{25} - 2u^{24} + \dots + 17u - 4, 3.15 \times 10^{10}u^{24} - 1.95 \times 10^9u^{23} + \dots + 3.54 \times 10^{11}b - 2.95 \times 10^{11}, -2.58 \times 10^{11}u^{24} + 1.40 \times 10^{11}u^{23} + \dots + 7.07 \times 10^{11}a + 1.78 \times 10^{11} \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.365186u^{24} - 0.198580u^{23} + \dots - 5.28891u - 0.251642 \\ -0.0890790u^{24} + 0.00552672u^{23} + \dots - 1.23519u + 0.833530 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.267603u^{24} - 0.170382u^{23} + \dots - 4.06703u - 0.0336839 \\ -0.227826u^{24} + 0.244721u^{23} + \dots + 1.30904u + 0.0124582 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.361710u^{24} + 0.276963u^{23} + \dots + 5.53501u + 0.291576 \\ 0.135603u^{24} - 0.0416754u^{23} + \dots + 1.55999u - 0.715415 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.690139u^{24} - 0.455342u^{23} + \dots - 9.24059u - 0.0115544 \\ -0.314729u^{24} + 0.224657u^{23} + \dots - 1.21944u + 0.939187 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.323410u^{24} + 0.155971u^{23} + \dots + 3.99738u + 0.846565 \\ 0.110684u^{24} - 0.103445u^{23} + \dots + 0.590987u - 0.502652 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.323410u^{24} + 0.155971u^{23} + \dots + 3.99738u + 0.846565 \\ 0.110684u^{24} - 0.103445u^{23} + \dots + 0.590987u - 0.502652 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.142430 - 0.382078I$ $a = -1.268034 + 0.422167I$ $b = -0.409233 - 1.264710I$	$3.90197 - 10.08687I$	$-8.02551 + 8.45672I$
$u = -1.142430 + 0.382078I$ $a = -1.268034 - 0.422167I$ $b = -0.409233 + 1.264710I$	$3.90197 + 10.08687I$	$-8.02551 - 8.45672I$
$u = -1.076915 - 0.848675I$ $a = 1.04834 - 1.34169I$ $b = 0.153566 + 1.310872I$	$10.62702 - 6.42707I$	$-2.25103 + 5.26300I$
$u = -1.076915 + 0.848675I$ $a = 1.04834 + 1.34169I$ $b = 0.153566 - 1.310872I$	$10.62702 + 6.42707I$	$-2.25103 - 5.26300I$
$u = -0.873066 - 0.713586I$ $a = -0.343451 + 0.174556I$ $b = -0.321236 + 0.053568I$	$2.48771 - 2.73173I$	$-3.19620 + 2.74281I$
$u = -0.873066 + 0.713586I$ $a = -0.343451 - 0.174556I$ $b = -0.321236 - 0.053568I$	$2.48771 + 2.73173I$	$-3.19620 - 2.74281I$
$u = -0.791605 - 0.124227I$ $a = 1.178096 - 0.337562I$ $b = 1.040975 - 0.275015I$	$-2.97368 - 0.31797I$	$-15.9411 + 13.1085I$
$u = -0.791605 + 0.124227I$ $a = 1.178096 + 0.337562I$ $b = 1.040975 + 0.275015I$	$-2.97368 + 0.31797I$	$-15.9411 - 13.1085I$
$u = -0.749482 - 1.006981I$ $a = -0.24489 + 1.53795I$ $b = 0.065690 - 1.341366I$	$11.66026 - 0.32743I$	$-0.684836 + 0.302346I$
$u = -0.749482 + 1.006981I$ $a = -0.24489 - 1.53795I$ $b = 0.065690 + 1.341366I$	$11.66026 + 0.32743I$	$-0.684836 - 0.302346I$

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.096629 - 0.930099I$ $a = 0.10164 - 1.51799I$ $b = -0.269095 + 1.312202I$	$7.47156 + 5.57189I$	$-2.30391 - 4.65826I$
$u = -0.096629 + 0.930099I$ $a = 0.10164 + 1.51799I$ $b = -0.269095 - 1.312202I$	$7.47156 - 5.57189I$	$-2.30391 + 4.65826I$
$u = 0.341201$ $a = -1.17598$ $b = 0.331472$	-0.684794	-14.4595
$u = 0.746418 - 0.296773I$ $a = -0.848177 - 0.452473I$ $b = 0.188697 + 0.408041I$	$-0.644117 + 0.222126I$	$-12.29988 + 0.69416I$
$u = 0.746418 + 0.296773I$ $a = -0.848177 + 0.452473I$ $b = 0.188697 - 0.408041I$	$-0.644117 - 0.222126I$	$-12.29988 - 0.69416I$
$u = 0.770950 - 0.937113I$ $a = 0.30856 + 1.63900I$ $b = -0.48655 - 1.44328I$	$12.8491 - 9.5213I$	$-4.07416 + 4.01278I$
$u = 0.770950 + 0.937113I$ $a = 0.30856 - 1.63900I$ $b = -0.48655 + 1.44328I$	$12.8491 + 9.5213I$	$-4.07416 - 4.01278I$
$u = 0.831869 - 0.519995I$ $a = 0.60247 + 1.53377I$ $b = 0.604789 - 0.633838I$	$-0.94821 + 3.43572I$	$-13.2032 - 6.7534I$
$u = 0.831869 + 0.519995I$ $a = 0.60247 - 1.53377I$ $b = 0.604789 + 0.633838I$	$-0.94821 - 3.43572I$	$-13.2032 + 6.7534I$
$u = 0.890108 - 0.788825I$ $a = -0.718513 + 0.942420I$ $b = 1.43833 + 0.04819I$	$2.16301 + 2.96631I$	$-1.51503 - 3.55668I$

Solution to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.890108 + 0.788825I$ $a = -0.718513 - 0.942420I$ $b = 1.43833 - 0.04819I$	$2.16301 - 2.96631I$	$-1.51503 + 3.55668I$
$u = 1.033464 - 0.815877I$ $a = -1.39808 - 1.83834I$ $b = -0.53103 + 1.43134I$	$12.0149 + 15.9713I$	$-5.35626 - 8.57789I$
$u = 1.033464 + 0.815877I$ $a = -1.39808 + 1.83834I$ $b = -0.53103 - 1.43134I$	$12.0149 - 15.9713I$	$-5.35626 + 8.57789I$
$u = 1.286718 - 0.219140I$ $a = 0.295022 + 0.018174I$ $b = -0.140637 - 1.182506I$	$2.59539 - 1.53840I$	$-3.54408 + 4.89308I$
$u = 1.286718 + 0.219140I$ $a = 0.295022 - 0.018174I$ $b = -0.140637 + 1.182506I$	$2.59539 + 1.53840I$	$-3.54408 - 4.89308I$

V. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u-1)^2(u^3+u^2-1)$ $(1-u^2+3u^3-2u^4-4u^5+10u^6+8u^7-15u^8-10u^9+17u^{10}+11u^{11}-13u^{12}-8u^{13}+8u^{14}-u^{15}+2u^{16}+\dots+17u+4)$
c_2	$(u+1)^2(u^3+u^2+2u+1)$ $(1+2u-3u^2-15u^3-22u^4+40u^5+224u^6+536u^7+891u^8+1170u^9+1257u^{10}+1145u^{11}-13u^{12}-8u^{13}+8u^{14}-u^{15}+2u^{16}+\dots+241u+16)$
c_3	$u^3(u^2+1)$ $(1+2u+u^2+5u^3+10u^5+14u^7-3u^8+18u^9-5u^{10}+19u^{11}-7u^{12}+16u^{13}-6u^{14}+10u^{15}-13u^{16}+8u^{17}-u^{18}+2u^{19}+\dots-96u-128)$
c_4	$(u-1)^2(u^3-u^2+2u-1)$ $(1+2u-3u^2-15u^3-22u^4+40u^5+224u^6+536u^7+891u^8+1170u^9+1257u^{10}+1145u^{11}-13u^{12}-8u^{13}+8u^{14}-u^{15}+2u^{16}+\dots+241u+16)$
c_5	$(u+1)^2(u^3-u^2+1)$ $(1-u^2+3u^3-2u^4-4u^5+10u^6+8u^7-15u^8-10u^9+17u^{10}+11u^{11}-13u^{12}-8u^{13}+8u^{14}-u^{15}+2u^{16}+\dots+17u+4)$
c_6, c_8	$(u-1)^3(u^2+1)(u^{25}-3u^{24}+\dots+2u-1)(u^{38}+7u^{37}+\dots+19u+2)$
c_7	$(u^2+2u+2)(8u^3+4u^2+4u+1)(8u^{25}-4u^{24}+\dots+2u-2)$ $(u^{38}+5u^{37}+\dots-8230u+15341)$
c_9, c_{11}	$(u+1)^3(u^2+1)(u^{25}-3u^{24}+\dots+2u-1)(u^{38}+7u^{37}+\dots+19u+2)$
c_{10}	$(u^2-2u+2)(8u^3-4u^2+4u-1)(8u^{25}-4u^{24}+\dots+2u-2)$ $(u^{38}+5u^{37}+\dots-8230u+15341)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y-1)^2(y^3 - y^2 + 2y - 1)$ $(-1 + 2y + 3y^2 - 15y^3 + 22y^4 + 40y^5 - 224y^6 + 536y^7 - 891y^8 + 1170y^9 - 1257y^{10} + 1145y^{11} - 82y^{12} + 24y^{13} - 6y^{14} + 2y^{15} - 16)$
c_2, c_4	$(y-1)^2(y^3 + 3y^2 + 2y - 1)$ $(-1 + 10y - 25y^2 - 195y^3 + 22y^4 + 2888y^5 + 7156y^6 + 9704y^7 + 1.26 \times 10^4 y^8 + 1.67 \times 10^4 y^9 - 1.4 \times 10^4 y^{10} + 1.2 \times 10^4 y^{11} - 1.1 \times 10^4 y^{12} + 10^4 y^{13} - 10^4 y^{14} + 10^4 y^{15} - 10^4 y^{16} + 10^4 y^{17} - 10^4 y^{18} + 10^4 y^{19} - 10^4 y^{20} + 10^4 y^{21} - 10^4 y^{22} + 10^4 y^{23} - 10^4 y^{24} + 10^4 y^{25} + 20y^{24} + \dots + 19233y - 256)$
c_3	$y^3(y+1)^2$ $(-1 + 2y + 19y^2 + 65y^3 + 162y^4 + 328y^5 + 560y^6 + 836y^7 + 1093y^8 + 1270y^9 + 1311y^{10} + 1270y^{11} + 1093y^{12} + 836y^{13} + 560y^{14} + 328y^{15} + 162y^{16} + 65y^{17} + 19y^{18} + 2y^{19} - 1)$ $(y^{25} + 9y^{24} + \dots - 72704y - 16384)$
c_6, c_8, c_9 c_{11}	$(y-1)^3(y+1)^2(y^{25} + 17y^{24} + \dots + 16y - 1)$ $(y^{38} + 27y^{37} + \dots - 21y + 4)$
c_7, c_{10}	$(y^2 + 4)(64y^3 + 48y^2 + 8y - 1)(64y^{25} + 1072y^{24} + \dots + 20y - 4)$ $(y^{38} + 23y^{37} + \dots + 2526338154y + 235346281)$