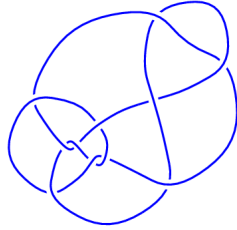
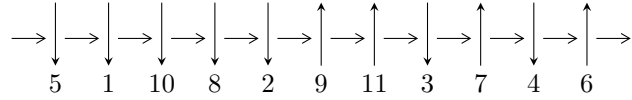


11a₁₄₇ (K11a₁₄₇)

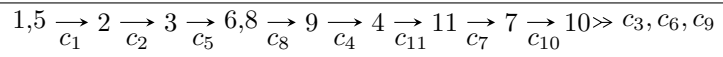


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = \bigcap_{i=1}^2 I_i^u$$

$$I_1^u = \langle u^3 + u^2 - 1, a, -4u^2 + 5b - 6u - 3 \rangle$$

$$I_2^u = \langle u^{78} - 2u^{77} + \dots + 2u - 1, 1.56482 \times 10^{41}u^{77} + 5.94239 \times 10^{41}u^{76} + \dots + 2.06037 \times 10^{42}a - 1.17227 \times 10^{42} \\ 4.15630 \times 10^{41}u^{77} + 1.42444 \times 10^{42}u^{76} + \dots + 2.06037 \times 10^{42}b - 2.63953 \times 10^{41} \rangle$$

There are 2 irreducible components with 81 representations.

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

$$\mathbf{I. } I_1^u = \langle u^3 + u^2 - 1, a, -4u^2 + 5b - 6u - 3 \rangle$$

(i) Arc colorings

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

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

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

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

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

$$a_8 = \begin{pmatrix} 0 \\ \frac{4}{5}u^2 + \frac{6}{5}u + \frac{3}{5} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{5}u^2 + \frac{1}{5}u - \frac{2}{5} \\ \frac{2}{5}u^2 + \frac{3}{5}u + \frac{4}{5} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -\frac{1}{5}u^2 - \frac{4}{5}u - \frac{2}{5} \\ \frac{7}{5}u^2 + \frac{8}{5}u - \frac{1}{5} \end{pmatrix}$$

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

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

(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
$u = -0.877439 - 0.744862I$ $a = 0$ $b = -0.280863 + 0.151879I$	$4.66906 - 2.82812I$	$-8.1210 + 11.7122I$
$u = -0.877439 + 0.744862I$ $a = 0$ $b = -0.280863 - 0.151879I$	$4.66906 + 2.82812I$	$-8.1210 - 11.7122I$
$u = 0.754878$ $a = 0$ $b = 1.96173$	0.531480	1.88198

$$\text{II. } J_2^u = \langle u^{78} - 2u^{77} + \dots + 2u - 1, 1.56 \times 10^{41}u^{77} + 5.94 \times 10^{41}u^{76} + \dots + 2.06 \times 10^{42}a - 1.17 \times 10^{42}, 4.16 \times 10^{41}u^{77} + 1.42 \times 10^{42}u^{76} + \dots + 2.06 \times 10^{42}b - 2.64 \times 10^{41} \rangle$$

(i) Arc colorings

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

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

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

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

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

$$a_8 = \begin{pmatrix} -0.0759485u^{77} - 0.288414u^{76} + \dots + 0.189784u + 0.568960 \\ -0.201726u^{77} - 0.691350u^{76} + \dots + 2.63367u + 0.128109 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.90814u^{77} + 2.44809u^{76} + \dots + 1.95933u - 1.41989 \\ 0.671064u^{77} - 1.18342u^{76} + \dots + 1.02301u + 0.453741 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.22870u^{77} - 2.11325u^{76} + \dots - 2.05949u + 1.62321 \\ -0.213088u^{77} - 0.465529u^{76} + \dots - 0.336258u + 1.52860 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^4 - u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.34481u^{77} + 1.31195u^{76} + \dots + 0.279064u - 0.124200 \\ 0.176490u^{77} - 0.471217u^{76} + \dots + 2.58106u - 0.254037 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.50047u^{77} - 2.62066u^{76} + \dots - 2.93613u + 2.80765 \\ -0.728247u^{77} + 0.780706u^{76} + \dots + 1.61654u - 0.804149 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.50047u^{77} - 2.62066u^{76} + \dots - 2.93613u + 2.80765 \\ -0.728247u^{77} + 0.780706u^{76} + \dots + 1.61654u - 0.804149 \end{pmatrix}$$

(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
$u = -1.214521 - 0.340708I$		
$a = -0.870833 + 0.024144I$	$-6.71121 - 6.46472I$	$-9.58573 + 7.25572I$
$b = 0.797237 - 0.098529I$		
$u = -1.214521 + 0.340708I$		
$a = -0.870833 - 0.024144I$	$-6.71121 + 6.46472I$	$-9.58573 - 7.25572I$
$b = 0.797237 + 0.098529I$		
$u = -1.207284 - 0.247867I$		
$a = 0.898110 - 0.845175I$	$-5.50516 + 8.73601I$	$-7.99409 - 5.01869I$
$b = -0.686919 + 0.239703I$		
$u = -1.207284 + 0.247867I$		
$a = 0.898110 + 0.845175I$	$-5.50516 - 8.73601I$	$-7.99409 + 5.01869I$
$b = -0.686919 - 0.239703I$		
$u = -1.160072 - 0.582250I$		
$a = 0.970633 + 0.223648I$	$0.33944 - 11.38210I$	$-2.38467 + 8.13958I$
$b = -1.83761 + 1.33205I$		
$u = -1.160072 + 0.582250I$		
$a = 0.970633 - 0.223648I$	$0.33944 + 11.38210I$	$-2.38467 - 8.13958I$
$b = -1.83761 - 1.33205I$		
$u = -1.155641 - 0.314214I$		
$a = -1.082270 + 0.885877I$	$-8.20158 + 2.35498I$	$-10.86205 - 1.59548I$
$b = 0.801337 - 0.856114I$		
$u = -1.155641 + 0.314214I$		
$a = -1.082270 - 0.885877I$	$-8.20158 - 2.35498I$	$-10.86205 + 1.59548I$
$b = 0.801337 + 0.856114I$		
$u = -1.141591 - 0.513261I$		
$a = -0.900867 - 0.281464I$	$-3.10971 - 6.53083I$	$-5.26619 + 5.91055I$
$b = 1.94345 - 1.00074I$		
$u = -1.141591 + 0.513261I$		
$a = -0.900867 + 0.281464I$	$-3.10971 + 6.53083I$	$-5.26619 - 5.91055I$
$b = 1.94345 + 1.00074I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.139894 - 0.236298I$		
$a = 0.961417 - 0.156642I$	$-7.37477 - 1.65920I$	$-11.50430 + 0.44360I$
$b = -0.286288 - 0.251325I$		
$u = -1.139894 + 0.236298I$		
$a = 0.961417 + 0.156642I$	$-7.37477 + 1.65920I$	$-11.50430 - 0.44360I$
$b = -0.286288 + 0.251325I$		
$u = -1.105227 - 0.476843I$		
$a = -0.094688 - 0.355945I$	$-2.73306 - 3.75480I$	$5.34558 - 2.49351I$
$b = 3.30119 - 3.16419I$		
$u = -1.105227 + 0.476843I$		
$a = -0.094688 + 0.355945I$	$-2.73306 + 3.75480I$	$5.34558 + 2.49351I$
$b = 3.30119 + 3.16419I$		
$u = -1.096643 - 0.524719I$		
$a = -0.26963 - 1.47862I$	$-0.80322 - 8.33176I$	$-3.43675 + 10.35591I$
$b = 2.10794 + 0.72036I$		
$u = -1.096643 + 0.524719I$		
$a = -0.26963 + 1.47862I$	$-0.80322 + 8.33176I$	$-3.43675 - 10.35591I$
$b = 2.10794 - 0.72036I$		
$u = -1.030611 - 0.412848I$		
$a = 0.637840 + 0.691046I$	$-0.08665 - 1.81934I$	$-1.08763 + 3.29108I$
$b = -1.88598 + 0.77981I$		
$u = -1.030611 + 0.412848I$		
$a = 0.637840 - 0.691046I$	$-0.08665 + 1.81934I$	$-1.08763 - 3.29108I$
$b = -1.88598 - 0.77981I$		
$u = -1.017104 - 0.476390I$		
$a = 1.337673 + 0.233811I$	$0.76206 - 1.48191I$	$-1.028912 + 0.352565I$
$b = -2.52346 + 1.28080I$		
$u = -1.017104 + 0.476390I$		
$a = 1.337673 - 0.233811I$	$0.76206 + 1.48191I$	$-1.028912 - 0.352565I$
$b = -2.52346 - 1.28080I$		

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.934335 - 0.746651I$ $a = 0.084055 - 0.410900I$ $b = 0.573847 + 0.390063I$	$4.74268 - 2.53637I$	$-1.85874 - 12.78623I$
$u = -0.934335 + 0.746651I$ $a = 0.084055 + 0.410900I$ $b = 0.573847 - 0.390063I$	$4.74268 + 2.53637I$	$-1.85874 + 12.78623I$
$u = -0.733786 - 0.768282I$ $a = -0.687574 - 0.030906I$ $b = 0.528009 - 0.860705I$	$5.29151 - 3.14059I$	$2.83969 + 9.83145I$
$u = -0.733786 + 0.768282I$ $a = -0.687574 + 0.030906I$ $b = 0.528009 + 0.860705I$	$5.29151 + 3.14059I$	$2.83969 - 9.83145I$
$u = -0.653825 - 0.410103I$ $a = 0.699015 + 0.778492I$ $b = -0.999935 + 0.918298I$	$1.09693 - 1.53880I$	$1.66479 + 5.08310I$
$u = -0.653825 + 0.410103I$ $a = 0.699015 - 0.778492I$ $b = -0.999935 - 0.918298I$	$1.09693 + 1.53880I$	$1.66479 - 5.08310I$
$u = -0.594731$ $a = 0.614674$ $b = -4.68475$	0.210538	-40.2342
$u = -0.536973 - 0.520683I$ $a = 0.18964 + 1.94642I$ $b = -1.223757 + 0.579060I$	$2.17308 - 2.60159I$	$2.40455 + 6.09883I$
$u = -0.536973 + 0.520683I$ $a = 0.18964 - 1.94642I$ $b = -1.223757 - 0.579060I$	$2.17308 + 2.60159I$	$2.40455 - 6.09883I$
$u = -0.325468 - 0.636702I$ $a = -2.25988 - 0.27644I$ $b = 1.14758 - 0.92447I$	$1.40525 + 3.78104I$	$0.49759 - 6.55380I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.325468 + 0.636702I$ $a = -2.25988 + 0.27644I$ $b = 1.14758 + 0.92447I$	$1.40525 - 3.78104I$	$0.49759 + 6.55380I$
$u = -0.309437 - 0.842121I$ $a = 0.451020 + 1.227322I$ $b = -1.141430 - 0.144632I$	$2.88434 + 6.11355I$	$0.57263 - 4.98451I$
$u = -0.309437 + 0.842121I$ $a = 0.451020 - 1.227322I$ $b = -1.141430 + 0.144632I$	$2.88434 - 6.11355I$	$0.57263 + 4.98451I$
$u = -0.193316 - 0.691312I$ $a = -0.618269 - 1.191349I$ $b = 0.781315 - 0.100157I$	$-0.42144 + 1.94552I$	$-2.30995 - 3.00822I$
$u = -0.193316 + 0.691312I$ $a = -0.618269 + 1.191349I$ $b = 0.781315 + 0.100157I$	$-0.42144 - 1.94552I$	$-2.30995 + 3.00822I$
$u = -0.152062 - 0.532162I$ $a = -0.717861 - 0.428941I$ $b = 1.41845 - 2.25892I$	$-0.213305 - 0.310477I$	$5.75572 - 9.22224I$
$u = -0.152062 + 0.532162I$ $a = -0.717861 + 0.428941I$ $b = 1.41845 + 2.25892I$	$-0.213305 + 0.310477I$	$5.75572 + 9.22224I$
$u = 0.149695 - 0.830340I$ $a = -0.415698 - 0.966907I$ $b = -0.172875 + 0.500019I$	$-2.45171 + 2.55877I$	$-5.85987 - 5.37138I$
$u = 0.149695 + 0.830340I$ $a = -0.415698 + 0.966907I$ $b = -0.172875 - 0.500019I$	$-2.45171 - 2.55877I$	$-5.85987 + 5.37138I$
$u = 0.238423 - 0.742435I$ $a = 0.56551 - 2.12834I$ $b = -1.234285 + 0.366852I$	$-4.07487 - 5.63539I$	$-5.32059 + 5.07237I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.238423 + 0.742435I$ $a = 0.56551 + 2.12834I$ $b = -1.234285 - 0.366852I$	$-4.07487 + 5.63539I$	$-5.32059 - 5.07237I$
$u = 0.289191 - 0.831056I$ $a = -0.53748 + 1.69869I$ $b = 1.45738 - 0.16763I$	$-0.68796 - 12.03560I$	$-2.39702 + 6.80252I$
$u = 0.289191 + 0.831056I$ $a = -0.53748 - 1.69869I$ $b = 1.45738 + 0.16763I$	$-0.68796 + 12.03560I$	$-2.39702 - 6.80252I$
$u = 0.365285 - 0.557959I$ $a = 1.48708 + 0.73496I$ $b = -0.630732 - 0.460265I$	$2.76015 - 0.59113I$	$3.15854 - 1.26752I$
$u = 0.365285 + 0.557959I$ $a = 1.48708 - 0.73496I$ $b = -0.630732 + 0.460265I$	$2.76015 + 0.59113I$	$3.15854 + 1.26752I$
$u = 0.367142 - 0.771630I$ $a = 0.312929 + 0.921953I$ $b = 0.818992 - 0.671671I$	$-2.74670 - 1.03689I$	$-6.52285 + 3.02306I$
$u = 0.367142 + 0.771630I$ $a = 0.312929 - 0.921953I$ $b = 0.818992 + 0.671671I$	$-2.74670 + 1.03689I$	$-6.52285 - 3.02306I$
$u = 0.432470 - 0.537624I$ $a = 1.04786 + 1.46173I$ $b = 0.158272 - 0.114774I$	$2.94199 - 0.45731I$	$3.21783 + 1.77421I$
$u = 0.432470 + 0.537624I$ $a = 1.04786 - 1.46173I$ $b = 0.158272 + 0.114774I$	$2.94199 + 0.45731I$	$3.21783 - 1.77421I$
$u = 0.625614 - 0.475003I$ $a = 0.110854 + 0.871219I$ $b = 1.25476 - 0.81238I$	$-1.77605 - 0.65095I$	$-5.05775 - 1.02917I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.625614 + 0.475003I$ $a = 0.110854 - 0.871219I$ $b = 1.25476 + 0.81238I$	$-1.77605 + 0.65095I$	$-5.05775 + 1.02917I$
$u = 0.739477$ $a = -0.436143$ $b = 0.356236$	-0.989802	-10.9809
$u = 0.739719 - 0.511752I$ $a = -1.42365 + 0.34254I$ $b = 0.48485 + 1.56145I$	$-1.96956 + 4.60975I$	$-4.54210 - 7.29697I$
$u = 0.739719 + 0.511752I$ $a = -1.42365 - 0.34254I$ $b = 0.48485 - 1.56145I$	$-1.96956 - 4.60975I$	$-4.54210 + 7.29697I$
$u = 0.746844 - 0.705544I$ $a = 1.262878 + 0.042560I$ $b = -0.83350 - 1.62278I$	$1.84214 + 9.51725I$	$-1.04524 - 8.39740I$
$u = 0.746844 + 0.705544I$ $a = 1.262878 - 0.042560I$ $b = -0.83350 + 1.62278I$	$1.84214 - 9.51725I$	$-1.04524 + 8.39740I$
$u = 0.850399 - 0.683748I$ $a = -0.173915 - 1.016228I$ $b = -1.29837 + 0.73385I$	$1.54329 - 4.25093I$	$-1.37927 + 3.59719I$
$u = 0.850399 + 0.683748I$ $a = -0.173915 + 1.016228I$ $b = -1.29837 - 0.73385I$	$1.54329 + 4.25093I$	$-1.37927 - 3.59719I$
$u = 1.024601 - 0.336794I$ $a = -0.430257 + 1.253522I$ $b = 1.56522 - 0.50657I$	$-2.14618 - 1.33328I$	$-6.66813 + 3.26425I$
$u = 1.024601 + 0.336794I$ $a = -0.430257 - 1.253522I$ $b = 1.56522 + 0.50657I$	$-2.14618 + 1.33328I$	$-6.66813 - 3.26425I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.051897 - 0.501021I$ $a = -1.092199 - 0.678277I$ $b = 1.24189 + 1.39945I$	$1.14399 + 4.70367I$	$-0.68489 - 7.01774I$
$u = 1.051897 + 0.501021I$ $a = -1.092199 + 0.678277I$ $b = 1.24189 - 1.39945I$	$1.14399 - 4.70367I$	$-0.68489 + 7.01774I$
$u = 1.078790 - 0.507036I$ $a = -0.411374 - 1.021214I$ $b = -0.369719 + 0.580320I$	$0.70811 + 4.91347I$	$-0.65713 - 3.64036I$
$u = 1.078790 + 0.507036I$ $a = -0.411374 + 1.021214I$ $b = -0.369719 - 0.580320I$	$0.70811 - 4.91347I$	$-0.65713 + 3.64036I$
$u = 1.088043 - 0.413183I$ $a = -0.182256 + 0.482380I$ $b = -0.53163 + 2.17015I$	$-3.19952 + 3.59888I$	$-4.94774 - 4.49419I$
$u = 1.088043 + 0.413183I$ $a = -0.182256 - 0.482380I$ $b = -0.53163 - 2.17015I$	$-3.19952 - 3.59888I$	$-4.94774 + 4.49419I$
$u = 1.129542 - 0.584934I$ $a = -0.723226 - 0.143814I$ $b = 0.68180 + 1.66967I$	$-5.00368 + 6.17548I$	$-8.15389 - 7.39445I$
$u = 1.129542 + 0.584934I$ $a = -0.723226 + 0.143814I$ $b = 0.68180 - 1.66967I$	$-5.00368 - 6.17548I$	$-8.15389 + 7.39445I$
$u = 1.145482 - 0.533343I$ $a = 1.47474 - 0.17364I$ $b = -2.39131 - 1.80228I$	$-6.70525 + 10.43610I$	$-8.24868 - 8.49271I$
$u = 1.145482 + 0.533343I$ $a = 1.47474 + 0.17364I$ $b = -2.39131 + 1.80228I$	$-6.70525 - 10.43610I$	$-8.24868 + 8.49271I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.155384 - 0.357963I$ $a = 0.630466 + 0.546648I$ $b = -0.552372 - 0.377984I$	$-4.19189 + 1.50549I$	$-8.00053 - 1.44295I$
$u = 1.155384 + 0.357963I$ $a = 0.630466 - 0.546648I$ $b = -0.552372 + 0.377984I$	$-4.19189 - 1.50549I$	$-8.00053 + 1.44295I$
$u = 1.162449 - 0.573065I$ $a = -1.252111 + 0.222576I$ $b = 2.40851 + 1.75097I$	$-3.2894 + 17.2353I$	$-5.40359 - 10.20114I$
$u = 1.162449 + 0.573065I$ $a = -1.252111 - 0.222576I$ $b = 2.40851 - 1.75097I$	$-3.2894 - 17.2353I$	$-5.40359 + 10.20114I$
$u = 1.187197 - 0.508151I$ $a = 0.629217 + 0.297798I$ $b = -0.722338 - 1.143058I$	$-5.56201 + 2.30321I$	$-9.57625 + 1.06030I$
$u = 1.187197 + 0.508151I$ $a = 0.629217 - 0.297798I$ $b = -0.722338 + 1.143058I$	$-5.56201 - 2.30321I$	$-9.57625 - 1.06030I$
$u = 1.207249 - 0.220796I$ $a = -0.696150 - 0.577856I$ $b = 0.414726 + 0.146360I$	$-2.09592 - 2.91398I$	$-5.84484 + 3.38261I$
$u = 1.207249 + 0.220796I$ $a = -0.696150 + 0.577856I$ $b = 0.414726 - 0.146360I$	$-2.09592 + 2.91398I$	$-5.84484 - 3.38261I$

III. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^3 + u^2 - 1)(u^{78} + 2u^{77} + \dots - 2u - 1)$
c_2	$(u^3 + u^2 + 2u + 1)(u^{78} + 38u^{77} + \dots + 4u + 1)$
c_3	$(u^3 + u^2 + 2u + 1)(u^{78} + 2u^{77} + \dots + 4u + 1)$
c_4	$u^3(u^{78} + 3u^{77} + \dots + 1620u + 200)$
c_5	$(u^3 - u^2 + 1)(u^{78} + 2u^{77} + \dots - 2u - 1)$
c_6	$(u + 1)^3(u^{78} + 4u^{77} + \dots - 349u - 25)$
c_7	$(5u^3 + 11u^2 + 6u + 1)(20u^{78} + 88u^{77} + \dots - 8295u - 1316)$
c_8	$(5u^3 + 4u^2 + u + 1)(5u^{78} + 57u^{77} + \dots + 1179u - 1431)$
c_9	$(u - 1)^3(u^{78} + 4u^{77} + \dots - 349u - 25)$
c_{10}	$(u^3 - u^2 + 2u - 1)(u^{78} + 2u^{77} + \dots + 4u + 1)$
c_{11}	$(u^3 + 3u^2 + 2u - 1)(u^{78} + 6u^{77} + \dots - 20170u - 4025)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$(y^3 - y^2 + 2y - 1)(y^{78} - 38y^{77} + \dots - 4y + 1)$
c_2	$(y^3 + 3y^2 + 2y - 1)(y^{78} + 6y^{77} + \dots + 8y + 1)$
c_3, c_{10}	$(y^3 + 3y^2 + 2y - 1)(y^{78} - 42y^{77} + \dots - 4y + 1)$
c_4	$y^3(y^{78} - 21y^{77} + \dots - 354000y + 40000)$
c_6, c_9	$(y - 1)^3(y^{78} - 44y^{77} + \dots - 59401y + 625)$
c_7	$(25y^3 - 61y^2 + 14y - 1)$ $(1801800y^{78} + 13405392y^{77} + \dots + 52393461120y + 7801145352)$
c_8	$(25y^3 - 6y^2 - 7y - 1)$ $(12600y^{78} - 251496y^{77} + \dots - 10164481992y + 1032071544)$
c_{11}	$(y^3 - 5y^2 + 10y - 1)(y^{78} + 26y^{77} + \dots - 3.91693 \times 10^7 y + 1.62006 \times 10^7)$