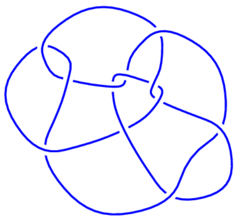
$11a_{132}$ ($K11a_{132}$)



[1]

Arc Sequences

$\rightarrow \uparrow 6 \rightarrow \downarrow 1 \rightarrow \downarrow 8 \rightarrow \uparrow 10 \rightarrow \uparrow 2 \rightarrow \downarrow 4 \rightarrow \downarrow 11 \rightarrow \downarrow 3 \rightarrow \uparrow 5 \rightarrow \downarrow 7 \rightarrow \downarrow 9 \rightarrow$

Solving Sequence

$$2,5 \xrightarrow[c_5]{} 6 \xrightarrow[c_1]{} 1 \xrightarrow[c_2]{} 3,10 \xrightarrow[c_4]{} 4 \xrightarrow[c_6]{} 7 \xrightarrow[c_9]{} 9 \xrightarrow[c_8]{} 8 \xrightarrow[c_{11}]{} 11 \gg c_3, c_7, c_{10}$$

Representation Ideals

$$I = \bigcap_{i=1}^{4} I_i^u \bigcap I_1^v$$

$$\begin{aligned}
I_1^u &= \langle u^2 + u + 1,\ a^2b - a^3 + bu - au - a - 1\rangle \\
I_2^u &= \langle a - 1,\ b + u - 1,\ u^2 + u + 1\rangle \\
I_3^u &= \langle a^3 + a^2 + b + 1,\ a^2 + a + u + 1,\ a^4 + 2a^3 + 2a^2 + a + 1\rangle \\
I_4^u &= \langle u^{50} - 4u^{49} + \cdots - 255u + 62,\ 4208u^{49} - 16832u^{48} + \cdots + 71424a - 423590, \\
&\quad 158u^{49} - 395u^{48} + \cdots + 2304b + 8974\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ v - 1,\ b^3 + b + 1\rangle$$

There are 5 irreducible components with 59 representations.
There are 1 irreducible components of $dim_{\mathbb{C}} = 1$ for $11a_{132}$

[1]The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I_1^u = \langle u^2 + u + 1,\ a^2b - a^3 + bu - au - a - 1\rangle$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} a \\ b \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a^4b^2 - a^5b - a^4b + a^5 - b^2a^2 - a^3b + a^4 - a^2b + a^3 + b^2 + 2a^2 + 2a - u \\ a^4b^2 - a^5b - a^4b + a^5 - b^2a^2 - a^2b + a^3 + b^2 + a^2 + a \end{pmatrix}$$

$$a_7 = \begin{pmatrix} a^3b - a^4 - a^2 + u \\ b^2a^2 - a^3b - 2ba + a^2 + u + 1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} a \\ b \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -a^3b + a^4 + a^2 + a - u \\ -b^2a^2 + a^3b + 2ba - a^2 + b - u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -a^3b + a^4 + a^2 + a - u \\ -b^2a^2 + a^3b + 2ba - a^2 + b - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \cdots$ $a = \cdots$ $b = \cdots$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$

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

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ -u-1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ u-1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -2u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 - 0.866025I$ $a = 1.00000$ $b = 1.50000 + 0.86603I$	$2.02988I$	$-3.46410I$
$u = -0.500000 + 0.866025I$ $a = 1.00000$ $b = 1.50000 - 0.86603I$	$-2.02988I$	$3.46410I$

III. $\boldsymbol{I_3^u = \langle a^3 + a^2 + b + 1,\ a^2 + a + u + 1,\ a^4 + 2a^3 + 2a^2 + a + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ -a^2 - a - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a^2 - a - 1 \\ -a^2 - a - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a^2 + a + 1 \\ a^2 + a \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ -a^2 - a - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a \\ -a^3 - a^2 - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -a^3 - a^2 - a - 1 \\ -a^3 - a^2 - 2a - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -a \\ a^3 + a^2 + 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} a \\ -a^3 - a^2 - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -a^3 - a^2 - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -a^3 - a^2 - 1 \end{pmatrix}$$

(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
$u = -0.500000 - 0.866025I$ $a = -1.070696 - 0.758745I$ $b = -2.19244 + 0.54788I$	$2.02988I$	$-3.46410I$
$u = -0.500000 + 0.866025I$ $a = -1.070696 + 0.758745I$ $b = -2.19244 - 0.54788I$	$-2.02988I$	$3.46410I$
$u = -0.500000 + 0.866025I$ $a = 0.070696 - 0.758745I$ $b = -0.307560 - 0.318148I$	$-2.02988I$	$3.46410I$
$u = -0.500000 - 0.866025I$ $a = 0.070696 + 0.758745I$ $b = -0.307560 + 0.318148I$	$2.02988I$	$-3.46410I$

IV. $I^u_4 = \langle u^{50} - 4u^{49} + \cdots - 255u + 62,\ 4208u^{49} - 16832u^{48} + \cdots + 71424a - 423590,\ 158u^{49} - 395u^{48} + \cdots + 2304b + 8974\rangle$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} -0.0589158u^{49} + 0.235663u^{48} + \cdots - 18.3254u + 5.93064 \\ -0.0685764u^{49} + 0.171441u^{48} + \cdots + 6.12630u - 3.89497 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00634241u^{49} - 0.0149530u^{48} + \cdots - 3.42792u + 2.03763 \\ 0.0312500u^{49} - 0.00520833u^{48} + \cdots - 13.7031u + 4.67188 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0568016u^{49} + 0.242832u^{48} + \cdots - 12.1412u + 2.05516 \\ -0.0759549u^{49} + 0.319444u^{48} + \cdots - 11.9714u + 2.53299 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0589158u^{49} + 0.235663u^{48} + \cdots - 18.3254u + 5.93064 \\ -0.0182292u^{49} + 0.0368924u^{48} + \cdots + 9.77908u - 3.89497 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0276658u^{49} + 0.0481631u^{48} + \cdots - 4.88399u + 2.25095 \\ 0.0329861u^{49} - 0.293403u^{48} + \cdots + 36.0286u - 10.9184 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00243616u^{49} + 0.0722446u^{48} + \cdots - 12.2518u + 4.46237 \\ 0.0625000u^{49} - 0.192708u^{48} + \cdots + 14.2604u - 4.51042 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00243616u^{49} + 0.0722446u^{48} + \cdots - 12.2518u + 4.46237 \\ 0.0625000u^{49} - 0.192708u^{48} + \cdots + 14.2604u - 4.51042 \end{pmatrix}$$

(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
$u = -1.019766 - 0.461213I$ $a = \ \ 0.071558 + 1.030492I$ $b = \ \ 0.191463 - 0.629136I$	$3.76854 - 4.51039I$	$0.38340 + 5.29534I$
$u = -1.019766 + 0.461213I$ $a = \ \ 0.071558 - 1.030492I$ $b = \ \ 0.191463 + 0.629136I$	$3.76854 + 4.51039I$	$0.38340 - 5.29534I$
$u = -0.941593 - 0.502895I$ $a = -0.168999 - 1.339255I$ $b = -0.080265 + 0.551571I$	$-0.83094 - 10.80584I$	$-3.02453 + 5.61837I$
$u = -0.941593 + 0.502895I$ $a = -0.168999 + 1.339255I$ $b = -0.080265 - 0.551571I$	$-0.83094 + 10.80584I$	$-3.02453 - 5.61837I$
$u = -0.89791 - 1.14735I$ $a = -0.655518 - 0.432065I$ $b = -1.66605 - 0.00348I$	$-3.45411 + 3.73566I$	$-11.2594 - 8.9167I$
$u = -0.89791 + 1.14735I$ $a = -0.655518 + 0.432065I$ $b = -1.66605 + 0.00348I$	$-3.45411 - 3.73566I$	$-11.2594 + 8.9167I$
$u = -0.736653 - 0.765266I$ $a = -0.789004 - 0.601404I$ $b = -0.249158 - 0.443278I$	$-3.34886 + 2.77656I$	$-9.46596 - 3.37700I$
$u = -0.736653 + 0.765266I$ $a = -0.789004 + 0.601404I$ $b = -0.249158 + 0.443278I$	$-3.34886 - 2.77656I$	$-9.46596 + 3.37700I$
$u = -0.718487 - 0.241043I$ $a = \ \ 0.520846 - 0.286396I$ $b = -0.077804 + 0.646051I$	$1.86829 + 2.54813I$	$2.68166 - 3.38783I$
$u = -0.718487 + 0.241043I$ $a = \ \ 0.520846 + 0.286396I$ $b = -0.077804 - 0.646051I$	$1.86829 - 2.54813I$	$2.68166 + 3.38783I$

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.701751-1.159991I$ $a=\ \ 0.952790+0.181167I$ $b=\ \ 2.56729+0.06253I$	$1.61095+10.69364I$	$-2.44370-7.82760I$
$u=-0.701751+1.159991I$ $a=\ \ 0.952790-0.181167I$ $b=\ \ 2.56729-0.06253I$	$1.61095-10.69364I$	$-2.44370+7.82760I$
$u=-0.691337-1.130817I$ $a=-1.131584-0.210462I$ $b=-2.91187-0.28170I$	$-2.7651+16.7788I$	$-5.20232-9.33540I$
$u=-0.691337+1.130817I$ $a=-1.131584+0.210462I$ $b=-2.91187+0.28170I$	$-2.7651-16.7788I$	$-5.20232+9.33540I$
$u=-0.447528-0.991757I$ $a=\ \ 0.180442+0.191884I$ $b=-0.744838+0.700057I$	$-0.55196+1.45362I$	$0.849896+0.307578I$
$u=-0.447528+0.991757I$ $a=\ \ 0.180442-0.191884I$ $b=-0.744838-0.700057I$	$-0.55196-1.45362I$	$0.849896-0.307578I$
$u=-0.209377-0.627431I$ $a=\ \ 0.901724-0.148839I$ $b=\ \ 0.012762+0.432089I$	$0.051801+1.349276I$	$-0.36388-5.58397I$
$u=-0.209377+0.627431I$ $a=\ \ 0.901724+0.148839I$ $b=\ \ 0.012762-0.432089I$	$0.051801-1.349276I$	$-0.36388+5.58397I$
$u=-0.092353-1.013551I$ $a=-0.446565+0.667133I$ $b=\ \ 0.032575+0.725453I$	$-2.36463+4.68098I$	$-6.72560-6.42701I$
$u=-0.092353+1.013551I$ $a=-0.446565-0.667133I$ $b=\ \ 0.032575-0.725453I$	$-2.36463-4.68098I$	$-6.72560+6.42701I$

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.045175 - 1.293489I$ $a = 1.062546 + 0.205077I$ $b = 2.81945 + 0.26090I$	$-7.73894 - 8.36358I$	$-8.86999 + 6.30335I$
$u = 0.045175 + 1.293489I$ $a = 1.062546 - 0.205077I$ $b = 2.81945 - 0.26090I$	$-7.73894 + 8.36358I$	$-8.86999 - 6.30335I$
$u = 0.117739 - 1.161839I$ $a = 1.211044 - 0.364258I$ $b = 2.60623 - 0.51420I$	$-10.17264 + 2.94051I$	$-12.16356 - 1.23495I$
$u = 0.117739 + 1.161839I$ $a = 1.211044 + 0.364258I$ $b = 2.60623 + 0.51420I$	$-10.17264 - 2.94051I$	$-12.16356 + 1.23495I$
$u = 0.289618 - 0.801801I$ $a = -0.698995 + 0.532493I$ $b = -0.94110 - 1.43970I$	$-2.47998 - 1.07634I$	$-10.74745 - 1.48815I$
$u = 0.289618 + 0.801801I$ $a = -0.698995 - 0.532493I$ $b = -0.94110 + 1.43970I$	$-2.47998 + 1.07634I$	$-10.74745 + 1.48815I$
$u = 0.304509 - 1.329569I$ $a = -0.839300 + 0.182529I$ $b = -2.50002 + 0.00892I$	$-4.37509 - 1.36766I$	$-12.53381 + 2.65466I$
$u = 0.304509 + 1.329569I$ $a = -0.839300 - 0.182529I$ $b = -2.50002 - 0.00892I$	$-4.37509 + 1.36766I$	$-12.53381 - 2.65466I$
$u = 0.445173 - 1.219661I$ $a = -0.838458 + 0.291675I$ $b = -2.50047 + 0.12588I$	$-4.31677 - 1.36210I$	$-11.75254 + 0.18127I$
$u = 0.445173 + 1.219661I$ $a = -0.838458 - 0.291675I$ $b = -2.50047 - 0.12588I$	$-4.31677 + 1.36210I$	$-11.75254 - 0.18127I$

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.563809 - 1.077477I$ $a = 1.011794 - 0.132575I$ $b = 2.62044 - 0.38536I$	$-2.46832 - 6.35887I$	$-5.91510 + 6.52323I$
$u = 0.563809 + 1.077477I$ $a = 1.011794 + 0.132575I$ $b = 2.62044 + 0.38536I$	$-2.46832 + 6.35887I$	$-5.91510 - 6.52323I$
$u = 0.599521 - 0.343884I$ $a = 0.25189 - 1.41967I$ $b = -0.163023 + 0.400734I$	$-0.46677 + 1.70599I$	$-3.14456 - 3.69461I$
$u = 0.599521 + 0.343884I$ $a = 0.25189 + 1.41967I$ $b = -0.163023 - 0.400734I$	$-0.46677 - 1.70599I$	$-3.14456 + 3.69461I$
$u = 0.601973 - 1.087874I$ $a = -1.282710 + 0.144527I$ $b = -2.78509 + 0.28888I$	$-7.03977 - 10.39489I$	$-8.44081 + 7.80630I$
$u = 0.601973 + 1.087874I$ $a = -1.282710 - 0.144527I$ $b = -2.78509 - 0.28888I$	$-7.03977 + 10.39489I$	$-8.44081 - 7.80630I$
$u = 0.660397 - 1.034533I$ $a = 0.626656 + 0.778248I$ $b = 0.984980 + 0.689745I$	$2.08583 - 10.64973I$	$-2.52459 + 8.66549I$
$u = 0.660397 + 1.034533I$ $a = 0.626656 - 0.778248I$ $b = 0.984980 - 0.689745I$	$2.08583 + 10.64973I$	$-2.52459 - 8.66549I$
$u = 0.672195 - 0.888770I$ $a = 0.170058 + 0.070657I$ $b = -0.499104 - 1.028336I$	$-0.22553 - 2.62229I$	$0.95524 + 3.73688I$
$u = 0.672195 + 0.888770I$ $a = 0.170058 - 0.070657I$ $b = -0.499104 + 1.028336I$	$-0.22553 + 2.62229I$	$0.95524 - 3.73688I$

Solution to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.686258 - 1.016054I$ $a = -0.319897 - 0.653343I$ $b = -0.318257 - 0.330722I$	$5.05351 - 5.86110I$	$1.95645 + 4.15344I$
$u = 0.686258 + 1.016054I$ $a = -0.319897 + 0.653343I$ $b = -0.318257 + 0.330722I$	$5.05351 + 5.86110I$	$1.95645 - 4.15344I$
$u = 0.757822 - 0.403687I$ $a = -0.17642 + 1.66371I$ $b = 0.0272654 - 0.1267258I$	$-5.06249 + 5.26813I$	$-6.22611 - 3.60097I$
$u = 0.757822 + 0.403687I$ $a = -0.17642 - 1.66371I$ $b = 0.0272654 + 0.1267258I$	$-5.06249 - 5.26813I$	$-6.22611 + 3.60097I$
$u = 0.777689 - 0.592166I$ $a = -0.870243 - 0.677476I$ $b = -0.680131 - 0.243099I$	$3.41598 + 5.21199I$	$0.12705 - 3.56799I$
$u = 0.777689 + 0.592166I$ $a = -0.870243 + 0.677476I$ $b = -0.680131 + 0.243099I$	$3.41598 - 5.21199I$	$0.12705 + 3.56799I$
$u = 0.813463 - 0.649972I$ $a = 0.732771 + 0.231234I$ $b = 0.769790 + 0.312153I$	$6.17950 + 0.24137I$	$3.95341 + 1.60515I$
$u = 0.813463 + 0.649972I$ $a = 0.732771 - 0.231234I$ $b = 0.769790 - 0.312153I$	$6.17950 - 0.24137I$	$3.95341 - 1.60515I$
$u = 1.121411 - 0.484988I$ $a = -0.516744 + 0.760920I$ $b = -0.515081 - 0.609971I$	$-0.91613 - 5.10341I$	$-4.10325 + 10.19626I$
$u = 1.121411 + 0.484988I$ $a = -0.516744 - 0.760920I$ $b = -0.515081 + 0.609971I$	$-0.91613 + 5.10341I$	$-4.10325 - 10.19626I$

V. $I_1^v = \langle a,\ v-1,\ b^3+b+1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ b^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} b^2+1 \\ -b^2-b \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -b \\ b \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} b^2+1 \\ -b^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} b^2+1 \\ -b^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -0.682328$	-1.64493	-6.00000
$v = 1.00000$ $a = 0$ $b = 0.341164 - 1.161541I$	-1.64493	-6.00000
$v = 1.00000$ $a = 0$ $b = 0.341164 + 1.161541I$	-1.64493	-6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$u^3(u^2-u+1)^3(u^2+u+1)^5(u^{50}+4u^{49}+\cdots+255u+62)$
c_2	$u^3(u^2+u+1)^8(u^{50}+20u^{49}+\cdots+27851u+3844)$
c_3	$(u^2-u+1)^2(u^3+u+1)(u^4+u^3+\cdots-u+1)(1+2u+2u^2+u^3+u^4)^2$ $(9u^{50}+9u^{49}+\cdots-6u+1)$
c_4	$(u^2-u+1)^2(u^3+u+1)(u^4+u^3+\cdots-u+1)(1+2u+2u^2+u^3+u^4)^2$ $(9u^{50}+9u^{49}+\cdots+8u+1)$
c_5	$u^3(u^2-u+1)^8(u^{50}+4u^{49}+\cdots+255u+62)$
c_6	$(u^2-3u+3)(u^2+u+1)(u^3-2u^2+u+1)(u^4-u^3+\cdots-2u+1)$ $(u^4+u^3-u^2-u+1)(13u^4+13u^3+8u^2+2u+1)$ $(16u^{50}+32u^{49}+\cdots+26298u+5463)$
c_7	$u^6(u-1)^{13}(u^{50}+6u^{49}+\cdots+7031u+1274)$
c_8	$(u^2-u+1)(u^2+u+1)(u^3+u+1)(u^4-u^3-u^2+u+1)$ $(u^4-u^3+2u^2-2u+1)(u^4+u^3+2u^2+2u+1)$ $(9u^{50}+9u^{49}+\cdots-6u+1)$
c_9	$(u^2-u+1)(u^2+u+1)(u^3+u+1)(u^4-u^3-u^2+u+1)$ $(u^4-u^3+2u^2-2u+1)(u^4+u^3+2u^2+2u+1)$ $(9u^{50}+9u^{49}+\cdots+8u+1)$
c_{10}	$u^6(u-1)^3(u+1)^{10}(u^{50}+6u^{49}+\cdots+7031u+1274)$
c_{11}	$(u^2+u+1)^3(u^2+2u+4)(u^3+u+1)(u^4+3u^3+2u^2+1)$ $(13u^4+26u^3+\cdots+5u+1)(16u^{50}-16u^{49}+\cdots+612u+63)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_5	$y^3(y^2+y+1)^8(y^{50}+20y^{49}+\cdots+27851y+3844)$
c_2	$y^3(y^2+y+1)^8(y^{50}+20y^{49}+\cdots+9.72711\times10^7y+1.47763\times10^7)$
c_3, c_8	$(y^2+y+1)^2(y^3+2y^2+y-1)(y^4-3y^3+5y^2-3y+1)$ $(y^4+3y^3+2y^2+1)^2(81y^{50}+2457y^{49}+\cdots-2y+1)$
c_4, c_9	$(y^2+y+1)^2(y^3+2y^2+y-1)(y^4-3y^3+5y^2-3y+1)$ $(y^4+3y^3+2y^2+1)^2(81y^{50}+2781y^{49}+\cdots-2y+1)$
c_6	$(y^2-3y+9)(y^2+y+1)(y^3-2y^2+5y-1)(y^4-3y^3+\cdots-3y+1)$ $(y^4+3y^3+2y^2+1)(169y^4+39y^3+38y^2+12y+1)$ $(256y^{50}-1408y^{49}+\cdots-86273478y+29844369)$
c_7, c_{10}	$y^6(y-1)^{13}(y^{50}-34y^{49}+\cdots+1.59798\times10^7y+1623076)$
c_{11}	$(y^2+y+1)^3(y^2+4y+16)(y^3+2y^2+y-1)(y^4-5y^3+\cdots+4y+1)$ $(169y^4-208y^3+90y^2+11y+1)$ $(256y^{50}-1920y^{49}+\cdots+153522y+3969)$