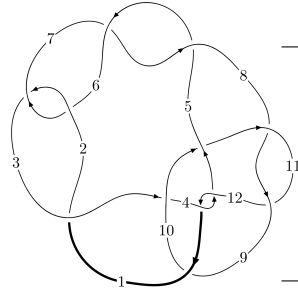
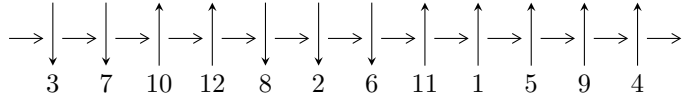


12a₀₆₅₅ (K12a₀₆₅₅)



A knot diagram¹

Linearized knot diagram



Solving Sequence

$$2,6 \xrightarrow{c_6} 7 \xrightarrow{c_2} 3,10 \xrightarrow{c_3} 4 \xrightarrow{c_7} 8 \xrightarrow{c_1} 1 \xrightarrow{c_5} 5 \xrightarrow{c_{10}} 11 \xrightarrow{c_9} 9 \xrightarrow{c_{12}} 12 \twoheadrightarrow c_4, c_8, c_{11}$$

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -8.19819 \times 10^{42} u^{79} - 1.59276 \times 10^{43} u^{78} + \dots + 1.35478 \times 10^{43} b + 6.72467 \times 10^{42}, \\ 3.41285 \times 10^{43} u^{79} + 4.36237 \times 10^{43} u^{78} + \dots + 5.41912 \times 10^{43} a - 1.57980 \times 10^{44}, u^{80} + 2u^{79} + \dots - 3u - 1 \rangle \\ I_2^u = \langle b, 2a - 1, u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 representations.

¹The image of knot diagram is generated by the software “**Draw programme**” developed by Andrew Bartholomew(<http://www.layer8.co.uk/maths/draw/index.htm#Running-draw>), where we modified some parts for our purpose(<https://github.com/CATsTAILs/LinksPainter>).

²All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I.

$$I_1^u = \langle -8.20 \times 10^{42} u^{79} - 1.59 \times 10^{43} u^{78} + \dots + 1.35 \times 10^{43} b + 6.72 \times 10^{42}, 3.41 \times 10^{43} u^{79} + 4.36 \times 10^{43} u^{78} + \dots + 5.42 \times 10^{43} a - 1.58 \times 10^{44}, u^{80} + 2u^{79} + \dots - 3u - 1 \rangle$$

(i) Arc colorings

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.629779u^{79} - 0.804997u^{78} + \dots - 0.236236u + 2.91523 \\ 0.605131u^{79} + 1.17566u^{78} + \dots + 0.809601u - 0.496367 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0169796u^{79} + 0.335459u^{78} + \dots + 5.83903u + 0.475568 \\ 0.312645u^{79} + 0.279259u^{78} + \dots - 1.22816u - 0.148293 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.02827u^{79} - 0.503727u^{78} + \dots + 0.572706u + 2.21425 \\ -0.457395u^{79} - 0.709552u^{78} + \dots + 3.16267u + 0.625862 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.897443u^{79} - 0.306344u^{78} + \dots + 0.339031u + 3.14474 \\ -0.381766u^{79} - 0.537593u^{78} + \dots + 3.60157u + 0.702345 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.148293u^{79} + 0.0160589u^{78} + \dots + 0.773176u - 0.783280 \\ -0.301500u^{79} - 0.639544u^{78} + \dots - 0.526507u - 0.0169796 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-0.218530u^{79} - 4.58968u^{78} + \dots - 13.4585u + 6.15221$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_7	$u^{80} + 18u^{79} + \dots + 9u + 1$
c_2, c_6	$u^{80} - 2u^{79} + \dots + 3u - 1$
c_3	$u^{80} + u^{79} + \dots + 58u + 8$
c_4, c_{12}	$u^{80} + 4u^{79} + \dots + u - 1$
c_8, c_{11}	$u^{80} + 2u^{79} + \dots - 23u - 4$
c_9	$2(2u^{80} + 41u^{79} + \dots - 792u - 121)$
c_{10}	$2(2u^{80} + 23u^{79} + \dots - 1532216u + 259361)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$y^{80} + 90y^{79} + \dots + 23y + 1$
c_2, c_6	$y^{80} - 18y^{79} + \dots - 9y + 1$
c_3	$y^{80} - 9y^{79} + \dots + 1228y + 64$
c_4, c_{12}	$y^{80} + 46y^{79} + \dots - 9y + 1$
c_8, c_{11}	$y^{80} - 58y^{79} + \dots + 1135y + 16$
c_9	$4(4y^{80} - 1149y^{79} + \dots - 58080y + 14641)$
c_{10}	$4(4y^{80} + 1059y^{79} + \dots - 1.70097 \times 10^{12}y + 6.72681 \times 10^{10})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.908210 + 0.444035I$ $a = -1.095210 - 0.465911I$ $b = 0.438874 + 0.850544I$	$-3.55883 - 7.04654I$	0
$u = 0.908210 - 0.444035I$ $a = -1.095210 + 0.465911I$ $b = 0.438874 - 0.850544I$	$-3.55883 + 7.04654I$	0
$u = 0.865717 + 0.552851I$ $a = 0.875688 - 0.614993I$ $b = -0.389676 + 0.621158I$	$-2.62897 - 2.01090I$	0
$u = 0.865717 - 0.552851I$ $a = 0.875688 + 0.614993I$ $b = -0.389676 - 0.621158I$	$-2.62897 + 2.01090I$	0
$u = -1.029480 + 0.054908I$ $a = -0.086104 + 0.140911I$ $b = -0.611613 - 0.895210I$	$-3.03805 + 7.01781I$	0
$u = -1.029480 - 0.054908I$ $a = -0.086104 - 0.140911I$ $b = -0.611613 + 0.895210I$	$-3.03805 - 7.01781I$	0
$u = -0.862150 + 0.411938I$ $a = -0.765239 + 0.717847I$ $b = 0.355988 - 0.594647I$	$-0.10150 + 3.54359I$	$0. - 7.68142I$
$u = -0.862150 - 0.411938I$ $a = -0.765239 - 0.717847I$ $b = 0.355988 + 0.594647I$	$-0.10150 - 3.54359I$	$0. + 7.68142I$
$u = -0.805506 + 0.494428I$ $a = -1.054990 + 0.759347I$ $b = -0.414849 + 0.172313I$	$1.50560 + 5.11913I$	$5.17837 - 10.30158I$
$u = -0.805506 - 0.494428I$ $a = -1.054990 - 0.759347I$ $b = -0.414849 - 0.172313I$	$1.50560 - 5.11913I$	$5.17837 + 10.30158I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.900523 + 0.041367I$ $a = -0.305993 - 0.178109I$ $b = 0.720582 - 1.129830I$	$-5.73822 - 2.28735I$	$-7.12415 + 1.62116I$
$u = -0.900523 - 0.041367I$ $a = -0.305993 + 0.178109I$ $b = 0.720582 + 1.129830I$	$-5.73822 + 2.28735I$	$-7.12415 - 1.62116I$
$u = -0.376173 + 0.818414I$ $a = -0.757603 + 0.029800I$ $b = 0.455373 - 0.302854I$	$5.96762 - 1.94537I$	$12.19550 + 3.06031I$
$u = -0.376173 - 0.818414I$ $a = -0.757603 - 0.029800I$ $b = 0.455373 + 0.302854I$	$5.96762 + 1.94537I$	$12.19550 - 3.06031I$
$u = 0.997813 + 0.498144I$ $a = 1.059100 + 0.742760I$ $b = -0.668142 - 0.394736I$	$0.21830 - 12.90460I$	0
$u = 0.997813 - 0.498144I$ $a = 1.059100 - 0.742760I$ $b = -0.668142 + 0.394736I$	$0.21830 + 12.90460I$	0
$u = 0.736410 + 0.485024I$ $a = -0.962764 - 0.238510I$ $b = -0.258198 - 1.145200I$	$2.76606 - 1.97173I$	$7.71264 + 2.63546I$
$u = 0.736410 - 0.485024I$ $a = -0.962764 + 0.238510I$ $b = -0.258198 + 1.145200I$	$2.76606 + 1.97173I$	$7.71264 - 2.63546I$
$u = 1.065740 + 0.394552I$ $a = -0.227830 + 0.296596I$ $b = 0.262901 + 0.085388I$	$-1.036590 + 0.614054I$	0
$u = 1.065740 - 0.394552I$ $a = -0.227830 - 0.296596I$ $b = 0.262901 - 0.085388I$	$-1.036590 - 0.614054I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.393317 + 0.768055I$ $a = -1.219110 - 0.511536I$ $b = 0.585050 + 0.524028I$	$2.20503 + 8.30381I$	$6.33496 - 5.30249I$
$u = 0.393317 - 0.768055I$ $a = -1.219110 + 0.511536I$ $b = 0.585050 - 0.524028I$	$2.20503 - 8.30381I$	$6.33496 + 5.30249I$
$u = -1.024360 + 0.515111I$ $a = 0.624975 - 0.528092I$ $b = -0.311319 + 0.219577I$	$3.83148 + 6.74819I$	0
$u = -1.024360 - 0.515111I$ $a = 0.624975 + 0.528092I$ $b = -0.311319 - 0.219577I$	$3.83148 - 6.74819I$	0
$u = 0.687160 + 0.501005I$ $a = -0.282184 - 0.064378I$ $b = -0.51019 - 1.36518I$	$2.92099 - 1.83327I$	$8.18864 + 5.75972I$
$u = 0.687160 - 0.501005I$ $a = -0.282184 + 0.064378I$ $b = -0.51019 + 1.36518I$	$2.92099 + 1.83327I$	$8.18864 - 5.75972I$
$u = -0.769360 + 0.358403I$ $a = -2.31120 + 5.45588I$ $b = 3.99649 - 1.94508I$	$-0.280690 + 1.300660I$	$18.3751 - 32.3353I$
$u = -0.769360 - 0.358403I$ $a = -2.31120 - 5.45588I$ $b = 3.99649 + 1.94508I$	$-0.280690 - 1.300660I$	$18.3751 + 32.3353I$
$u = 0.819942 + 0.191250I$ $a = 0.078129 - 0.134282I$ $b = 0.356444 + 0.554305I$	$-1.40523 - 0.61914I$	$-4.60800 + 0.82851I$
$u = 0.819942 - 0.191250I$ $a = 0.078129 + 0.134282I$ $b = 0.356444 - 0.554305I$	$-1.40523 + 0.61914I$	$-4.60800 - 0.82851I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.16108$ $a = -0.0517082$ $b = -0.378668$	0.324488	0
$u = 0.276198 + 0.789141I$ $a = -0.201775 + 0.641459I$ $b = 0.394592 - 0.012771I$	$1.64531 - 4.95419I$	$7.71109 + 7.25315I$
$u = 0.276198 - 0.789141I$ $a = -0.201775 - 0.641459I$ $b = 0.394592 + 0.012771I$	$1.64531 + 4.95419I$	$7.71109 - 7.25315I$
$u = -0.594052 + 0.518671I$ $a = 0.926803 + 0.177997I$ $b = -0.441308 + 1.081290I$	$2.16348 - 1.21726I$	$8.19465 + 1.97536I$
$u = -0.594052 - 0.518671I$ $a = 0.926803 - 0.177997I$ $b = -0.441308 - 1.081290I$	$2.16348 + 1.21726I$	$8.19465 - 1.97536I$
$u = -0.888871 + 0.850062I$ $a = -1.031000 + 0.156735I$ $b = 0.81250 + 1.39597I$	$5.01781 + 2.94177I$	0
$u = -0.888871 - 0.850062I$ $a = -1.031000 - 0.156735I$ $b = 0.81250 - 1.39597I$	$5.01781 - 2.94177I$	0
$u = 0.884877 + 0.875922I$ $a = -1.64030 - 1.54748I$ $b = 3.03145 - 0.58809I$	$7.91819 - 0.07865I$	0
$u = 0.884877 - 0.875922I$ $a = -1.64030 + 1.54748I$ $b = 3.03145 + 0.58809I$	$7.91819 + 0.07865I$	0
$u = -0.926943 + 0.832833I$ $a = 0.286660 - 0.815402I$ $b = -1.52828 + 0.64200I$	$4.89547 + 3.32207I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.926943 - 0.832833I$ $a = 0.286660 + 0.815402I$ $b = -1.52828 - 0.64200I$	$4.89547 - 3.32207I$	0
$u = -0.875865 + 0.887015I$ $a = -1.21431 + 2.34469I$ $b = 3.30413 - 0.59349I$	$4.89656 - 3.73236I$	0
$u = -0.875865 - 0.887015I$ $a = -1.21431 - 2.34469I$ $b = 3.30413 + 0.59349I$	$4.89656 + 3.73236I$	0
$u = 0.913469 + 0.855850I$ $a = 7.90543 - 5.83238I$ $b = 2.1500 + 17.7012I$	$6.83434 - 3.17732I$	0
$u = 0.913469 - 0.855850I$ $a = 7.90543 + 5.83238I$ $b = 2.1500 - 17.7012I$	$6.83434 + 3.17732I$	0
$u = -0.858554 + 0.925077I$ $a = 1.36360 - 1.87978I$ $b = -3.18932 + 0.02579I$	$9.7035 - 10.2935I$	0
$u = -0.858554 - 0.925077I$ $a = 1.36360 + 1.87978I$ $b = -3.18932 - 0.02579I$	$9.7035 + 10.2935I$	0
$u = 0.905807 + 0.883629I$ $a = -2.49473 - 0.75276I$ $b = 3.27476 - 1.66368I$	$9.90082 + 0.66319I$	0
$u = 0.905807 - 0.883629I$ $a = -2.49473 + 0.75276I$ $b = 3.27476 + 1.66368I$	$9.90082 - 0.66319I$	0
$u = 0.723920 + 0.124460I$ $a = 1.21857 - 1.47110I$ $b = 0.780068 + 0.970212I$	$-1.21288 - 2.12033I$	$-2.81970 + 3.07552I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.723920 - 0.124460I$ $a = 1.21857 + 1.47110I$ $b = 0.780068 - 0.970212I$	$-1.21288 + 2.12033I$	$-2.81970 - 3.07552I$
$u = 0.857297 + 0.932255I$ $a = 1.30613 + 1.32110I$ $b = -2.54938 + 0.28745I$	$13.5592 + 4.2838I$	0
$u = 0.857297 - 0.932255I$ $a = 1.30613 - 1.32110I$ $b = -2.54938 - 0.28745I$	$13.5592 - 4.2838I$	0
$u = -0.916009 + 0.877875I$ $a = -1.376650 - 0.243211I$ $b = 1.47545 + 1.19753I$	$10.84760 + 2.95253I$	0
$u = -0.916009 - 0.877875I$ $a = -1.376650 + 0.243211I$ $b = 1.47545 - 1.19753I$	$10.84760 - 2.95253I$	0
$u = 0.945271 + 0.851052I$ $a = 1.65910 + 1.44872I$ $b = -3.28901 + 0.49671I$	$7.72695 - 6.32210I$	0
$u = 0.945271 - 0.851052I$ $a = 1.65910 - 1.44872I$ $b = -3.28901 - 0.49671I$	$7.72695 + 6.32210I$	0
$u = -0.926203 + 0.873253I$ $a = -0.00593 - 1.47214I$ $b = -1.146450 + 0.764895I$	$10.81490 + 3.52603I$	0
$u = -0.926203 - 0.873253I$ $a = -0.00593 + 1.47214I$ $b = -1.146450 - 0.764895I$	$10.81490 - 3.52603I$	0
$u = 0.936906 + 0.870026I$ $a = 1.02403 + 2.45543I$ $b = -3.30105 - 0.80227I$	$9.80182 - 7.14932I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.936906 - 0.870026I$ $a = 1.02403 - 2.45543I$ $b = -3.30105 + 0.80227I$	$9.80182 + 7.14932I$	0
$u = -0.847914 + 0.957867I$ $a = 0.799931 - 0.479515I$ $b = -1.283290 - 0.364046I$	$8.58054 + 1.91116I$	0
$u = -0.847914 - 0.957867I$ $a = 0.799931 + 0.479515I$ $b = -1.283290 + 0.364046I$	$8.58054 - 1.91116I$	0
$u = -0.957274 + 0.852492I$ $a = 2.41489 - 0.96433I$ $b = -3.42506 - 1.60897I$	$4.63845 + 10.17100I$	0
$u = -0.957274 - 0.852492I$ $a = 2.41489 + 0.96433I$ $b = -3.42506 + 1.60897I$	$4.63845 - 10.17100I$	0
$u = 0.484225 + 0.490550I$ $a = 0.85564 - 1.37009I$ $b = -0.190985 + 0.748669I$	$-1.75610 - 2.02511I$	$1.63204 + 3.32753I$
$u = 0.484225 - 0.490550I$ $a = 0.85564 + 1.37009I$ $b = -0.190985 - 0.748669I$	$-1.75610 + 2.02511I$	$1.63204 - 3.32753I$
$u = -0.989525 + 0.860769I$ $a = -1.97327 + 1.20741I$ $b = 3.46394 + 1.15460I$	$9.2811 + 16.8739I$	0
$u = -0.989525 - 0.860769I$ $a = -1.97327 - 1.20741I$ $b = 3.46394 - 1.15460I$	$9.2811 - 16.8739I$	0
$u = 0.994452 + 0.863666I$ $a = -1.45453 - 1.16136I$ $b = 2.82195 - 0.59826I$	$13.1160 - 10.8953I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.994452 - 0.863666I$ $a = -1.45453 + 1.16136I$ $b = 2.82195 + 0.59826I$	$13.1160 + 10.8953I$	0
$u = 0.379240 + 0.558264I$ $a = 1.51378 + 0.48363I$ $b = 0.013302 - 0.381211I$	$-1.97201 + 3.24293I$	$2.89878 - 3.45469I$
$u = 0.379240 - 0.558264I$ $a = 1.51378 - 0.48363I$ $b = 0.013302 + 0.381211I$	$-1.97201 - 3.24293I$	$2.89878 + 3.45469I$
$u = -1.013580 + 0.875810I$ $a = -0.681351 + 0.629833I$ $b = 1.370530 + 0.267728I$	$8.04920 + 4.81399I$	0
$u = -1.013580 - 0.875810I$ $a = -0.681351 - 0.629833I$ $b = 1.370530 - 0.267728I$	$8.04920 - 4.81399I$	0
$u = -0.449816 + 0.406846I$ $a = 1.48792 - 0.04382I$ $b = -0.402780 + 0.191398I$	$1.139930 - 0.176228I$	$8.91211 + 0.28630I$
$u = -0.449816 - 0.406846I$ $a = 1.48792 + 0.04382I$ $b = -0.402780 - 0.191398I$	$1.139930 + 0.176228I$	$8.91211 - 0.28630I$
$u = -0.436460$ $a = 2.21751$ $b = -0.515297$	1.05778	11.1780
$u = -0.126130 + 0.299152I$ $a = 3.40879 + 0.64147I$ $b = -1.206450 - 0.292678I$	$0.958209 + 1.026080I$	$4.35377 + 0.66475I$
$u = -0.126130 - 0.299152I$ $a = 3.40879 - 0.64147I$ $b = -1.206450 + 0.292678I$	$0.958209 - 1.026080I$	$4.35377 - 0.66475I$

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

(i) Arc colorings

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

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

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

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

$$a_{10} = \begin{pmatrix} 0.5 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 1 \\ -0.5 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0.5 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = -2.25

(iv) **u**-Polynomials at the component

Crossings	u -Polynomials at each crossing
c_1, c_2, c_5 c_{11}, c_{12}	$u - 1$
c_3	u
c_4, c_6, c_7 c_8	$u + 1$
c_9, c_{10}	$2(2u + 1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_6, c_7 c_8, c_{11}, c_{12}	$y - 1$
c_3	y
c_9, c_{10}	$4(4y - 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$		
$a = 0.500000$	0	-2.25000
$b = 0$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u - 1)(u^{80} + 18u^{79} + \dots + 9u + 1)$
c_2	$(u - 1)(u^{80} - 2u^{79} + \dots + 3u - 1)$
c_3	$u(u^{80} + u^{79} + \dots + 58u + 8)$
c_4	$(u + 1)(u^{80} + 4u^{79} + \dots + u - 1)$
c_6	$(u + 1)(u^{80} - 2u^{79} + \dots + 3u - 1)$
c_7	$(u + 1)(u^{80} + 18u^{79} + \dots + 9u + 1)$
c_8	$(u + 1)(u^{80} + 2u^{79} + \dots - 23u - 4)$
c_9	$4(2u + 1)(2u^{80} + 41u^{79} + \dots - 792u - 121)$
c_{10}	$4(2u + 1)(2u^{80} + 23u^{79} + \dots - 1532216u + 259361)$
c_{11}	$(u - 1)(u^{80} + 2u^{79} + \dots - 23u - 4)$
c_{12}	$(u - 1)(u^{80} + 4u^{79} + \dots + u - 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_7	$(y - 1)(y^{80} + 90y^{79} + \dots + 23y + 1)$
c_2, c_6	$(y - 1)(y^{80} - 18y^{79} + \dots - 9y + 1)$
c_3	$y(y^{80} - 9y^{79} + \dots + 1228y + 64)$
c_4, c_{12}	$(y - 1)(y^{80} + 46y^{79} + \dots - 9y + 1)$
c_8, c_{11}	$(y - 1)(y^{80} - 58y^{79} + \dots + 1135y + 16)$
c_9	$16(4y - 1)(4y^{80} - 1149y^{79} + \dots - 58080y + 14641)$
c_{10}	$16(4y - 1)$ $\cdot (4y^{80} + 1059y^{79} + \dots - 1700965067380y + 67268128321)$