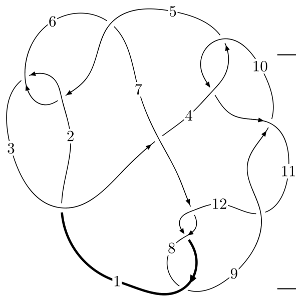
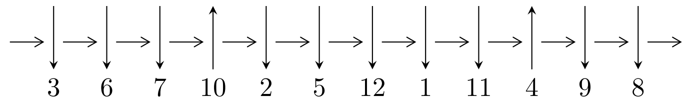
$12a_{0238}$ $(K12a_{0238})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$I_1^u = \langle u^{76} - u^{75} + \cdots + 2b - 1,\ 97u^{76} + 269u^{75} + \cdots + 4a + 83,\ u^{77} + 4u^{76} + \cdots + 2u + 1\rangle$$
$$I_2^u = \langle b,\ a^3 + a^2 + 2a + 1,\ u - 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 80 representations.

[1] The 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`).

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

I. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle u^{76} - u^{75} + \cdots + 2b - 1,\ 97u^{76} + 269u^{75} + \cdots + 4a + 83,\ u^{77} + 4u^{76} + \cdots + 2u + 1 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -24.2500u^{76} - 67.2500u^{75} + \cdots - 17.2500u - 20.7500 \\ -\frac{1}{2}u^{76} + \frac{1}{2}u^{75} + \cdots + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -16.2500u^{76} - 45.2500u^{75} + \cdots - 9.25000u - 14.7500 \\ \frac{43}{4}u^{76} + \frac{123}{4}u^{75} + \cdots + \frac{43}{4}u + \frac{37}{4} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{4}u^{76} + \frac{3}{4}u^{75} + \cdots - \frac{23}{4}u + \frac{5}{4} \\ -\frac{1}{4}u^{76} - \frac{3}{4}u^{75} + \cdots - \frac{1}{4}u - \frac{1}{4} \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -12.7500u^{76} - 35.7500u^{75} + \cdots - 4.75000u - 11.2500 \\ \frac{33}{2}u^{76} + \frac{89}{2}u^{75} + \cdots + \frac{33}{2}u + \frac{25}{2} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{1}{4}u^{76} - \frac{3}{4}u^{75} + \cdots + \frac{23}{4}u - \frac{1}{4} \\ u^{19} - 7u^{17} + \cdots - 6u^2 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 42u^{76} + \frac{231}{2}u^{75} + \cdots + 43u + \frac{53}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{77} + 24u^{76} + \cdots + 13u + 1$
c_2, c_5	$u^{77} + 2u^{76} + \cdots - 3u - 1$
c_3	$u^{77} - 2u^{76} + \cdots + 15757u - 4753$
c_4, c_{10}	$u^{77} + u^{76} + \cdots - 36u - 8$
c_7, c_8, c_{12}	$u^{77} - 4u^{76} + \cdots + 2u - 1$
c_9, c_{11}	$u^{77} + 21u^{76} + \cdots - 432u - 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{77} + 60y^{76} + \cdots + 61y - 1$
c_2, c_5	$y^{77} - 24y^{76} + \cdots + 13y - 1$
c_3	$y^{77} + 24y^{76} + \cdots + 306820997y - 22591009$
c_4, c_{10}	$y^{77} + 21y^{76} + \cdots - 432y - 64$
c_7, c_8, c_{12}	$y^{77} - 62y^{76} + \cdots + 26y - 1$
c_9, c_{11}	$y^{77} + 65y^{76} + \cdots + 232704y - 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.10650$ $a = 0.143141$ $b = -0.621888$	-2.08407	0
$u = 0.097508 + 0.886073I$ $a = -0.93635 - 2.39335I$ $b = -0.98803 - 1.89695I$	$7.58861 - 11.05880I$	0
$u = 0.097508 - 0.886073I$ $a = -0.93635 + 2.39335I$ $b = -0.98803 + 1.89695I$	$7.58861 + 11.05880I$	0
$u = 0.084767 + 0.881704I$ $a = 0.82424 + 2.45291I$ $b = 0.91399 + 1.93588I$	$8.41612 - 5.12553I$	0
$u = 0.084767 - 0.881704I$ $a = 0.82424 - 2.45291I$ $b = 0.91399 - 1.93588I$	$8.41612 + 5.12553I$	0
$u = 0.808057 + 0.354660I$ $a = 0.398327 + 0.653038I$ $b = 0.154983 - 0.382042I$	$-0.06970 - 2.22982I$	0
$u = 0.808057 - 0.354660I$ $a = 0.398327 - 0.653038I$ $b = 0.154983 + 0.382042I$	$-0.06970 + 2.22982I$	0
$u = 0.105277 + 0.833083I$ $a = -0.63268 - 2.02197I$ $b = -0.79075 - 1.65686I$	$1.48971 - 5.79921I$	$-8.00000 + 6.61448I$
$u = 0.105277 - 0.833083I$ $a = -0.63268 + 2.02197I$ $b = -0.79075 + 1.65686I$	$1.48971 + 5.79921I$	$-8.00000 - 6.61448I$
$u = -0.017153 + 0.834554I$ $a = -0.16213 + 2.72359I$ $b = 0.26575 + 2.08207I$	$8.84895 - 1.05261I$	$-1.57002 + 2.20450I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.017153 - 0.834554I$ $a = -0.16213 - 2.72359I$ $b = 0.26575 - 2.08207I$	$8.84895 + 1.05261I$	$-1.57002 - 2.20450I$
$u = 0.055315 + 0.827179I$ $a = 0.29493 + 2.28516I$ $b = 0.57429 + 1.82055I$	$4.87219 - 2.94616I$	$-1.74736 + 3.05981I$
$u = 0.055315 - 0.827179I$ $a = 0.29493 - 2.28516I$ $b = 0.57429 - 1.82055I$	$4.87219 + 2.94616I$	$-1.74736 - 3.05981I$
$u = -0.032046 + 0.825605I$ $a = 0.31484 - 2.72986I$ $b = -0.16740 - 2.07689I$	$8.13865 + 4.89439I$	$-2.77959 - 2.93491I$
$u = -0.032046 - 0.825605I$ $a = 0.31484 + 2.72986I$ $b = -0.16740 + 2.07689I$	$8.13865 - 4.89439I$	$-2.77959 + 2.93491I$
$u = 0.708066 + 0.417899I$ $a = -0.248020 - 0.776113I$ $b = -0.095443 + 0.246952I$	$-0.36212 + 2.86972I$	$-12.09253 - 2.69400I$
$u = 0.708066 - 0.417899I$ $a = -0.248020 + 0.776113I$ $b = -0.095443 - 0.246952I$	$-0.36212 - 2.86972I$	$-12.09253 + 2.69400I$
$u = -1.191750 + 0.014551I$ $a = -0.15908 + 1.89115I$ $b = 0.016839 - 0.355506I$	$0.50247 + 2.96603I$	0
$u = -1.191750 - 0.014551I$ $a = -0.15908 - 1.89115I$ $b = 0.016839 + 0.355506I$	$0.50247 - 2.96603I$	0
$u = 1.143870 + 0.381225I$ $a = 1.095240 - 0.097934I$ $b = 0.245777 - 1.386210I$	$-1.69396 + 1.41527I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\ \ 1.143870-0.381225I$		
$a=\ \ 1.095240+0.097934I$	$-1.69396-1.41527I$	0
$b=\ \ 0.245777+1.386210I$		
$u=\ \ 0.027991+0.770737I$		
$a=\ \ 0.17046-2.07494I$	$1.86989+0.11087I$	$-7.62813-0.98718I$
$b=-0.29207-1.67629I$		
$u=\ \ 0.027991-0.770737I$		
$a=\ \ 0.17046+2.07494I$	$1.86989-0.11087I$	$-7.62813+0.98718I$
$b=-0.29207+1.67629I$		
$u=\ \ 1.252950+0.126715I$		
$a=\ \ 0.063260-0.352922I$	$-1.123090+0.200004I$	0
$b=-1.28347-0.85286I$		
$u=\ \ 1.252950-0.126715I$		
$a=\ \ 0.063260+0.352922I$	$-1.123090-0.200004I$	0
$b=-1.28347+0.85286I$		
$u=\ \ 1.181210+0.451223I$		
$a=\ \ 1.52706-0.14826I$	$4.26251+6.28683I$	0
$b=\ \ 0.65607-1.67635I$		
$u=\ \ 1.181210-0.451223I$		
$a=\ \ 1.52706+0.14826I$	$4.26251-6.28683I$	0
$b=\ \ 0.65607+1.67635I$		
$u=\ \ 0.384694+0.626756I$		
$a=\ \ 0.401391-0.155030I$	$0.62637-6.82755I$	$-8.78463+9.37129I$
$b=\ \ 0.489003+0.393854I$		
$u=\ \ 0.384694-0.626756I$		
$a=\ \ 0.401391+0.155030I$	$0.62637+6.82755I$	$-8.78463-9.37129I$
$b=\ \ 0.489003-0.393854I$		
$u=\ \ 1.194370+0.441307I$		
$a=-1.50076+0.24788I$	$5.00644+0.39923I$	0
$b=-0.57839+1.76571I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.194370 - 0.441307I$ $a = -1.50076 - 0.24788I$ $b = -0.57839 - 1.76571I$	$5.00644 - 0.39923I$	0
$u = 1.218780 + 0.371520I$ $a = -1.131810 + 0.490210I$ $b = -0.05039 + 1.82641I$	$1.29259 - 1.36850I$	0
$u = 1.218780 - 0.371520I$ $a = -1.131810 - 0.490210I$ $b = -0.05039 - 1.82641I$	$1.29259 + 1.36850I$	0
$u = 1.27596$ $a = 0.162112$ $b = 1.61262$	-5.58576	0
$u = 1.289500 + 0.093349I$ $a = 0.118640 + 0.332675I$ $b = 1.61535 + 0.70924I$	$-1.70313 - 4.94998I$	0
$u = 1.289500 - 0.093349I$ $a = 0.118640 - 0.332675I$ $b = 1.61535 - 0.70924I$	$-1.70313 + 4.94998I$	0
$u = -1.242140 + 0.370004I$ $a = -1.83348 - 0.78636I$ $b = 0.47585 - 1.69036I$	$4.40113 - 0.59472I$	0
$u = -1.242140 - 0.370004I$ $a = -1.83348 + 0.78636I$ $b = 0.47585 + 1.69036I$	$4.40113 + 0.59472I$	0
$u = 0.486786 + 0.502721I$ $a = 0.054759 - 0.547642I$ $b = 0.197801 + 0.269349I$	$-3.72778 - 1.85875I$	$-16.4618 + 5.2268I$
$u = 0.486786 - 0.502721I$ $a = 0.054759 + 0.547642I$ $b = 0.197801 - 0.269349I$	$-3.72778 + 1.85875I$	$-16.4618 - 5.2268I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.257860 + 0.329615I$ $a = 0.896116 - 0.718720I$ $b = -0.35639 - 1.95698I$	$-1.93916 - 4.07565I$	0
$u = 1.257860 - 0.329615I$ $a = 0.896116 + 0.718720I$ $b = -0.35639 + 1.95698I$	$-1.93916 + 4.07565I$	0
$u = -1.255060 + 0.377694I$ $a = 1.75729 + 0.90621I$ $b = -0.56501 + 1.75769I$	$5.01586 + 5.40765I$	0
$u = -1.255060 - 0.377694I$ $a = 1.75729 - 0.90621I$ $b = -0.56501 - 1.75769I$	$5.01586 - 5.40765I$	0
$u = 0.322725 + 0.607838I$ $a = -0.233760 - 0.068743I$ $b = -0.438637 - 0.545582I$	$1.32290 - 1.49289I$	$-6.61591 + 4.08272I$
$u = 0.322725 - 0.607838I$ $a = -0.233760 + 0.068743I$ $b = -0.438637 + 0.545582I$	$1.32290 + 1.49289I$	$-6.61591 - 4.08272I$
$u = -1.329520 + 0.090325I$ $a = -0.290156 + 0.822947I$ $b = 0.390385 - 0.086461I$	$-5.31466 + 2.25967I$	0
$u = -1.329520 - 0.090325I$ $a = -0.290156 - 0.822947I$ $b = 0.390385 + 0.086461I$	$-5.31466 - 2.25967I$	0
$u = 1.282820 + 0.377841I$ $a = -1.19468 + 0.88899I$ $b = 0.09061 + 2.31978I$	$4.80427 - 3.30363I$	0
$u = 1.282820 - 0.377841I$ $a = -1.19468 - 0.88899I$ $b = 0.09061 - 2.31978I$	$4.80427 + 3.30363I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.297780+0.334051I$ $a=-1.219930-0.695265I$ $b=\ \ 0.89038-1.42707I$	$-2.27651+3.87333I$	0
$u=-1.297780-0.334051I$ $a=-1.219930+0.695265I$ $b=\ \ 0.89038+1.42707I$	$-2.27651-3.87333I$	0
$u=\ \ 1.293460+0.370170I$ $a=\ \ 1.13984-0.96168I$ $b=-0.19171-2.37881I$	$4.00605-9.19471I$	0
$u=\ \ 1.293460-0.370170I$ $a=\ \ 1.13984+0.96168I$ $b=-0.19171+2.37881I$	$4.00605+9.19471I$	0
$u=-1.309210+0.369347I$ $a=\ \ 1.24458+1.05046I$ $b=-1.00145+1.70429I$	$0.60671+7.25062I$	0
$u=-1.309210-0.369347I$ $a=\ \ 1.24458-1.05046I$ $b=-1.00145-1.70429I$	$0.60671-7.25062I$	0
$u=-1.357870+0.182843I$ $a=-0.369645+0.306246I$ $b=\ \ 0.887893-0.304238I$	$-3.98197+4.18596I$	0
$u=-1.357870-0.182843I$ $a=-0.369645-0.306246I$ $b=\ \ 0.887893+0.304238I$	$-3.98197-4.18596I$	0
$u=-1.381880+0.048424I$ $a=\ \ 0.062267-0.819525I$ $b=-0.281898-0.253910I$	$-6.78410-1.97007I$	0
$u=-1.381880-0.048424I$ $a=\ \ 0.062267+0.819525I$ $b=-0.281898+0.253910I$	$-6.78410+1.97007I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.337640 + 0.368476I$ $a = -0.97571 - 1.14358I$ $b = 1.24988 - 1.67951I$	$-3.03784 + 10.12450I$	0
$u = -1.337640 - 0.368476I$ $a = -0.97571 + 1.14358I$ $b = 1.24988 + 1.67951I$	$-3.03784 - 10.12450I$	0
$u = -1.334550 + 0.398433I$ $a = 1.11424 + 1.42325I$ $b = -1.23756 + 1.96013I$	$3.96873 + 9.71449I$	0
$u = -1.334550 - 0.398433I$ $a = 1.11424 - 1.42325I$ $b = -1.23756 - 1.96013I$	$3.96873 - 9.71449I$	0
$u = -1.387660 + 0.124640I$ $a = 0.129187 - 0.573699I$ $b = -0.730978 - 0.094246I$	$-9.63919 + 3.85228I$	0
$u = -1.387660 - 0.124640I$ $a = 0.129187 + 0.573699I$ $b = -0.730978 + 0.094246I$	$-9.63919 - 3.85228I$	0
$u = -1.386810 + 0.184853I$ $a = 0.193588 - 0.252518I$ $b = -1.046420 + 0.180944I$	$-5.02380 + 9.58444I$	0
$u = -1.386810 - 0.184853I$ $a = 0.193588 + 0.252518I$ $b = -1.046420 - 0.180944I$	$-5.02380 - 9.58444I$	0
$u = -1.343060 + 0.398637I$ $a = -1.03037 - 1.45790I$ $b = 1.31999 - 1.95979I$	$3.0695 + 15.6642I$	0
$u = -1.343060 - 0.398637I$ $a = -1.03037 + 1.45790I$ $b = 1.31999 + 1.95979I$	$3.0695 - 15.6642I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.283410 + 0.303037I$ $a = 0.523170 + 0.541674I$ $b = -0.021509 - 0.462591I$	$-0.336764 - 0.936515I$	$-6.18984 + 7.26446I$
$u = 0.283410 - 0.303037I$ $a = 0.523170 - 0.541674I$ $b = -0.021509 + 0.462591I$	$-0.336764 + 0.936515I$	$-6.18984 - 7.26446I$
$u = -0.163536 + 0.352944I$ $a = 2.36554 - 0.45097I$ $b = 0.576303 - 0.604664I$	$3.10141 - 1.94636I$	$-0.51042 + 2.66215I$
$u = -0.163536 - 0.352944I$ $a = 2.36554 + 0.45097I$ $b = 0.576303 + 0.604664I$	$3.10141 + 1.94636I$	$-0.51042 - 2.66215I$
$u = -0.220160 + 0.295017I$ $a = -2.70473 + 0.35585I$ $b = -0.655975 + 0.466796I$	$2.84761 + 3.57248I$	$-0.90847 - 3.64285I$
$u = -0.220160 - 0.295017I$ $a = -2.70473 - 0.35585I$ $b = -0.655975 - 0.466796I$	$2.84761 - 3.57248I$	$-0.90847 + 3.64285I$
$u = -0.165659$ $a = -3.43662$ $b = -0.466057$	-1.33272	-6.61800

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

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -a \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -a^2 \\ a^2 + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a^2 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -7a^2 - 5a - 17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^3 - u^2 + 2u - 1$
c_2	$u^3 + u^2 - 1$
c_4, c_9, c_{10} c_{11}	u^3
c_5	$u^3 - u^2 + 1$
c_6	$u^3 + u^2 + 2u + 1$
c_7, c_8	$(u-1)^3$
c_{12}	$(u+1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6	$y^3 + 3y^2 + 2y - 1$
c_2, c_5	$y^3 - y^2 + 2y - 1$
c_4, c_9, c_{10} c_{11}	y^3
c_7, c_8, c_{12}	$(y-1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.215080 + 1.307140I$ $b = 0$	$1.37919 + 2.82812I$	$-4.28809 - 2.59975I$
$u = 1.00000$ $a = -0.215080 - 1.307140I$ $b = 0$	$1.37919 - 2.82812I$	$-4.28809 + 2.59975I$
$u = 1.00000$ $a = -0.569840$ $b = 0$	-2.75839	-16.4240

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3-u^2+2u-1)(u^{77}+24u^{76}+\cdots+13u+1)$
c_2	$(u^3+u^2-1)(u^{77}+2u^{76}+\cdots-3u-1)$
c_3	$(u^3-u^2+2u-1)(u^{77}-2u^{76}+\cdots+15757u-4753)$
c_4, c_{10}	$u^3(u^{77}+u^{76}+\cdots-36u-8)$
c_5	$(u^3-u^2+1)(u^{77}+2u^{76}+\cdots-3u-1)$
c_6	$(u^3+u^2+2u+1)(u^{77}+24u^{76}+\cdots+13u+1)$
c_7, c_8	$((u-1)^3)(u^{77}-4u^{76}+\cdots+2u-1)$
c_9, c_{11}	$u^3(u^{77}+21u^{76}+\cdots-432u-64)$
c_{12}	$((u+1)^3)(u^{77}-4u^{76}+\cdots+2u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^3 + 3y^2 + 2y - 1)(y^{77} + 60y^{76} + \cdots + 61y - 1)$
c_2, c_5	$(y^3 - y^2 + 2y - 1)(y^{77} - 24y^{76} + \cdots + 13y - 1)$
c_3	$(y^3 + 3y^2 + 2y - 1)(y^{77} + 24y^{76} + \cdots + 3.06821 \times 10^8 y - 2.25910 \times 10^7)$
c_4, c_{10}	$y^3(y^{77} + 21y^{76} + \cdots - 432y - 64)$
c_7, c_8, c_{12}	$((y-1)^3)(y^{77} - 62y^{76} + \cdots + 26y - 1)$
c_9, c_{11}	$y^3(y^{77} + 65y^{76} + \cdots + 232704y - 4096)$