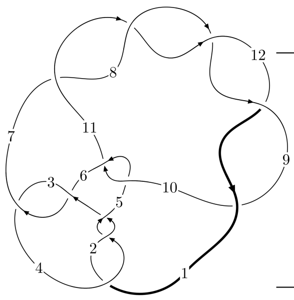
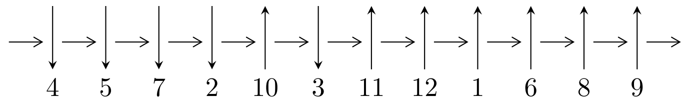
$12a_{0815}$ $(K12a_{0815})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.39811\times 10^{17}u^{53} + 3.48531\times 10^{17}u^{52} + \cdots + 3.74793\times 10^{16}b + 1.64653\times 10^{17}, \\
& 6.79652\times 10^{16}u^{53} - 2.14430\times 10^{17}u^{52} + \cdots + 3.74793\times 10^{16}a - 3.66519\times 10^{17},\ u^{54} - 4u^{53} + \cdots - 12u +
\end{aligned}$$

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

$$I_3^u = \langle b + u - 1,\ a + 3,\ u^2 + u - 1\rangle$$

$$I_4^u = \langle b + 1,\ a - 2,\ u^2 + u - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 61 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. $\boldsymbol{I_1^u = \langle -1.40 \times 10^{17} u^{53} + 3.49 \times 10^{17} u^{52} + \cdots + 3.75 \times 10^{16} b + 1.65 \times 10^{17},\ 6.80 \times 10^{16} u^{53} - 2.14 \times 10^{17} u^{52} + \cdots + 3.75 \times 10^{16} a - 3.67 \times 10^{17},\ u^{54} - 4u^{53} + \cdots - 12u + 1 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.81341u^{53} + 5.72128u^{52} + \cdots - 57.8240u + 9.77923 \\ 3.73034u^{53} - 9.29930u^{52} + \cdots + 36.1231u - 4.39318 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -9.13774u^{53} + 22.8480u^{52} + \cdots - 104.984u + 13.8690 \\ 11.0547u^{53} - 26.4260u^{52} + \cdots + 83.2829u - 8.48291 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 11.7271u^{53} - 28.5773u^{52} + \cdots + 105.648u - 12.1490 \\ -11.8102u^{53} + 27.9993u^{52} + \cdots - 86.3491u + 8.53503 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.40884u^{53} + 10.2375u^{52} + \cdots - 46.3267u + 6.19547 \\ 6.42322u^{53} - 15.2092u^{52} + \cdots + 47.7853u - 4.63561 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 + 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.54314u^{53} - 14.0720u^{52} + \cdots + 18.5879u + 0.684875 \\ -6.46008u^{53} + 14.6500u^{52} + \cdots - 37.8870u + 2.92907 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{363185510972410645}{37479301199371286}u^{53} - \frac{688675840018976189}{18739650599685643}u^{52} + \cdots + \frac{4805743652784223102}{18739650599685643}u - \frac{1430274773919045159}{37479301199371286}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{54} - 6u^{53} + \cdots - 37u - 1$
c_3, c_6	$u^{54} + 3u^{53} + \cdots - 4u + 8$
c_5, c_{10}	$u^{54} + 2u^{53} + \cdots - 64u - 16$
c_7, c_8, c_9 c_{11}, c_{12}	$u^{54} - 4u^{53} + \cdots - 12u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{54} - 50y^{53} + \cdots - 985y + 1$
c_3, c_6	$y^{54} - 27y^{53} + \cdots - 3088y + 64$
c_5, c_{10}	$y^{54} - 30y^{53} + \cdots - 7808y + 256$
c_7, c_8, c_9 c_{11}, c_{12}	$y^{54} - 72y^{53} + \cdots - 24y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.955893 + 0.280895I$ $a = -0.657144 + 0.964305I$ $b = -0.167798 + 0.004865I$	$0.99214 - 4.46696I$	0
$u = -0.955893 - 0.280895I$ $a = -0.657144 - 0.964305I$ $b = -0.167798 - 0.004865I$	$0.99214 + 4.46696I$	0
$u = -0.954075 + 0.196551I$ $a = -2.44568 + 0.32192I$ $b = \ \ 1.39296 - 0.94545I$	$1.98617 - 1.55786I$	0
$u = -0.954075 - 0.196551I$ $a = -2.44568 - 0.32192I$ $b = \ \ 1.39296 + 0.94545I$	$1.98617 + 1.55786I$	0
$u = -1.003860 + 0.333824I$ $a = \ \ 1.98014 - 0.51608I$ $b = -1.15335 + 1.40699I$	$4.09810 - 6.73935I$	0
$u = -1.003860 - 0.333824I$ $a = \ \ 1.98014 + 0.51608I$ $b = -1.15335 - 1.40699I$	$4.09810 + 6.73935I$	0
$u = \ \ 1.037550 + 0.306742I$ $a = -0.949401 - 0.673804I$ $b = \ \ 0.037724 + 1.330030I$	$-3.90243 + 4.30298I$	0
$u = \ \ 1.037550 - 0.306742I$ $a = -0.949401 + 0.673804I$ $b = \ \ 0.037724 - 1.330030I$	$-3.90243 - 4.30298I$	0
$u = -1.004380 + 0.437767I$ $a = -1.67226 + 0.47123I$ $b = \ \ 0.92436 - 1.53705I$	$-1.30619 - 11.23270I$	0
$u = -1.004380 - 0.437767I$ $a = -1.67226 - 0.47123I$ $b = \ \ 0.92436 + 1.53705I$	$-1.30619 + 11.23270I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.889050 + 0.150577I$ $a = 0.895885 + 0.803841I$ $b = -0.126696 - 1.360540I$	$1.36794 + 1.65747I$	$6.44317 - 4.64193I$
$u = 0.889050 - 0.150577I$ $a = 0.895885 - 0.803841I$ $b = -0.126696 + 1.360540I$	$1.36794 - 1.65747I$	$6.44317 + 4.64193I$
$u = -1.113440 + 0.153181I$ $a = 0.382959 - 0.729976I$ $b = 0.0606512 + 0.0742692I$	$6.28050 - 1.40683I$	0
$u = -1.113440 - 0.153181I$ $a = 0.382959 + 0.729976I$ $b = 0.0606512 - 0.0742692I$	$6.28050 + 1.40683I$	0
$u = 0.647324 + 0.583844I$ $a = 1.140030 + 0.621418I$ $b = 0.132989 - 1.059230I$	$-3.55059 - 3.17785I$	$2.00000 + 1.62776I$
$u = 0.647324 - 0.583844I$ $a = 1.140030 - 0.621418I$ $b = 0.132989 + 1.059230I$	$-3.55059 + 3.17785I$	$2.00000 - 1.62776I$
$u = 0.708312 + 0.161436I$ $a = -0.110891 + 1.210160I$ $b = -0.21103 - 1.94212I$	$-0.861342 + 0.425422I$	$8.90403 + 2.84052I$
$u = 0.708312 - 0.161436I$ $a = -0.110891 - 1.210160I$ $b = -0.21103 + 1.94212I$	$-0.861342 - 0.425422I$	$8.90403 - 2.84052I$
$u = -0.724781$ $a = 3.04269$ $b = -0.702104$	-7.67173	19.8130
$u = 0.180101 + 0.700187I$ $a = 0.088171 - 0.373846I$ $b = -0.49531 - 1.40016I$	$-4.94514 + 7.40203I$	$-1.00662 - 6.28181I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.180101 - 0.700187I$ $a = 0.088171 + 0.373846I$ $b = -0.49531 + 1.40016I$	$-4.94514 - 7.40203I$	$-1.00662 + 6.28181I$
$u = 0.484782 + 0.418903I$ $a = -1.25208 - 0.74775I$ $b = -0.023304 + 0.876278I$	$1.232030 - 0.400002I$	$7.11175 + 0.11005I$
$u = 0.484782 - 0.418903I$ $a = -1.25208 + 0.74775I$ $b = -0.023304 - 0.876278I$	$1.232030 + 0.400002I$	$7.11175 - 0.11005I$
$u = 0.212049 + 0.561353I$ $a = -0.355668 + 0.444206I$ $b = 0.58234 + 1.33649I$	$0.34502 + 3.69748I$	$2.76292 - 6.81307I$
$u = 0.212049 - 0.561353I$ $a = -0.355668 - 0.444206I$ $b = 0.58234 - 1.33649I$	$0.34502 - 3.69748I$	$2.76292 + 6.81307I$
$u = -0.281238 + 0.495314I$ $a = 0.769983 + 1.023740I$ $b = 0.106414 + 1.105760I$	$-7.98083 - 1.54477I$	$-5.36049 + 2.77593I$
$u = -0.281238 - 0.495314I$ $a = 0.769983 - 1.023740I$ $b = 0.106414 - 1.105760I$	$-7.98083 + 1.54477I$	$-5.36049 - 2.77593I$
$u = -1.45229 + 0.18721I$ $a = -0.812390 + 0.483425I$ $b = 0.156984 - 0.422947I$	$3.36449 + 0.31719I$	0
$u = -1.45229 - 0.18721I$ $a = -0.812390 - 0.483425I$ $b = 0.156984 + 0.422947I$	$3.36449 - 0.31719I$	0
$u = 0.139977 + 0.472620I$ $a = 1.76198 + 0.54098I$ $b = 0.201388 - 0.650535I$	$-2.37654 + 1.88570I$	$-0.67343 - 3.61371I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.139977 - 0.472620I$ $a = 1.76198 - 0.54098I$ $b = 0.201388 + 0.650535I$	$-2.37654 - 1.88570I$	$-0.67343 + 3.61371I$
$u = 0.487736$ $a = -0.807237$ $b = 0.441336$	0.740706	13.6380
$u = -1.60169$ $a = 2.38830$ $b = -2.02710$	8.10579	0
$u = -1.65983 + 0.02504I$ $a = 0.87862 + 1.94748I$ $b = -0.58285 - 2.35560I$	$7.60543 - 1.00097I$	0
$u = -1.65983 - 0.02504I$ $a = 0.87862 - 1.94748I$ $b = -0.58285 + 2.35560I$	$7.60543 + 1.00097I$	0
$u = 1.66740$ $a = -2.44614$ $b = 1.33681$	0.921274	0
$u = -1.69751 + 0.03635I$ $a = -0.96750 + 1.32403I$ $b = 0.48614 - 1.68807I$	$10.60180 - 2.36821I$	0
$u = -1.69751 - 0.03635I$ $a = -0.96750 - 1.32403I$ $b = 0.48614 + 1.68807I$	$10.60180 + 2.36821I$	0
$u = 1.70775 + 0.07197I$ $a = 0.258719 + 0.302731I$ $b = 0.129943 + 0.458522I$	$10.43440 + 5.86156I$	0
$u = 1.70775 - 0.07197I$ $a = 0.258719 - 0.302731I$ $b = 0.129943 - 0.458522I$	$10.43440 - 5.86156I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.70917 + 0.05180I$ $a = 2.59054 + 0.66443I$ $b = -1.81746 - 0.96175I$	$11.47430 + 2.55306I$	0
$u = 1.70917 - 0.05180I$ $a = 2.59054 - 0.66443I$ $b = -1.81746 + 0.96175I$	$11.47430 - 2.55306I$	0
$u = 0.043095 + 0.280243I$ $a = 0.89056 - 1.82691I$ $b = -0.611450 - 0.877287I$	$-1.250130 - 0.131994I$	$-5.38771 - 0.73638I$
$u = 0.043095 - 0.280243I$ $a = 0.89056 + 1.82691I$ $b = -0.611450 + 0.877287I$	$-1.250130 + 0.131994I$	$-5.38771 + 0.73638I$
$u = 1.71938 + 0.08814I$ $a = -2.28411 - 1.00360I$ $b = 1.57801 + 1.44618I$	$13.7389 + 8.4458I$	0
$u = 1.71938 - 0.08814I$ $a = -2.28411 + 1.00360I$ $b = 1.57801 - 1.44618I$	$13.7389 - 8.4458I$	0
$u = 1.71805 + 0.12084I$ $a = 1.98176 + 1.07195I$ $b = -1.28426 - 1.61703I$	$8.2449 + 13.5020I$	0
$u = 1.71805 - 0.12084I$ $a = 1.98176 - 1.07195I$ $b = -1.28426 + 1.61703I$	$8.2449 - 13.5020I$	0
$u = -1.72791 + 0.08472I$ $a = 0.849535 - 1.106390I$ $b = -0.25652 + 1.47457I$	$5.92114 - 5.92817I$	0
$u = -1.72791 - 0.08472I$ $a = 0.849535 + 1.106390I$ $b = -0.25652 - 1.47457I$	$5.92114 + 5.92817I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.74587 + 0.03327I$ $a = -0.107778 - 0.244366I$ $b = -0.087691 - 0.343352I$	$16.5619 + 2.1570I$	0
$u = 1.74587 - 0.03327I$ $a = -0.107778 + 0.244366I$ $b = -0.087691 + 0.343352I$	$16.5619 - 2.1570I$	0
$u = 1.82048$ $a = 0.109703$ $b = 0.193921$	15.6372	0
$u = 0.166814$ $a = 4.00471$ $b = -1.18722$	-1.16691	-12.8120

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u^2 + 7u + 30$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^3$
c_3, c_6	y^3
c_5, c_7, c_8 c_9, c_{10}, c_{11} c_{12}	$y^3 - 5y^2 + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.24698$ $a = \quad 0.801938$ $b = -0.801938$	4.69981	8.83150
$u = \quad 0.445042$ $a = -2.24698$ $b = \quad 2.24698$	-0.939962	31.5310
$u = \quad 1.80194$ $a = -0.554958$ $b = \quad 0.554958$	15.9794	16.6380

III. $I_3^u = \langle b + u - 1,\ a + 3,\ u^2 + u - 1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ -u + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -3 \\ -u + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2 \\ -u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 3u + 2 \\ -u + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2u + 3 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 2u + 3 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -16$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.618034$ $a = -3.00000$ $b = \ \ 0.381966$	-7.89568	-16.0000
$u = -1.61803$ $a = -3.00000$ $b = \ \ 2.61803$	7.89568	-16.0000

IV. $I_4^u = \langle b+1,\ a-2,\ u^2+u-1 \rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u \\ -u+1 \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u+1 \\ -1 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 2.00000$ $b = -1.00000$	0	-1.00000
$u = -1.61803$ $a = 2.00000$ $b = -1.00000$	0	-1.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^3)(u^2+u-1)^2(u^{54}-6u^{53}+\cdots-37u-1)$
c_3	$u^3(u^2+u-1)^2(u^{54}+3u^{53}+\cdots-4u+8)$
c_4	$((u+1)^3)(u^2-u-1)^2(u^{54}-6u^{53}+\cdots-37u-1)$
c_5	$u^4(u^3+u^2-2u-1)(u^{54}+2u^{53}+\cdots-64u-16)$
c_6	$u^3(u^2-u-1)^2(u^{54}+3u^{53}+\cdots-4u+8)$
c_7, c_8, c_9	$((u^2-u-1)^2)(u^3+u^2-2u-1)(u^{54}-4u^{53}+\cdots-12u+1)$
c_{10}	$u^4(u^3-u^2-2u+1)(u^{54}+2u^{53}+\cdots-64u-16)$
c_{11}, c_{12}	$((u^2+u-1)^2)(u^3-u^2-2u+1)(u^{54}-4u^{53}+\cdots-12u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^3)(y^2-3y+1)^2(y^{54}-50y^{53}+\cdots-985y+1)$
c_3, c_6	$y^3(y^2-3y+1)^2(y^{54}-27y^{53}+\cdots-3088y+64)$
c_5, c_{10}	$y^4(y^3-5y^2+6y-1)(y^{54}-30y^{53}+\cdots-7808y+256)$
c_7, c_8, c_9 c_{11}, c_{12}	$((y^2-3y+1)^2)(y^3-5y^2+6y-1)(y^{54}-72y^{53}+\cdots-24y+1)$