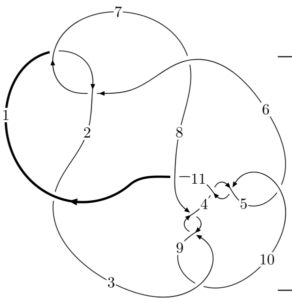
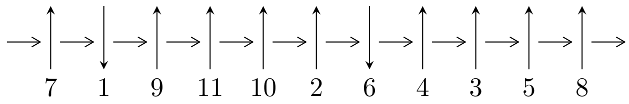
$11a_{219}$ $(K11a_{219})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle b-u,\ -u^{20}-u^{19}+\cdots+8a+1,\ u^{21}+13u^{19}+\cdots+12u^3-1\rangle\\
I_2^u &= \langle -2624442537u^{27}+1988686630u^{26}+\cdots+16455396275b-10223804083,\\
&\qquad 19079838812u^{27}-18444082905u^{26}+\cdots+16455396275a+108956181733,\\
&\qquad u^{28}-u^{27}+\cdots+6u+1\rangle\\
I_3^u &= \langle b+u,\ a^3+a^2+2a+1,\ u^2+1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 55 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. $\boldsymbol{I_1^u = \langle b-u,\ -u^{20}-u^{19}+\cdots+8a+1,\ u^{21}+13u^{19}+\cdots+12u^3-1\rangle}$

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix} \frac{1}{8}u^{20}+\frac{1}{8}u^{19}+\cdots-\frac{25}{8}u-\frac{1}{8} \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{8}u^{20}+\frac{1}{8}u^{19}+\cdots-\frac{17}{8}u-\frac{1}{8} \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{8}u^{20}-\frac{1}{8}u^{19}+\cdots-\frac{3}{8}u-\frac{1}{8} \\ -\frac{1}{8}u^{20}-\frac{1}{8}u^{19}+\cdots+\frac{9}{8}u+\frac{1}{8} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{1}{8}u^{20}-\frac{1}{8}u^{19}+\cdots-\frac{1}{8}u+\frac{9}{8} \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{3}{8}u^{20}+\frac{5}{8}u^{19}+\cdots+\frac{7}{8}u-\frac{1}{8} \\ \frac{1}{4}u^{18}-\frac{1}{4}u^{17}+\cdots-\frac{1}{4}u+\frac{1}{4} \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^2+1 \\ -u^4-2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{8}u^{20}+\frac{1}{8}u^{19}+\cdots-\frac{17}{8}u-\frac{1}{8} \\ -\frac{1}{8}u^{20}-\frac{1}{8}u^{19}+\cdots+\frac{9}{8}u+\frac{1}{8} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{8}u^{20}+\frac{1}{8}u^{19}+\cdots-\frac{17}{8}u-\frac{1}{8} \\ -\frac{1}{8}u^{20}-\frac{1}{8}u^{19}+\cdots+\frac{9}{8}u+\frac{1}{8} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{5}{2}u^{20}+u^{19}+\frac{65}{2}u^{18}+15u^{17}+177u^{16}+\frac{181}{2}u^{15}+\frac{1023}{2}u^{14}+280u^{13}+806u^{12}+\frac{907}{2}u^{11}+599u^{10}+316u^9+\frac{119}{2}u^8-\frac{27}{2}u^7-88u^6-49u^5+\frac{99}{2}u^4+\frac{129}{2}u^3+17u^2+12u+\frac{11}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{21} + 3u^{20} + \cdots + 3u - 2$
c_2, c_7	$u^{21} + 7u^{20} + \cdots + 21u - 4$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^{21} + 13u^{19} + \cdots + 12u^3 - 1$
c_{11}	$u^{21} - 15u^{20} + \cdots + 2103u - 266$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{21} + 7y^{20} + \cdots + 21y - 4$
c_2, c_7	$y^{21} + 15y^{20} + \cdots + 1137y - 16$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^{21} + 26y^{20} + \cdots + 24y^2 - 1$
c_{11}	$y^{21} + 3y^{20} + \cdots + 343765y - 70756$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.626749 + 0.333863I$ $a = 1.66451 - 0.51604I$ $b = -0.626749 + 0.333863I$	$2.49171 - 5.86529I$	$9.54952 + 8.01834I$
$u = -0.626749 - 0.333863I$ $a = 1.66451 + 0.51604I$ $b = -0.626749 - 0.333863I$	$2.49171 + 5.86529I$	$9.54952 - 8.01834I$
$u = 0.629746 + 0.248411I$ $a = -1.60683 - 0.39158I$ $b = 0.629746 + 0.248411I$	$3.16640 + 0.40908I$	$11.72672 - 2.09398I$
$u = 0.629746 - 0.248411I$ $a = -1.60683 + 0.39158I$ $b = 0.629746 - 0.248411I$	$3.16640 - 0.40908I$	$11.72672 + 2.09398I$
$u = -0.020126 + 1.386560I$ $a = 0.15798 + 1.61235I$ $b = -0.020126 + 1.386560I$	$-3.09312 - 3.11987I$	$1.81385 + 2.72222I$
$u = -0.020126 - 1.386560I$ $a = 0.15798 - 1.61235I$ $b = -0.020126 - 1.386560I$	$-3.09312 + 3.11987I$	$1.81385 - 2.72222I$
$u = -0.049869 + 0.513457I$ $a = 0.28009 - 1.88738I$ $b = -0.049869 + 0.513457I$	$1.38918 + 2.68088I$	$7.84813 - 2.28119I$
$u = -0.049869 - 0.513457I$ $a = 0.28009 + 1.88738I$ $b = -0.049869 - 0.513457I$	$1.38918 - 2.68088I$	$7.84813 + 2.28119I$
$u = -0.358971 + 0.369522I$ $a = 1.22004 - 0.88408I$ $b = -0.358971 + 0.369522I$	$-1.99273 - 1.21629I$	$2.57418 + 5.92996I$
$u = -0.358971 - 0.369522I$ $a = 1.22004 + 0.88408I$ $b = -0.358971 - 0.369522I$	$-1.99273 + 1.21629I$	$2.57418 - 5.92996I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.31097 + 1.49970I$ $a = 1.257710 + 0.336801I$ $b = -0.31097 + 1.49970I$	$-8.25449 - 7.57688I$	$3.21336 + 3.12167I$
$u = -0.31097 - 1.49970I$ $a = 1.257710 - 0.336801I$ $b = -0.31097 - 1.49970I$	$-8.25449 + 7.57688I$	$3.21336 - 3.12167I$
$u = -0.18915 + 1.52129I$ $a = 0.833836 + 0.568249I$ $b = -0.18915 + 1.52129I$	$-10.20410 - 4.07649I$	$2.56533 + 2.84794I$
$u = -0.18915 - 1.52129I$ $a = 0.833836 - 0.568249I$ $b = -0.18915 - 1.52129I$	$-10.20410 + 4.07649I$	$2.56533 - 2.84794I$
$u = 0.33859 + 1.51855I$ $a = -1.273830 + 0.223483I$ $b = 0.33859 + 1.51855I$	$-9.5708 + 13.4578I$	$1.56507 - 7.58317I$
$u = 0.33859 - 1.51855I$ $a = -1.273830 - 0.223483I$ $b = 0.33859 - 1.51855I$	$-9.5708 - 13.4578I$	$1.56507 + 7.58317I$
$u = 0.14072 + 1.58052I$ $a = -0.556156 + 0.432838I$ $b = 0.14072 + 1.58052I$	$-12.61950 - 0.61749I$	$-1.09619 + 1.91653I$
$u = 0.14072 - 1.58052I$ $a = -0.556156 - 0.432838I$ $b = 0.14072 - 1.58052I$	$-12.61950 + 0.61749I$	$-1.09619 - 1.91653I$
$u = 0.25937 + 1.56915I$ $a = -0.961257 + 0.271014I$ $b = 0.25937 + 1.56915I$	$-15.0783 + 6.7163I$	$-2.88981 - 3.97813I$
$u = 0.25937 - 1.56915I$ $a = -0.961257 - 0.271014I$ $b = 0.25937 - 1.56915I$	$-15.0783 - 6.7163I$	$-2.88981 + 3.97813I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.374847$ $a = -1.03218$ $b = 0.374847$	0.610872	16.2600

II.
$\boldsymbol{I_2^u = \langle -2.62 \times 10^9 u^{27} + 1.99 \times 10^9 u^{26} + \cdots + 1.65 \times 10^{10} b - 1.02 \times 10^{10},\ 1.91 \times 10^{10} u^{27} - 1.84 \times 10^{10} u^{26} + \cdots + 1.65 \times 10^{10} a + 1.09 \times 10^{11},\ u^{28} - u^{27} + \cdots + 6u + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -1.15949u^{27} + 1.12085u^{26} + \cdots - 31.4295u - 6.62130 \\ 0.159488u^{27} - 0.120853u^{26} + \cdots + 5.42946u + 0.621304 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{27} + u^{26} + \cdots - 26u - 6 \\ 0.159488u^{27} - 0.120853u^{26} + \cdots + 5.42946u + 0.621304 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.49816u^{27} + 1.73027u^{26} + \cdots - 37.4676u - 7.20397 \\ 0.338676u^{27} - 0.609413u^{26} + \cdots + 7.03817u + 0.582669 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.621304u^{27} + 0.780792u^{26} + \cdots - 15.8797u + 2.70164 \\ -0.0386351u^{27} - 0.140553u^{26} + \cdots + 0.335626u - 0.840512 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.251205u^{27} + 0.244139u^{26} + \cdots - 4.73991u - 4.26868 \\ 0.464204u^{27} - 0.736552u^{26} + \cdots + 3.57003u + 0.996329 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.860293u^{27} + 0.936481u^{26} + \cdots - 23.2248u - 5.89350 \\ 0.0244857u^{27} - 0.155424u^{26} + \cdots + 4.35668u + 0.358891 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.860293u^{27} + 0.936481u^{26} + \cdots - 23.2248u - 5.89350 \\ 0.0244857u^{27} - 0.155424u^{26} + \cdots + 4.35668u + 0.358891 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{7485203784}{16455396275}u^{27} - \frac{4244606112}{3291079255}u^{26} + \cdots - \frac{308226995468}{16455396275}u + \frac{121631108806}{16455396275}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^{14} - u^{13} + \cdots + u + 1)^2$
c_2, c_7, c_{11}	$(u^{14} + 5u^{13} + \cdots + 3u + 1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$u^{28} - u^{27} + \cdots + 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^{14} + 5y^{13} + \cdots + 3y + 1)^2$
c_2, c_7, c_{11}	$(y^{14} + 9y^{13} + \cdots + 15y + 1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$y^{28} + 23y^{27} + \cdots + 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.903414 + 0.423724I$ $a = 1.12702 + 1.02376I$ $b = -0.21970 - 1.44931I$	$-3.28987 + 8.93586I$	$4.00000 - 7.26077I$
$u = 0.903414 - 0.423724I$ $a = 1.12702 - 1.02376I$ $b = -0.21970 + 1.44931I$	$-3.28987 - 8.93586I$	$4.00000 + 7.26077I$
$u = 0.821921 + 0.594799I$ $a = 0.892891 + 0.877803I$ $b = -0.09440 - 1.45565I$	$-7.93259 + 2.76747I$	$-1.41762 - 3.21377I$
$u = 0.821921 - 0.594799I$ $a = 0.892891 - 0.877803I$ $b = -0.09440 + 1.45565I$	$-7.93259 - 2.76747I$	$-1.41762 + 3.21377I$
$u = 0.709754 + 0.808180I$ $a = 0.550947 + 0.736144I$ $b = 0.06255 - 1.43472I$	$-4.48016 - 3.41271I$	$1.89400 + 2.62516I$
$u = 0.709754 - 0.808180I$ $a = 0.550947 - 0.736144I$ $b = 0.06255 + 1.43472I$	$-4.48016 + 3.41271I$	$1.89400 - 2.62516I$
$u = -0.830600 + 0.398708I$ $a = -1.18688 + 0.93008I$ $b = 0.20839 - 1.39977I$	$-2.09958 - 3.41271I$	$6.10600 + 2.62516I$
$u = -0.830600 - 0.398708I$ $a = -1.18688 - 0.93008I$ $b = 0.20839 + 1.39977I$	$-2.09958 + 3.41271I$	$6.10600 - 2.62516I$
$u = 0.081869 + 0.917517I$ $a = 0.228572 - 1.240560I$ $b = -0.132090 + 0.159270I$	$1.35286 + 2.76747I$	$9.41762 - 3.21377I$
$u = 0.081869 - 0.917517I$ $a = 0.228572 + 1.240560I$ $b = -0.132090 - 0.159270I$	$1.35286 - 2.76747I$	$9.41762 + 3.21377I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.428554+0.809341I$ $a=-0.422476+0.298820I$ $b=-0.088503-1.263820I$	$-3.31269-1.37770I$	$3.11410+4.12207I$
$u=-0.428554-0.809341I$ $a=-0.422476-0.298820I$ $b=-0.088503+1.263820I$	$-3.31269+1.37770I$	$3.11410-4.12207I$
$u=-0.503703+0.626414I$ $a=-0.789243+0.320757I$ $b=0.009651-1.290270I$	$-3.26705-1.37770I$	$4.88590+4.12207I$
$u=-0.503703-0.626414I$ $a=-0.789243-0.320757I$ $b=0.009651+1.290270I$	$-3.26705+1.37770I$	$4.88590-4.12207I$
$u=-0.088503+1.263820I$ $a=0.373414+0.021953I$ $b=-0.428554-0.809341I$	$-3.31269+1.37770I$	$3.11410-4.12207I$
$u=-0.088503-1.263820I$ $a=0.373414-0.021953I$ $b=-0.428554+0.809341I$	$-3.31269-1.37770I$	$3.11410+4.12207I$
$u=0.009651+1.290270I$ $a=0.509500-0.148574I$ $b=-0.503703-0.626414I$	$-3.26705+1.37770I$	$4.88590-4.12207I$
$u=0.009651-1.290270I$ $a=0.509500+0.148574I$ $b=-0.503703+0.626414I$	$-3.26705-1.37770I$	$4.88590+4.12207I$
$u=0.20839+1.39977I$ $a=0.934651-0.300202I$ $b=-0.830600-0.398708I$	$-2.09958+3.41271I$	$6.10600-2.62516I$
$u=0.20839-1.39977I$ $a=0.934651+0.300202I$ $b=-0.830600+0.398708I$	$-2.09958-3.41271I$	$6.10600+2.62516I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.06255 + 1.43472I$ $a = -0.679426 + 0.112500I$ $b = 0.709754 - 0.808180I$	$-4.48016 + 3.41271I$	$1.89400 - 2.62516I$
$u = 0.06255 - 1.43472I$ $a = -0.679426 - 0.112500I$ $b = 0.709754 + 0.808180I$	$-4.48016 - 3.41271I$	$1.89400 + 2.62516I$
$u = -0.09440 + 1.45565I$ $a = -0.866285 - 0.089303I$ $b = 0.821921 - 0.594799I$	$-7.93259 - 2.76747I$	$-1.41762 + 3.21377I$
$u = -0.09440 - 1.45565I$ $a = -0.866285 + 0.089303I$ $b = 0.821921 + 0.594799I$	$-7.93259 + 2.76747I$	$-1.41762 - 3.21377I$
$u = -0.21970 + 1.44931I$ $a = -1.005660 - 0.250758I$ $b = 0.903414 - 0.423724I$	$-3.28987 - 8.93586I$	$4.00000 + 7.26077I$
$u = -0.21970 - 1.44931I$ $a = -1.005660 + 0.250758I$ $b = 0.903414 + 0.423724I$	$-3.28987 + 8.93586I$	$4.00000 - 7.26077I$
$u = -0.132090 + 0.159270I$ $a = -3.16703 - 4.63750I$ $b = 0.081869 + 0.917517I$	$1.35286 + 2.76747I$	$9.41762 - 3.21377I$
$u = -0.132090 - 0.159270I$ $a = -3.16703 + 4.63750I$ $b = 0.081869 - 0.917517I$	$1.35286 - 2.76747I$	$9.41762 + 3.21377I$

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

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix} a \\ -u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a - u \\ -u \end{pmatrix}$$

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

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

$$a_2 = \begin{pmatrix} a^2u + au + u \\ -a^2 - au - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ 0 \end{pmatrix}$$

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4a^2 - 4a - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^6 + u^4 + 2u^2 + 1$
c_2, c_7	$(u^3 + u^2 + 2u + 1)^2$
c_3, c_4, c_5 c_8, c_9, c_{10}	$(u^2 + 1)^3$
c_{11}	$u^6 - 3u^4 + 2u^2 + 1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.215080 + 1.307140I$ $b = -1.000000I$	$-0.26574 + 2.82812I$	$3.50976 - 2.97945I$
$u = 1.000000I$ $a = -0.215080 - 1.307140I$ $b = -1.000000I$	$-0.26574 - 2.82812I$	$3.50976 + 2.97945I$
$u = 1.000000I$ $a = -0.569840$ $b = -1.000000I$	-4.40332	-3.01950
$u = -1.000000I$ $a = -0.215080 + 1.307140I$ $b = 1.000000I$	$-0.26574 + 2.82812I$	$3.50976 - 2.97945I$
$u = -1.000000I$ $a = -0.215080 - 1.307140I$ $b = 1.000000I$	$-0.26574 - 2.82812I$	$3.50976 + 2.97945I$
$u = -1.000000I$ $a = -0.569840$ $b = 1.000000I$	-4.40332	-3.01950

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^6+u^4+2u^2+1)(u^{14}-u^{13}+\cdots+u+1)^2(u^{21}+3u^{20}+\cdots+3u-2)$
c_2, c_7	$((u^3+u^2+2u+1)^2)(u^{14}+5u^{13}+\cdots+3u+1)^2$ $\cdot(u^{21}+7u^{20}+\cdots+21u-4)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$((u^2+1)^3)(u^{21}+13u^{19}+\cdots+12u^3-1)(u^{28}-u^{27}+\cdots+6u+1)$
c_{11}	$(u^6-3u^4+2u^2+1)(u^{14}+5u^{13}+\cdots+3u+1)^2$ $\cdot(u^{21}-15u^{20}+\cdots+2103u-266)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$((y^3+y^2+2y+1)^2)(y^{14}+5y^{13}+\cdots+3y+1)^2$ $\cdot\,(y^{21}+7y^{20}+\cdots+21y-4)$
c_2, c_7	$((y^3+3y^2+2y-1)^2)(y^{14}+9y^{13}+\cdots+15y+1)^2$ $\cdot\,(y^{21}+15y^{20}+\cdots+1137y-16)$
c_3, c_4, c_5 c_8, c_9, c_{10}	$((y+1)^6)(y^{21}+26y^{20}+\cdots+24y^2-1)(y^{28}+23y^{27}+\cdots+16y+1)$
c_{11}	$((y^3-3y^2+2y+1)^2)(y^{14}+9y^{13}+\cdots+15y+1)^2$ $\cdot\,(y^{21}+3y^{20}+\cdots+343765y-70756)$