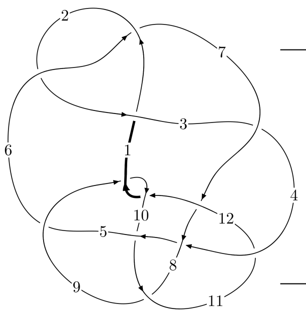
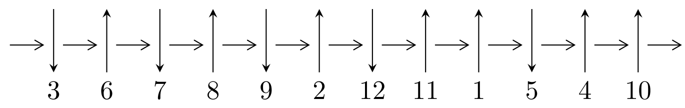
$12a_{0202}$ $(K12a_{0202})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -5.85376 \times 10^{42} u^{30} - 4.11584 \times 10^{43} u^{29} + \cdots + 6.43717 \times 10^{43} b - 1.52717 \times 10^{45}, \\ & -1.65310 \times 10^{43} u^{30} - 4.70509 \times 10^{44} u^{29} + \cdots + 4.05542 \times 10^{45} a - 7.34210 \times 10^{46}, \\ & u^{31} + 7u^{30} + \cdots + 1062u + 189 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v &= \langle a,\ b+1,\ v^2+v+1 \rangle \\ I_2^v &= \langle a,\ b^2-b+1,\ v-1 \rangle \\ I_3^v &= \langle a,\ 4v^3-v^2+5b+22v-2,\ v^4-v^3+6v^2-4v+1 \rangle \end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 39 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. $\boldsymbol{I^u_1 = \langle -5.85\times 10^{42}u^{30} - 4.12\times 10^{43}u^{29} + \cdots + 6.44\times 10^{43}b - 1.53\times 10^{45},\ -1.65\times 10^{43}u^{30} - 4.71\times 10^{44}u^{29} + \cdots + 4.06\times 10^{45}a - 7.34\times 10^{46},\ u^{31} + 7u^{30} + \cdots + 1062u + 189\rangle}$

(i) Arc colorings

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

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

$$a_5 = \begin{pmatrix}0.00407627u^{30} + 0.116020u^{29} + \cdots + 71.4362u + 18.1044\\ 0.0909369u^{30} + 0.639387u^{29} + \cdots + 117.933u + 23.7242\end{pmatrix}$$

$$a_9 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}0.0650669u^{30} + 0.372522u^{29} + \cdots + 47.1836u + 10.9151\\ -0.150639u^{30} - 0.814503u^{29} + \cdots - 51.5391u - 8.48759\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-0.0868606u^{30} - 0.523367u^{29} + \cdots - 46.4970u - 5.61977\\ 0.0909369u^{30} + 0.639387u^{29} + \cdots + 117.933u + 23.7242\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-0.141645u^{30} - 0.885725u^{29} + \cdots - 143.560u - 32.5033\\ 0.136354u^{30} + 0.848688u^{29} + \cdots + 128.206u + 26.8843\end{pmatrix}$$

$$a_7 = \begin{pmatrix}0.159417u^{30} + 1.05337u^{29} + \cdots + 203.681u + 47.2113\\ 0.0886170u^{30} + 0.486093u^{29} + \cdots + 27.1810u + 2.41793\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-0.134901u^{30} - 0.754733u^{29} + \cdots - 92.6270u - 19.9654\\ -0.0991047u^{30} - 0.789918u^{29} + \cdots - 201.805u - 46.7404\end{pmatrix}$$

$$a_2 = \begin{pmatrix}0.0568952u^{30} + 0.361874u^{29} + \cdots + 34.6334u + 5.22896\\ -0.426439u^{30} - 2.74939u^{29} + \cdots - 446.153u - 94.9907\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}0.000387022u^{30} - 0.0156505u^{29} + \cdots - 26.4970u - 7.97560\\ 0.00567803u^{30} + 0.0213866u^{29} + \cdots - 9.14249u - 2.35655\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-0.123885u^{30} - 0.755730u^{29} + \cdots - 104.552u - 23.7852\\ 0.109341u^{30} + 0.684999u^{29} + \cdots + 104.246u + 21.1806\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0.415132u^{30} + 2.95762u^{29} + \cdots + 715.270u + 178.126$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{31} - 18u^{30} + \cdots - 10u + 1$
c_2	$u^{31} - 2u^{30} + \cdots + 4u - 1$
c_3	$u^{31} + 2u^{30} + \cdots - 14u^2 - 1$
c_4	$u^{31} - 3u^{30} + \cdots - 3u + 1$
c_5	$u^{31} + 2u^{30} + \cdots + 5u - 1$
c_6	$u^{31} + 2u^{30} + \cdots + 4u + 1$
c_7	$u^{31} + 4u^{30} + \cdots + 3u + 1$
c_8	$u^{31} + 7u^{30} + \cdots + 1062u + 189$
c_9	$u^{31} + 10u^{30} + \cdots + 3u + 1$
c_{10}	$u^{31} - 3u^{29} + \cdots - u + 1$
c_{11}	$u^{31} - u^{30} + \cdots - 3u^2 + 1$
c_{12}	$u^{31} - 10u^{30} + \cdots + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{31} - 2y^{30} + \cdots + 10y - 1$
c_2, c_6	$y^{31} + 18y^{30} + \cdots - 10y - 1$
c_3	$y^{31} - 10y^{30} + \cdots - 28y - 1$
c_4	$y^{31} + 3y^{30} + \cdots + 11y - 1$
c_5	$y^{31} + 10y^{30} + \cdots - 23y - 1$
c_7	$y^{31} - 26y^{30} + \cdots - 7y - 1$
c_8	$y^{31} - 17y^{30} + \cdots - 40554y - 35721$
c_9, c_{12}	$y^{31} + 14y^{30} + \cdots - 27y - 1$
c_{10}	$y^{31} - 6y^{30} + \cdots + 13y - 1$
c_{11}	$y^{31} - 13y^{30} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.787754 + 0.671220I$ $a = 0.071441 - 0.869841I$ $b = 1.11016 - 1.12553I$	$0.66300 - 4.58967I$	$3.64967 + 6.32585I$
$u = -0.787754 - 0.671220I$ $a = 0.071441 + 0.869841I$ $b = 1.11016 + 1.12553I$	$0.66300 + 4.58967I$	$3.64967 - 6.32585I$
$u = -0.919933 + 0.149004I$ $a = 0.754923 + 0.119454I$ $b = -0.731306 - 0.126839I$	$0.96861 - 3.12100I$	$7.33060 + 2.35538I$
$u = -0.919933 - 0.149004I$ $a = 0.754923 - 0.119454I$ $b = -0.731306 + 0.126839I$	$0.96861 + 3.12100I$	$7.33060 - 2.35538I$
$u = -0.882506 + 0.604366I$ $a = 0.000444 + 0.754013I$ $b = -1.08064 + 1.17241I$	$-1.31127 - 9.18738I$	$2.03905 + 12.84834I$
$u = -0.882506 - 0.604366I$ $a = 0.000444 - 0.754013I$ $b = -1.08064 - 1.17241I$	$-1.31127 + 9.18738I$	$2.03905 - 12.84834I$
$u = 1.085000 + 0.299590I$ $a = -0.718094 + 0.604115I$ $b = 0.112159 + 0.738606I$	$-3.66102 + 5.86923I$	$-0.31180 - 5.53881I$
$u = 1.085000 - 0.299590I$ $a = -0.718094 - 0.604115I$ $b = 0.112159 - 0.738606I$	$-3.66102 - 5.86923I$	$-0.31180 + 5.53881I$
$u = -0.289850 + 0.728639I$ $a = 0.48734 - 1.87783I$ $b = 1.19769 - 1.43281I$	$0.27311 - 2.22846I$	$7.52450 + 10.82880I$
$u = -0.289850 - 0.728639I$ $a = 0.48734 + 1.87783I$ $b = 1.19769 + 1.43281I$	$0.27311 + 2.22846I$	$7.52450 - 10.82880I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.208330 + 0.213280I$ $a = -0.563685 - 0.106371I$ $b = 0.578875 + 0.081419I$	$2.49777 + 0.42674I$	$3.8814 - 13.6068I$
$u = -1.208330 - 0.213280I$ $a = -0.563685 + 0.106371I$ $b = 0.578875 - 0.081419I$	$2.49777 - 0.42674I$	$3.8814 + 13.6068I$
$u = -1.004870 + 0.756525I$ $a = -0.138979 + 0.649444I$ $b = -0.97827 + 1.09815I$	$-2.54917 - 2.29555I$	$2.17391 + 2.92369I$
$u = -1.004870 - 0.756525I$ $a = -0.138979 - 0.649444I$ $b = -0.97827 - 1.09815I$	$-2.54917 + 2.29555I$	$2.17391 - 2.92369I$
$u = 1.261950 + 0.109878I$ $a = 0.676138 - 0.385755I$ $b = -0.077347 - 0.656336I$	$-6.52646 + 10.71380I$	$-3.90729 - 8.40713I$
$u = 1.261950 - 0.109878I$ $a = 0.676138 + 0.385755I$ $b = -0.077347 + 0.656336I$	$-6.52646 - 10.71380I$	$-3.90729 + 8.40713I$
$u = -0.425245 + 1.202740I$ $a = -0.989675 + 0.636178I$ $b = -1.50889 + 0.69268I$	$-5.08590 - 6.12096I$	$-10.22352 + 5.74476I$
$u = -0.425245 - 1.202740I$ $a = -0.989675 - 0.636178I$ $b = -1.50889 - 0.69268I$	$-5.08590 + 6.12096I$	$-10.22352 - 5.74476I$
$u = -0.941908 + 0.964204I$ $a = 0.302323 - 0.638136I$ $b = 1.014340 - 0.955285I$	$-0.97627 - 4.81638I$	$1.86561 + 11.56814I$
$u = -0.941908 - 0.964204I$ $a = 0.302323 + 0.638136I$ $b = 1.014340 + 0.955285I$	$-0.97627 + 4.81638I$	$1.86561 - 11.56814I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.103232 + 0.545002I$ $a = -0.56419 + 2.65696I$ $b = -0.36747 + 1.47669I$	$-0.74907 + 3.79069I$	$6.38246 - 10.09885I$
$u = 0.103232 - 0.545002I$ $a = -0.56419 - 2.65696I$ $b = -0.36747 - 1.47669I$	$-0.74907 - 3.79069I$	$6.38246 + 10.09885I$
$u = 0.60387 + 1.31633I$ $a = -0.369398 - 0.916044I$ $b = -0.826490 - 0.760871I$	$-6.87994 + 5.02111I$	$-5.16614 - 5.44554I$
$u = 0.60387 - 1.31633I$ $a = -0.369398 + 0.916044I$ $b = -0.826490 + 0.760871I$	$-6.87994 - 5.02111I$	$-5.16614 + 5.44554I$
$u = 1.38864 + 0.56571I$ $a = 0.414352 - 0.550377I$ $b = -0.223840 - 0.647984I$	$-7.66190 + 2.29159I$	$-5.67077 - 3.09442I$
$u = 1.38864 - 0.56571I$ $a = 0.414352 + 0.550377I$ $b = -0.223840 + 0.647984I$	$-7.66190 - 2.29159I$	$-5.67077 + 3.09442I$
$u = -1.60304$ $a = -0.427829$ $b = 0.481754$	1.81126	-9.27850
$u = 1.12150 + 1.17887I$ $a = -0.044962 + 0.711521I$ $b = 0.481462 + 0.651796I$	$-4.85303 + 3.78421I$	$-1.98912 - 7.10308I$
$u = 1.12150 - 1.17887I$ $a = -0.044962 - 0.711521I$ $b = 0.481462 - 0.651796I$	$-4.85303 - 3.78421I$	$-1.98912 + 7.10308I$
$u = -1.80227 + 0.16548I$ $a = 0.372128 + 0.038139I$ $b = -0.441313 - 0.027890I$	$-1.24263 + 4.03762I$	$-10.43934 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.80227 - 0.16548I$		
$a = \quad 0.372128 - 0.038139I$	$-1.24263 - 4.03762I$	$-10.43934 + 0.I$
$b = -0.441313 + 0.027890I$		

II. $I_1^v = \langle a,\ b+1,\ v^2+v+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8v - 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.500000 + 0.866025I$ $a = 0$ $b = -1.00000$	$4.05977I$	$3.00000 - 6.92820I$
$v = -0.500000 - 0.866025I$ $a = 0$ $b = -1.00000$	$-4.05977I$	$3.00000 + 6.92820I$

III. $I_2^v = \langle a,\ b^2 - b + 1,\ v - 1 \rangle$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -b \\ b \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -b \\ b \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

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

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

$$a_{10} = \begin{pmatrix} 1 \\ -b+1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ -b \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8b + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_2^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	1.00000		
$a =$	0	$4.05977I$	$0. - 6.92820I$
$b =$	$0.500000 + 0.866025I$		
$v =$	1.00000		
$a =$	0	$-4.05977I$	$0. + 6.92820I$
$b =$	$0.500000 - 0.866025I$		

IV. $I_3^v = \langle a,\ 4v^3 - v^2 + 5b + 22v - 2,\ v^4 - v^3 + 6v^2 - 4v + 1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ -\frac{4}{5}v^3 + \frac{1}{5}v^2 - \frac{22}{5}v + \frac{2}{5} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{4}{5}v^3 - \frac{1}{5}v^2 + \frac{22}{5}v - \frac{2}{5} \\ -\frac{4}{5}v^3 + \frac{1}{5}v^2 - \frac{22}{5}v + \frac{2}{5} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{4}{5}v^3 - \frac{1}{5}v^2 + \frac{22}{5}v - \frac{2}{5} \\ -\frac{4}{5}v^3 + \frac{1}{5}v^2 - \frac{22}{5}v + \frac{2}{5} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{3}{5}v^3 - \frac{2}{5}v^2 + \frac{24}{5}v - \frac{9}{5} \\ -\frac{3}{5}v^3 + \frac{2}{5}v^2 - \frac{19}{5}v + \frac{9}{5} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{2}{5}v^3 + \frac{3}{5}v^2 - \frac{16}{5}v + \frac{6}{5} \\ \frac{3}{5}v^3 - \frac{2}{5}v^2 + \frac{19}{5}v - \frac{4}{5} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{4}{5}v^3 - \frac{1}{5}v^2 + \frac{27}{5}v - \frac{7}{5} \\ -\frac{7}{5}v^3 + \frac{3}{5}v^2 - \frac{41}{5}v + \frac{11}{5} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{6}{5}v^3 - \frac{4}{5}v^2 + \frac{38}{5}v - \frac{18}{5} \\ -\frac{9}{5}v^3 + \frac{6}{5}v^2 - \frac{52}{5}v + \frac{22}{5} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} v \\ -\frac{3}{5}v^3 + \frac{2}{5}v^2 - \frac{19}{5}v + \frac{9}{5} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} \frac{2}{5}v^3 - \frac{3}{5}v^2 + \frac{16}{5}v - \frac{6}{5} \\ -\frac{3}{5}v^3 + \frac{2}{5}v^2 - \frac{19}{5}v + \frac{4}{5} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4v^3 - 4v^2 + 23v - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_6 c_7, c_{12}	$(u^2 - u + 1)^2$
c_2, c_9	$(u^2 + u + 1)^2$
c_4, c_5	$u^4 - u^3 + 2u + 1$
c_8	u^4
c_{10}, c_{11}	$u^4 + u^3 + 3u^2 + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_6, c_7, c_9 c_{12}	$(y^2 + y + 1)^2$
c_4, c_5	$y^4 - y^3 + 6y^2 - 4y + 1$
c_8	y^4
c_{10}, c_{11}	$y^4 + 5y^3 + 9y^2 + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.351597 + 0.233523I$ $a = 0$ $b = -1.12196 - 1.05376I$	0	$-0.24584 + 5.00967I$
$v = 0.351597 - 0.233523I$ $a = 0$ $b = -1.12196 + 1.05376I$	0	$-0.24584 - 5.00967I$
$v = 0.14840 + 2.36455I$ $a = 0$ $b = 0.621964 + 0.187730I$	0	$7.74584 - 0.67954I$
$v = 0.14840 - 2.36455I$ $a = 0$ $b = 0.621964 - 0.187730I$	0	$7.74584 + 0.67954I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^4)(u^{31}-18u^{30}+\cdots-10u+1)$
c_2	$((u^2+u+1)^4)(u^{31}-2u^{30}+\cdots+4u-1)$
c_3	$((u^2-u+1)^4)(u^{31}+2u^{30}+\cdots-14u^2-1)$
c_4	$((u-1)^2)(u^2+u+1)(u^4-u^3+2u+1)(u^{31}-3u^{30}+\cdots-3u+1)$
c_5	$((u-1)^2)(u^2+u+1)(u^4-u^3+2u+1)(u^{31}+2u^{30}+\cdots+5u-1)$
c_6	$((u^2-u+1)^4)(u^{31}+2u^{30}+\cdots+4u+1)$
c_7	$((u^2-u+1)^4)(u^{31}+4u^{30}+\cdots+3u+1)$
c_8	$u^8(u^{31}+7u^{30}+\cdots+1062u+189)$
c_9	$((u^2+u+1)^4)(u^{31}+10u^{30}+\cdots+3u+1)$
c_{10}	$((u^2-u+1)^2)(u^4+u^3+3u^2+u+1)(u^{31}-3u^{29}+\cdots-u+1)$
c_{11}	$((u^2-u+1)^2)(u^4+u^3+3u^2+u+1)(u^{31}-u^{30}+\cdots-3u^2+1)$
c_{12}	$((u^2-u+1)^4)(u^{31}-10u^{30}+\cdots+3u-1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^4)(y^{31}-2y^{30}+\cdots+10y-1)$
c_2, c_6	$((y^2+y+1)^4)(y^{31}+18y^{30}+\cdots-10y-1)$
c_3	$((y^2+y+1)^4)(y^{31}-10y^{30}+\cdots-28y-1)$
c_4	$((y-1)^2)(y^2+y+1)(y^4-y^3+\cdots-4y+1)(y^{31}+3y^{30}+\cdots+11y-1)$
c_5	$((y-1)^2)(y^2+y+1)(y^4-y^3+\cdots-4y+1)(y^{31}+10y^{30}+\cdots-23y-1)$
c_7	$((y^2+y+1)^4)(y^{31}-26y^{30}+\cdots-7y-1)$
c_8	$y^8(y^{31}-17y^{30}+\cdots-40554y-35721)$
c_9, c_{12}	$((y^2+y+1)^4)(y^{31}+14y^{30}+\cdots-27y-1)$
c_{10}	$((y^2+y+1)^2)(y^4+5y^3+\cdots+5y+1)(y^{31}-6y^{30}+\cdots+13y-1)$
c_{11}	$((y^2+y+1)^2)(y^4+5y^3+\cdots+5y+1)(y^{31}-13y^{30}+\cdots+6y-1)$