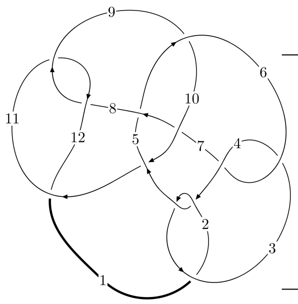
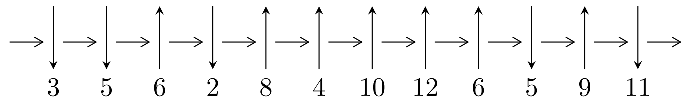
$12n_{0129}$ ($K12n_{0129}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I^u_1 = \langle & 7.80956 \times 10^{63} u^{23} - 1.02547 \times 10^{64} u^{22} + \cdots + 2.29425 \times 10^{67} b - 5.89286 \times 10^{67}, \\ & 1.97576 \times 10^{64} u^{23} - 3.89917 \times 10^{64} u^{22} + \cdots + 4.58851 \times 10^{67} a - 3.71378 \times 10^{68}, \\ & u^{24} - 2u^{23} + \cdots - 28672u + 4096 \rangle \\ I^u_2 = \langle & b,\ -u^8 + 2u^7 + 2u^6 - 5u^5 - u^4 + 5u^3 - u^2 + a,\ u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1 \rangle \end{aligned}$$

$$\begin{aligned} I^v_1 = \langle & a,\ -164522v^{11} - 355934v^{10} + \cdots + 707733b + 176501, \\ & v^{12} + 3v^{11} + 3v^{10} + 18v^9 + 31v^8 - 29v^7 - 31v^6 - 9v^5 + 19v^4 + 5v^3 - 4v^2 + v + 1 \rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 45 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. $I^u_1 =$
$\langle 7.81\times10^{63}u^{23}-1.03\times10^{64}u^{22}+\cdots+2.29\times10^{67}b-5.89\times10^{67},\ 1.98\times10^{64}u^{23}-3.90\times10^{64}u^{22}+\cdots+4.59\times10^{67}a-3.71\times10^{68},\ u^{24}-2u^{23}+\cdots-28672u+4096\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}-0.000430588u^{23}+0.000849769u^{22}+\cdots-30.4322u+8.09365\\-0.000340396u^{23}+0.000446971u^{22}+\cdots-15.0993u+2.56853\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}-0.000770690u^{23}+0.000886997u^{22}+\cdots-28.3683u+4.83639\\0.0000627821u^{23}-2.14799\times10^{-6}u^{22}+\cdots+0.966055u-0.729487\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-0.000177123u^{23}+0.000316023u^{22}+\cdots-20.9747u+7.59248\\-0.000440550u^{23}+0.000737374u^{22}+\cdots-27.4672u+4.56426\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-0.000247524u^{23}+0.000151248u^{22}+\cdots-13.7287u+2.88552\\-0.0000743622u^{23}+0.000208018u^{22}+\cdots-5.79607u+0.542658\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}0.00108442u^{23}-0.00207040u^{22}+\cdots+62.2122u-10.2669\\0.000158575u^{23}+0.0000350829u^{22}+\cdots-7.95177u+2.38129\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-0.000349715u^{23}+0.000929736u^{22}+\cdots-27.5141u+7.63549\\-0.000471953u^{23}+0.000545981u^{22}+\cdots-19.0997u+3.40520\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-0.000974598u^{23}+0.00198880u^{22}+\cdots-59.8532u+10.2543\\-0.000406712u^{23}+0.000387216u^{22}+\cdots-5.12759u+0.162234\end{pmatrix}$$

$$a_9 = \begin{pmatrix}0.00105057u^{23}-0.00167229u^{22}+\cdots+45.4181u-7.13094\\-0.000133803u^{23}+0.000328867u^{22}+\cdots-13.2158u+2.91448\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}0.00207530u^{23}-0.00334512u^{22}+\cdots+88.7435u-14.5857\\0.000298832u^{23}-0.0000705567u^{22}+\cdots-4.27903u+1.62940\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.000912531u^{23}+0.00194308u^{22}+\cdots-44.5011u+4.80932$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24}+24u^{23}+\cdots-179u+1$
c_2, c_4	$u^{24}-12u^{23}+\cdots+17u-1$
c_3, c_6	$u^{24}+u^{23}+\cdots-2560u+512$
c_5	$u^{24}+4u^{23}+\cdots-3u-1$
c_7	$u^{24}+2u^{23}+\cdots+28672u+4096$
c_8, c_{11}	$u^{24}+8u^{23}+\cdots+7u+1$
c_9	$u^{24}+u^{23}+\cdots-74162u-19441$
c_{10}	$u^{24}-5u^{23}+\cdots-389242u+249139$
c_{12}	$u^{24}+20u^{22}+\cdots+19u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} + 204y^{23} + \cdots - 2901y + 1$
c_2, c_4	$y^{24} - 24y^{23} + \cdots + 179y + 1$
c_3, c_6	$y^{24} - 63y^{23} + \cdots - 3932160y + 262144$
c_5	$y^{24} + 26y^{22} + \cdots - y + 1$
c_7	$y^{24} - 90y^{23} + \cdots + 67108864y + 16777216$
c_8, c_{11}	$y^{24} + 20y^{22} + \cdots + 19y + 1$
c_9	$y^{24} - 61y^{23} + \cdots - 296113128y + 377952481$
c_{10}	$y^{24} + 111y^{23} + \cdots - 469614992544y + 62070241321$
c_{12}	$y^{24} + 40y^{23} + \cdots + 2151y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.632443 + 0.726844I$ $a = 0.114777 + 0.151496I$ $b = 1.063560 + 0.162285I$	$2.67249 - 0.06243I$	$6.49122 - 0.13400I$
$u = -0.632443 - 0.726844I$ $a = 0.114777 - 0.151496I$ $b = 1.063560 - 0.162285I$	$2.67249 + 0.06243I$	$6.49122 + 0.13400I$
$u = 1.201550 + 0.153048I$ $a = 0.0923620 + 0.0946298I$ $b = -0.828567 + 0.942729I$	$1.03909 - 7.66938I$	$3.58752 + 6.84907I$
$u = 1.201550 - 0.153048I$ $a = 0.0923620 - 0.0946298I$ $b = -0.828567 - 0.942729I$	$1.03909 + 7.66938I$	$3.58752 - 6.84907I$
$u = 0.690057 + 0.202830I$ $a = 2.59655 - 0.30553I$ $b = -0.024221 - 0.599362I$	$-1.38798 - 2.82419I$	$0.59813 + 2.55909I$
$u = 0.690057 - 0.202830I$ $a = 2.59655 + 0.30553I$ $b = -0.024221 + 0.599362I$	$-1.38798 + 2.82419I$	$0.59813 - 2.55909I$
$u = 0.505730 + 0.448375I$ $a = 2.58887 - 1.75795I$ $b = -0.950717 + 0.074911I$	$-2.60567 + 1.37963I$	$-1.96914 - 4.05392I$
$u = 0.505730 - 0.448375I$ $a = 2.58887 + 1.75795I$ $b = -0.950717 - 0.074911I$	$-2.60567 - 1.37963I$	$-1.96914 + 4.05392I$
$u = -0.661121$ $a = 0.510618$ $b = 0.373534$	1.02845	10.2860
$u = 0.049304 + 0.644470I$ $a = 1.84071 - 0.43802I$ $b = 0.232697 - 0.155126I$	$0.59509 - 2.36713I$	$1.40991 + 3.67925I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.049304 - 0.644470I$ $a = 1.84071 + 0.43802I$ $b = 0.232697 + 0.155126I$	$0.59509 + 2.36713I$	$1.40991 - 3.67925I$
$u = 1.17039 + 0.90470I$ $a = 0.319512 - 0.046660I$ $b = -0.893023 + 0.472118I$	$-1.87950 + 2.72151I$	$1.13774 - 4.25269I$
$u = 1.17039 - 0.90470I$ $a = 0.319512 + 0.046660I$ $b = -0.893023 - 0.472118I$	$-1.87950 - 2.72151I$	$1.13774 + 4.25269I$
$u = 0.188201 + 0.357668I$ $a = 2.01717 - 1.17792I$ $b = -0.349958 - 0.812535I$	$-1.83062 - 1.07717I$	$-2.53581 + 1.58170I$
$u = 0.188201 - 0.357668I$ $a = 2.01717 + 1.17792I$ $b = -0.349958 + 0.812535I$	$-1.83062 + 1.07717I$	$-2.53581 - 1.58170I$
$u = -2.38858 + 1.57335I$ $a = -0.524904 - 0.425161I$ $b = 2.09180 - 1.57981I$	$18.8685 - 6.6483I$	0
$u = -2.38858 - 1.57335I$ $a = -0.524904 + 0.425161I$ $b = 2.09180 + 1.57981I$	$18.8685 + 6.6483I$	0
$u = 2.25638 + 1.80466I$ $a = 0.568423 - 0.488334I$ $b = -2.24002 - 1.53390I$	$18.7357 + 14.2573I$	0
$u = 2.25638 - 1.80466I$ $a = 0.568423 + 0.488334I$ $b = -2.24002 + 1.53390I$	$18.7357 - 14.2573I$	0
$u = -3.61633$ $a = -0.660672$ $b = 2.14769$	0.756608	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 4.44102 + 1.22807I$ $a = -0.408012 + 0.133656I$ $b = 3.93681 + 1.85539I$	$-18.9745 - 1.9748I$	0
$u = 4.44102 - 1.22807I$ $a = -0.408012 - 0.133656I$ $b = 3.93681 - 1.85539I$	$-18.9745 + 1.9748I$	0
$u = -4.34288 + 2.39260I$ $a = 0.369569 + 0.203301I$ $b = -3.79897 + 1.84880I$	$-18.5925 - 5.6388I$	0
$u = -4.34288 - 2.39260I$ $a = 0.369569 - 0.203301I$ $b = -3.79897 - 1.84880I$	$-18.5925 + 5.6388I$	0

II. $\boldsymbol{I_2^u = \langle b,\ -u^8+2u^7+2u^6-5u^5-u^4+5u^3-u^2+a,\ u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u^8-2u^7-2u^6+5u^5+u^4-5u^3+u^2\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u^8-2u^7-2u^6+5u^5+u^4-5u^3+u^2\\0\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u^2+1\\u^4\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u^5+2u^3-u\\u^7-u^5+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}u^8-2u^7-2u^6+5u^5+u^4-5u^3+2u^2-1\\-u^4\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^2-1\\-u^4\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u^8-3u^6+3u^4-1\\-u^8+u^7+3u^6-2u^5-3u^4+2u^3+1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -5u^8+u^7+7u^6-6u^5-6u^4+7u^3-5u^2-7u+1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_6	u^9
c_4	$(u+1)^9$
c_5	$u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1$
c_7	$u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1$
c_8	$u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1$
c_9	$u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1$
c_{10}, c_{12}	$u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1$
c_{11}	$u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_6	y^9
c_5	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_7, c_9	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_8, c_{11}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_{10}, c_{12}	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.772920 + 0.510351I$ $a = -0.939568 - 0.981640I$ $b = 0$	$-3.42837 + 2.09337I$	$-4.41045 - 5.46639I$
$u = 0.772920 - 0.510351I$ $a = -0.939568 + 0.981640I$ $b = 0$	$-3.42837 - 2.09337I$	$-4.41045 + 5.46639I$
$u = -0.825933$ $a = 2.14893$ $b = 0$	-0.446489	-0.182090
$u = -1.173910 + 0.391555I$ $a = 0.119081 + 0.409451I$ $b = 0$	$2.72642 - 1.33617I$	$8.07941 + 3.55369I$
$u = -1.173910 - 0.391555I$ $a = 0.119081 - 0.409451I$ $b = 0$	$2.72642 + 1.33617I$	$8.07941 - 3.55369I$
$u = 0.141484 + 0.739668I$ $a = 2.26219 + 2.13290I$ $b = 0$	$-1.02799 - 2.45442I$	$-2.24638 - 6.63381I$
$u = 0.141484 - 0.739668I$ $a = 2.26219 - 2.13290I$ $b = 0$	$-1.02799 + 2.45442I$	$-2.24638 + 6.63381I$
$u = 1.172470 + 0.500383I$ $a = -0.016164 - 0.378317I$ $b = 0$	$1.95319 + 7.08493I$	$8.66846 - 5.33071I$
$u = 1.172470 - 0.500383I$ $a = -0.016164 + 0.378317I$ $b = 0$	$1.95319 - 7.08493I$	$8.66846 + 5.33071I$

III. $\boldsymbol{I_1^v = \langle a,\ -1.65\times 10^5 v^{11} - 3.56\times 10^5 v^{10} + \cdots + 7.08\times 10^5 b + 1.77\times 10^5,\ v^{12} + 3v^{11} + \cdots + v + 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0 \\ 0.232463v^{11} + 0.502921v^{10} + \cdots - 0.152902v - 0.249389 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ -1.04198v^{11} - 2.90360v^{10} + \cdots + 1.23849v - 0.574544 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.232463v^{11} - 0.502921v^{10} + \cdots + 0.152902v + 0.249389 \\ -1.00827v^{11} - 2.68986v^{10} + \cdots + 1.09637v - 2.28028 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.04198v^{11} + 2.90360v^{10} + \cdots - 1.23849v + 1.57454 \\ -1.04198v^{11} - 2.90360v^{10} + \cdots + 1.23849v - 0.574544 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.126775v^{11} - 0.205966v^{10} + \cdots + 2.64946v - 0.819476 \\ 0.349127v^{11} + 0.655942v^{10} + \cdots - 1.18202v + 1.86146 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.819476v^{11} + 2.33165v^{10} + \cdots - 1.01499v + 1.46894 \\ -1.62222v^{11} - 4.40786v^{10} + \cdots + 1.83221v - 1.73501 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.222352v^{11} + 0.449976v^{10} + \cdots + 1.46744v + 1.04198 \\ 0.349127v^{11} + 0.655942v^{10} + \cdots - 1.18202v + 1.86146 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.989917v^{11} - 2.68233v^{10} + \cdots + 3.73598v - 2.22768 \\ 0.349127v^{11} + 0.655942v^{10} + \cdots - 1.18202v + 0.861460 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1086197}{235911}v^{11} + \frac{2821982}{235911}v^{10} + \cdots - \frac{94285}{235911}v + \frac{2199643}{235911}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.834826 + 0.083652I$ $a = 0$ $b = 1.002190 - 0.295542I$	$1.89061 + 1.10558I$	$3.63443 - 2.52768I$
$v = 0.834826 - 0.083652I$ $a = 0$ $b = 1.002190 + 0.295542I$	$1.89061 - 1.10558I$	$3.63443 + 2.52768I$
$v = -0.489858 + 0.681154I$ $a = 0$ $b = 1.002190 - 0.295542I$	$1.89061 - 2.95419I$	$6.39280 + 3.57892I$
$v = -0.489858 - 0.681154I$ $a = 0$ $b = 1.002190 + 0.295542I$	$1.89061 + 2.95419I$	$6.39280 - 3.57892I$
$v = -0.458424 + 0.081263I$ $a = 0$ $b = -1.073950 + 0.558752I$	$-7.72290I$	$-2.53591 + 7.46338I$
$v = -0.458424 - 0.081263I$ $a = 0$ $b = -1.073950 - 0.558752I$	$7.72290I$	$-2.53591 - 7.46338I$
$v = 0.299588 + 0.356375I$ $a = 0$ $b = -1.073950 + 0.558752I$	$-3.66314I$	$2.83009 + 6.37777I$
$v = 0.299588 - 0.356375I$ $a = 0$ $b = -1.073950 - 0.558752I$	$3.66314I$	$2.83009 - 6.37777I$
$v = -2.51133 + 0.49706I$ $a = 0$ $b = -0.428243 + 0.664531I$	$-1.89061 + 2.95419I$	$-7.91752 - 1.81989I$
$v = -2.51133 - 0.49706I$ $a = 0$ $b = -0.428243 - 0.664531I$	$-1.89061 - 2.95419I$	$-7.91752 + 1.81989I$

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.82520 + 2.42341I$ $a = 0$ $b = -0.428243 - 0.664531I$	$-1.89061 + 1.10558I$	$3.59610 - 6.57635I$
$v = 0.82520 - 2.42341I$ $a = 0$ $b = -0.428243 + 0.664531I$	$-1.89061 - 1.10558I$	$3.59610 + 6.57635I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^9(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot\,(u^{24}+24u^{23}+\cdots-179u+1)$
c_2	$((u-1)^9)(u^6+u^5+\cdots+u+1)^2(u^{24}-12u^{23}+\cdots+17u-1)$
c_3	$u^9(u^6-u^5+\cdots-u+1)^2(u^{24}+u^{23}+\cdots-2560u+512)$
c_4	$((u+1)^9)(u^6-u^5+\cdots-u+1)^2(u^{24}-12u^{23}+\cdots+17u-1)$
c_5	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^2$ $\cdot\,(u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1)$ $\cdot\,(u^{24}+4u^{23}+\cdots-3u-1)$
c_6	$u^9(u^6+u^5+\cdots+u+1)^2(u^{24}+u^{23}+\cdots-2560u+512)$
c_7	$u^{12}(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot\,(u^{24}+2u^{23}+\cdots+28672u+4096)$
c_8	$(u^2+u+1)^6(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot\,(u^{24}+8u^{23}+\cdots+7u+1)$
c_9	$(u^9+u^8+\cdots-u-1)(u^{12}-u^{11}+\cdots-3u+1)$ $\cdot\,(u^{24}+u^{23}+\cdots-74162u-19441)$
c_{10}	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot\,(u^{12}-u^{11}+\cdots-3u+1)(u^{24}-5u^{23}+\cdots-389242u+249139)$
c_{11}	$(u^2-u+1)^6(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot\,(u^{24}+8u^{23}+\cdots+7u+1)$
c_{12}	$(u^2+u+1)^6$ $\cdot\,(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot\,(u^{24}+20u^{22}+\cdots+19u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^9(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{24}+204y^{23}+\cdots-2901y+1)$
c_2, c_4	$(y-1)^9(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{24}-24y^{23}+\cdots+179y+1)$
c_3, c_6	$y^9(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{24}-63y^{23}+\cdots-3932160y+262144)$
c_5	$(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{24}+26y^{22}+\cdots-y+1)$
c_7	$y^{12}(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{24}-90y^{23}+\cdots+67108864y+16777216)$
c_8, c_{11}	$(y^2+y+1)^6$ $\cdot(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{24}+20y^{22}+\cdots+19y+1)$
c_9	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{12}-3y^{11}+\cdots-y+1)$ $\cdot(y^{24}-61y^{23}+\cdots-296113128y+377952481)$
c_{10}	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{12}-3y^{11}+\cdots-y+1)$ $\cdot(y^{24}+111y^{23}+\cdots-469614992544y+62070241321)$
c_{12}	$((y^2+y+1)^6)(y^9+7y^8+\cdots+13y-1)$ $\cdot(y^{24}+40y^{23}+\cdots+2151y+1)$