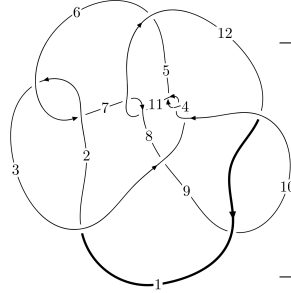
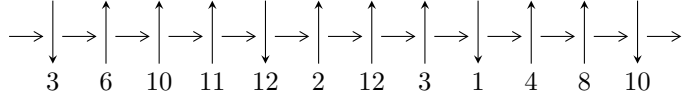


12n₀₄₀₃ (K12n₀₄₀₃)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -u^4 - 3u^3 - 2u^2 + b + 1, u^3 + 2u^2 + a - u - 1, u^5 + 5u^4 + 7u^3 + u^2 - 2u - 1 \rangle$$

$$I_2^u = \langle -u^4 + u^3 + 2u^2 + b - 2u + 1, u^3 + a - 3u - 1, u^5 + u^4 - 3u^3 - 3u^2 - 1 \rangle$$

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

$$I_4^u = \langle b - 1, 4a - u - 3, u^2 - u - 4 \rangle$$

$$I_5^u = \langle -au + b - a + 1, a^2 - a - u + 2, u^2 - u - 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 22 representations.

¹The 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>).

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

I.

$$I_1^u = \langle -u^4 - 3u^3 - 2u^2 + b + 1, u^3 + 2u^2 + a - u - 1, u^5 + 5u^4 + 7u^3 + u^2 - 2u - 1 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3 - 2u^2 + u + 1 \\ u^4 + 3u^3 + 2u^2 - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^2 \\ -u^4 - 4u^3 - 2u^2 + 2u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^4 + 4u^3 + 3u^2 - 2u - 1 \\ -u^4 - 4u^3 - 2u^2 + 2u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 - 2u^2 + u + 1 \\ -2u^4 - 5u^3 + 2u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ -u^4 - 4u^3 - 4u^2 + u + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4 - 4u^3 - 4u^2 + u + 2 \\ u^4 + 3u^3 + 2u^2 - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3 - 2u^2 + u + 1 \\ -2u^4 - 6u^3 - 3u^2 + u + 1 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-6u^4 - 22u^3 - 12u^2 + 18u + 9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 + u^4 + 7u^3 + 8u^2 + u - 1$
c_2, c_6, c_7 c_{11}	$u^5 - 3u^4 + 5u^3 - 4u^2 + 3u - 1$
c_3, c_4, c_{10}	$u^5 + 5u^4 + 7u^3 + u^2 - 2u - 1$
c_5, c_9, c_{12}	$u^5 - u^4 + 12u^3 + 3u^2 - u - 1$
c_8	$u^5 - 14u^4 + 51u^3 - 6u^2 + 4u - 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 + 13y^4 + 35y^3 - 48y^2 + 17y - 1$
c_2, c_6, c_7 c_{11}	$y^5 + y^4 + 7y^3 + 8y^2 + y - 1$
c_3, c_4, c_{10}	$y^5 - 11y^4 + 35y^3 - 19y^2 + 6y - 1$
c_5, c_9, c_{12}	$y^5 + 23y^4 + 148y^3 - 35y^2 + 7y - 1$
c_8	$y^5 - 94y^4 + 2441y^3 + 8y^2 - 140y - 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.483921 + 0.312340I$ $a = 0.214528 + 0.727972I$ $b = -0.714557 - 0.120312I$	$-1.93405 - 1.28592I$	$-1.53646 + 5.58816I$
$u = -0.483921 - 0.312340I$ $a = 0.214528 - 0.727972I$ $b = -0.714557 + 0.120312I$	$-1.93405 + 1.28592I$	$-1.53646 - 5.58816I$
$u = 0.563096$ $a = 0.750397$ $b = 0.270326$	0.922645	10.8000
$u = -2.29763 + 0.27249I$ $a = -0.08973 - 1.51845I$ $b = 0.07939 - 2.65310I$	$-13.3317 - 8.5417I$	$7.63666 + 3.64244I$
$u = -2.29763 - 0.27249I$ $a = -0.08973 + 1.51845I$ $b = 0.07939 + 2.65310I$	$-13.3317 + 8.5417I$	$7.63666 - 3.64244I$

II.

$$I_2^u = \langle -u^4 + u^3 + 2u^2 + b - 2u + 1, u^3 + a - 3u - 1, u^5 + u^4 - 3u^3 - 3u^2 - 1 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3 + 3u + 1 \\ u^4 - u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^2 - 2 \\ u^4 - 2u^2 - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^4 + 3u^2 - 1 \\ u^4 - 2u^2 - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 + 3u + 1 \\ -u^3 + 2u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -u^4 + 2u^2 + u + 2 \\ u^4 - u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^3 - 3u - 1 \\ 2u^4 - 5u^2 - u - 1 \end{pmatrix}$$

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = -2u^4 + 6u^3 + 4u^2 - 14u + 5$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.48162 + 0.12936I$ $a = -0.266775 - 0.461665I$ $b = -0.54328 - 1.49449I$	$6.00251 - 5.77307I$	$6.19041 + 5.09435I$
$u = -1.48162 - 0.12936I$ $a = -0.266775 + 0.461665I$ $b = -0.54328 + 1.49449I$	$6.00251 + 5.77307I$	$6.19041 - 5.09435I$
$u = 0.099006 + 0.496292I$ $a = 1.36921 + 1.59652I$ $b = -0.210516 + 0.857202I$	$0.38751 + 3.74061I$	$2.14222 - 7.10791I$
$u = 0.099006 - 0.496292I$ $a = 1.36921 - 1.59652I$ $b = -0.210516 - 0.857202I$	$0.38751 - 3.74061I$	$2.14222 + 7.10791I$
$u = 1.76524$ $a = 0.795136$ $b = 0.507589$	6.95916	6.33470

III.

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

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -2u^2 + u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} a \\ \frac{1}{2}u^2a - \frac{1}{2}u^2 + \dots + \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -u^2a + 2au - u^2 - a \\ -\frac{1}{2}u^2a - \frac{3}{2}u^2 + \dots - \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^2a + \frac{1}{2}u^2 + \dots - \frac{1}{2}a + \frac{1}{2} \\ -\frac{1}{2}u^2a - \frac{3}{2}u^2 + \dots - \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} a \\ -\frac{1}{2}u^2a - \frac{1}{2}u^2 + \dots + \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ -\frac{1}{2}u^2a + \frac{1}{2}u^2 + \dots + \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} a \\ -u^2a + au + u^2 - 2u + 1 \end{pmatrix}$$

(ii) Obstruction class = -1

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^6 + 8u^4 - 4u^3 + 8u^2 - 9u + 4$
c_2, c_6, c_7 c_{11}	$u^6 - 2u^5 + 2u^4 + 2u^3 - 2u^2 + u + 2$
c_3, c_4, c_{10}	$(u^3 - 2u^2 - 1)^2$
c_5, c_9, c_{12}	$u^6 + 3u^5 + 16u^4 + 22u^3 + 34u^2 + 11u + 1$
c_8	$u^6 + 14u^5 + 69u^4 + 114u^3 + 127u^2 + 27u + 22$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^6 + 16y^5 + 80y^4 + 120y^3 + 56y^2 - 17y + 16$
c_2, c_6, c_7 c_{11}	$y^6 + 8y^4 - 4y^3 + 8y^2 - 9y + 4$
c_3, c_4, c_{10}	$(y^3 - 4y^2 - 4y - 1)^2$
c_5, c_9, c_{12}	$y^6 + 23y^5 + 192y^4 + 540y^3 + 704y^2 - 53y + 1$
c_8	$y^6 - 58y^5 + 1823y^4 + 3818y^3 + 13009y^2 + 4859y + 484$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.102785 + 0.665457I$		
$a = 0.019191 + 0.283733I$	$1.03690 + 2.56897I$	$6.77330 - 1.46771I$
$b = -0.317796 + 1.154010I$		
$u = -0.102785 + 0.665457I$		
$a = 2.31029 + 0.51852I$	$1.03690 + 2.56897I$	$6.77330 - 1.46771I$
$b = 0.544495 + 0.313702I$		
$u = -0.102785 - 0.665457I$		
$a = 0.019191 - 0.283733I$	$1.03690 - 2.56897I$	$6.77330 + 1.46771I$
$b = -0.317796 - 1.154010I$		
$u = -0.102785 - 0.665457I$		
$a = 2.31029 - 0.51852I$	$1.03690 - 2.56897I$	$6.77330 + 1.46771I$
$b = 0.544495 - 0.313702I$		
$u = 2.20557$		
$a = -0.32948 + 1.44811I$	-13.5883	7.45340
$b = -0.22670 + 2.64929I$		
$u = 2.20557$		
$a = -0.32948 - 1.44811I$	-13.5883	7.45340
$b = -0.22670 - 2.64929I$		

$$\text{IV. } I_4^u = \langle b - 1, 4a - u - 3, u^2 - u - 4 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ -u - 4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -4u - 4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{4}u + \frac{3}{4} \\ 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u - 3 \\ 7u + 12 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{5}{4}u + \frac{7}{4} \\ 2u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{3}{4}u + \frac{3}{4} \\ 2u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{1}{4}u + \frac{3}{4} \\ -2u - 3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{1}{4}u - \frac{5}{4} \\ 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{4}u - \frac{1}{4} \\ 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{2}u - \frac{3}{2} \\ 2 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = 14

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6 c_7, c_{11}	$(y - 1)^2$
c_3, c_4, c_{10}	$y^2 - 9y + 16$
c_5, c_9, c_{12}	$y^2 - 13y + 4$
c_8	$y^2 - 42y + 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.56155$ $a = 0.359612$ $b = 1.00000$	8.22467	14.0000
$u = 2.56155$ $a = 1.39039$ $b = 1.00000$	8.22467	14.0000

$$\mathbf{V. } I_5^u = \langle -au + b - a + 1, a^2 - a - u + 2, u^2 - u - 1 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} u \\ -u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} a \\ au + a - 1 \end{pmatrix}$$

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

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

$$a_8 = \begin{pmatrix} -a - u + 1 \\ au + a \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -1 \\ au \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -a \\ 2au + a - u \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = $u + 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = 0.50000 + 1.53884I$ $b = -0.809017 + 0.587785I$	-0.657974	5.38200
$u = -0.618034$ $a = 0.50000 - 1.53884I$ $b = -0.809017 - 0.587785I$	-0.657974	5.38200
$u = 1.61803$ $a = 0.500000 + 0.363271I$ $b = 0.309017 + 0.951057I$	7.23771	7.61800
$u = 1.61803$ $a = 0.500000 - 0.363271I$ $b = 0.309017 - 0.951057I$	7.23771	7.61800

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^2(u^4 - u^3 + u^2 - u + 1)(u^5 - u^4 + 3u^3 + u + 1)$ $\cdot (u^5 + u^4 + 7u^3 + 8u^2 + u - 1)(u^6 + 8u^4 - 4u^3 + 8u^2 - 9u + 4)$
c_2, c_7	$(u+1)^2(u^4 - u^3 + u^2 - u + 1)(u^5 - 3u^4 + 5u^3 - 4u^2 + 3u - 1)$ $\cdot (u^5 - u^4 + u^3 + u - 1)(u^6 - 2u^5 + 2u^4 + 2u^3 - 2u^2 + u + 2)$
c_3, c_4	$(u^2 - u - 4)(u^2 - u - 1)^2(u^3 - 2u^2 - 1)^2(u^5 + u^4 - 3u^3 - 3u^2 - 1)$ $\cdot (u^5 + 5u^4 + 7u^3 + u^2 - 2u - 1)$
c_5, c_{12}	$(u^2 - 3u - 2)(u^4 - u^3 + u^2 - u + 1)(u^5 - u^4 - u^2 + u - 1)$ $\cdot (u^5 - u^4 + 12u^3 + 3u^2 - u - 1)(u^6 + 3u^5 + \dots + 11u + 1)$
c_6, c_{11}	$(u+1)^2(u^4 + u^3 + u^2 + u + 1)(u^5 - 3u^4 + 5u^3 - 4u^2 + 3u - 1)$ $\cdot (u^5 + u^4 + u^3 + u + 1)(u^6 - 2u^5 + 2u^4 + 2u^3 - 2u^2 + u + 2)$
c_8	$(u^2 - 4u - 13)(u^4 + 3u^3 + 4u^2 + 2u + 1)(u^5 - 3u^3 + 6u^2 - 4u + 1)$ $\cdot (u^5 - 14u^4 + 51u^3 - 6u^2 + 4u - 13)$ $\cdot (u^6 + 14u^5 + 69u^4 + 114u^3 + 127u^2 + 27u + 22)$
c_9	$(u^2 - 3u - 2)(u^4 + u^3 + u^2 + u + 1)(u^5 - u^4 + 12u^3 + 3u^2 - u - 1)$ $\cdot (u^5 + u^4 + u^2 + u + 1)(u^6 + 3u^5 + 16u^4 + 22u^3 + 34u^2 + 11u + 1)$
c_{10}	$(u^2 - u - 4)(u^2 + u - 1)^2(u^3 - 2u^2 - 1)^2(u^5 - u^4 - 3u^3 + 3u^2 + 1)$ $\cdot (u^5 + 5u^4 + 7u^3 + u^2 - 2u - 1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^2(y^4+y^3+y^2+y+1)(y^5+5y^4+11y^3+8y^2+y-1)$ $\cdot (y^5+13y^4+35y^3-48y^2+17y-1)$ $\cdot (y^6+16y^5+80y^4+120y^3+56y^2-17y+16)$
c_2, c_6, c_7 c_{11}	$(y-1)^2(y^4+y^3+y^2+y+1)(y^5+y^4+3y^3+y-1)$ $\cdot (y^5+y^4+7y^3+8y^2+y-1)(y^6+8y^4-4y^3+8y^2-9y+4)$
c_3, c_4, c_{10}	$(y^2-9y+16)(y^2-3y+1)^2(y^3-4y^2-4y-1)^2$ $\cdot (y^5-11y^4+35y^3-19y^2+6y-1)(y^5-7y^4+15y^3-7y^2-6y-1)$
c_5, c_9, c_{12}	$(y^2-13y+4)(y^4+y^3+y^2+y+1)(y^5-y^4-3y^2-y-1)$ $\cdot (y^5+23y^4+148y^3-35y^2+7y-1)$ $\cdot (y^6+23y^5+192y^4+540y^3+704y^2-53y+1)$
c_8	$(y^2-42y+169)(y^4-y^3+6y^2+4y+1)$ $\cdot (y^5-94y^4+2441y^3+8y^2-140y-169)$ $\cdot (y^5-6y^4+y^3-12y^2+4y-1)$ $\cdot (y^6-58y^5+1823y^4+3818y^3+13009y^2+4859y+484)$